Phase I Geo-Environmental Desk Study

4a Albert Road
Buckhurst Hill
IG9 6EH

Prepared for:

Chris King
4a Albert Road
Buckhurst Hill
IG9 6EH

EPS Project Reference:	UK20.5225
Date Issued:	15th January 2021
Report Status:	Issue 1

4A ALBERT ROAD, BUCKHURST HILL

NON-TECHNICAL CLIENT SUMMARY

This report presents the findings of a Phase I Geo-Environmental Desk Study which was carried out to identify potential contamination from previous or current uses of the site and surrounding area and to provide an initial assessment of geological and geotechnical aspects of the site and how the proposed development or surrounding environment might be affected.

- The site currently comprises the garden area of any existing property, with proposals set to comprise the construction of a new dwelling.
- Ground conditions at the site are reported to comprise the London Clay Formation with no superficial deposits. The London Clay not classed as a significant groundwater resource and the nearest surface watercourse is located over 200m from the site. Therefore the site is considered to be in an area of low environmental sensitivity.
- Historically, available records suggest the site has only ever been used as part of a residential property, with a previous dwelling occupying the site until towards the end of the 20th century.
- Although some minor risks have been identified from future human interaction with any man-made ground present beneath structures or hardstanding, these risks are very low and therefore no further assessment is considered necessary provided a modest precautionary remedial measure outlined in this report is adhered to. This measure involves stripping any such materials back to natural soils and replacement with clean topsoil where they exist in future garden areas.
- A copy of this report should be forwarded to Epping Forest District Council for inclusion into their land quality records and for consideration alongside any future planning applications. No further assessment or investigation from EPS is necessary although records documenting the above works should be retained and provided to the Council.

By their very nature, the above bullet points represent a simplified summary of our work and should not be relied upon to form the basis for key decisions for the proposed development. A full picture is provided in the following report, or alternatively give us a call and we'll talk you through it.

Project Reference:	UK20.5225
Title:	Phase I Geo–Environmental Desk Study 4a Albert Road, Buckhurst Hill
Client:	Chris King
Date:	15th January 2021
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN T: 01954 710666 F: 01954 710677 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 1

Author:	**Reviewed:**	**Authorised:**
Michael Judson	Marcus Bell	Marcus Bell
Senior Consultant	Associate Director	Associate Director

This report has been prepared for the client(s) listed on the report title page. EPS accepts no liability or responsibility for use of, or reliance upon, this report and / or the information contained within it by third parties.

If third parties have been contracted / consulted during compilation of this report, the validity of any data they may have supplied, and which are included in the report, have been assessed as far as possible by EPS however, EPS cannot guarantee the validity of these data.

No part of this report, or references to it, may be included in published documents of any kind without approval from EPS. This report and its contents, together with any supporting correspondence or other documentation, remain the property of Environmental Protection Strategies Ltd until paid for in full.

The report has been written, reviewed and authorised by the persons listed above. It has also undergone EPS' in house quality management inspection. Should you require any further assistance regarding the information provided within the report, please do not hesitate to contact us.

The National Planning Policy Framework requires a competent person to prepare site investigation information, which is defined as a person with a recognised relevant qualification, sufficient experience in dealing with the type(s) of pollution or land instability, and membership of a relevant professional organisation. EPS considers that it fulfils these criteria and would welcome any request for staff CVs or case studies to demonstrate it.

As stated within DEFRA's Contaminated Land Statutory Guidance, with any complex risk assessment it is possible that different suitably qualified people may reach slightly different conclusions when interpreting the same information. EPS recognises this and considers the conclusions presented within this report to be robust and appropriate but input from the Local Authority and their judgement in line with this guidance would still be welcomed.

TABLE OF CONTENTS

Figures

Appendices

1 INTRODUCTION

In December 2020, Environmental Protection Strategies Ltd (EPS) was commissioned by Mr Chris King to complete a Phase I Geo-Environmental Desk Study on land at 4a Albert Road, Buckhurst Hill, IG9 6EH ('the site'); see Figure 1.

The work was commissioned in order to fulfil pre-planning requirements relating to contamination for the construction of a new residential property with associated garden area.

This report presents the findings, conclusions, and recommendations of the Phase I Desk Study undertaken for the site as instructed.

1.1 Objectives

The purpose of this desk study is to evaluate the potential contaminant linkages which may be active at the site in its current condition, or could become active in future, and to determine if any action is required to investigate them further or to break them.

This is achieved by carrying out the following activities:

a) Examining the site history - late 1800s to present day, through collection of historical maps of the area, site records, records held by relevant local authorities, the Environment Agency and review of other information databases.
b) Characterising the site's environmental and geological sensitivity through examination of existing geological, hydrogeological, topographical, and historical maps and aerial photographs of the area.
c) Identifying Potential Areas of Concern (PAOCs) through a combination of historical map and data review.
d) Consideration of any future plans for the site and the effects any proposed changes may have on contaminant linkages over time.
e) Development of a Conceptual Site Model through a Preliminary Risk Assessment to evaluate the potential risks posed by the site and make recommendations for any further work that may be required to ensure suitability for use and safe development. In accordance with the Environment Agency's *Land Contamination: Risk Management* (2020) and the *National Planning Policy Framework*.

1.2 Project Limitations and Constraints

The purpose of this report is to present the findings of a Phase I Geo-Environmental Desk Study conducted at the location(s) specified. When examining the data collected from the investigations made during the assessment, EPS makes the following statements:

This report does not include specific investigation for the presence of either Potential Asbestos Containing Material (PACM) or Japanese Knotweed at the subject site however, if obvious evidence of either is observed during EPS site walkover, details will be provided in this report. Specialist contractors should be commissioned to make detailed assessments and recommendations if these materials are suspected.

2 GEO-ENVIRONMENTAL SETTING

The following section provides a summary of the information collected in relation to the site location and history.

2.1 Site Location and Description

Detail	Description
Location	The site lies between Buckhurst Way to the west and Cedar Close to the east, in Buckhurst Hill.
National Grid Reference	541823, 193623
Topographic Elevation	The site lies at a topographic elevation of 29-30m Above Ordnance Datum (AOD) and slopes down to the east including steps down to a lower level in certain parts of the site.
Description of Site	The study area is an irregular-shaped parcel of land and covers an area of approximately 200m^2 (0.02 hectares), although the new development is confined to the southern half of a rear domestic garden area. At the time of the walkover survey (16th December 2020) the rear of 4a Albert Road was found to comprise a manicured garden, which sloped down-gradient to the east and contained stepped portions of cordoned brick-walled patio areas. Two areas along the southern boundary had been built into the slope and bound by brick walls to the north and west with fencing to the east and south for the purpose of the construction of a shed and a concrete slab for a bin storing area. In the central east portion of the site, another cordoned area walled and paved was separate and possibly levelled as an 'entertaining' area; to the south of this levelled patio were steps, which exited through a gate in the southeast corner to a rear car park for the properties along Albert Road. Further steps lead from the 4a property rear door to a small paved area and down to the levelled patio area. A manhole cover was noted on site, which through anecdotal evidence is known to be for sewage, leading from Albert Road to the north, across the garden and then splits at the manhole, perpendicular to the rear of the Albert Road properties. No obvious evidence of contamination or heating oil storage was noted during the walkover.
Surrounding Land Use	The surrounding land use is predominantly residential in all directions, although a railway line lies roughly 80m to the east.

A plan showing the site location is provided as Figure 1, the current site layout is detailed on Figure 2 and an aerial photograph is included as Figure 3. Selected Site Photographs and Walkover Notes are included as Appendix A. An indicative proposed development plan is included as Appendix B and relevant extracts of a Landmark Envirocheck report are included as Appendix C.

2.2 Environmental Setting

Detail	Description	
Geology	Geological maps of the area show the site to bear directly onto bedrock of the London Clay Formation. Information on the site's geological context is included as Appendix C.	
British Geological Survey (BGS)	An historic borehole log was acquired from the British Geological Survey (BGS) for a location around 100m to the north and reports a thin layer of made ground overlying London Clay which extends to a depth of 10m bgl (below ground level), the full extent of the borehole. Groundwater was not encountered. A copy of this borehole log is included in Appendix C.	
Geological Hazards	**Hazard**	**On Site Risk**
	Mining (non-coal)	No Hazard
	Collapsible Ground	Very Low
	Compressible Ground	No Hazard
	Ground Dissolution	No Hazard
	Running Sand	Very Low
	Landslide	Very Low
	Shrinking / Swelling Clay	Moderate
	One mineral site is recorded within 250m, located around 230m to the east, formerly used as an opencast pit for clay and shale extraction.	
Radon	The Envirocheck indicates the site to lie in a location where the percentage of homes above the radon action level is less than 1%. It further reports that the site will not require radon protection measures in the construction of new buildings.	
Hydrogeology	Groundwater vulnerability maps for the area show that the underlying bedrock geology is classified as unproductive strata. The site does not lie within a Source Protection Zone for local groundwater abstraction. No groundwater abstractions are recorded within 500m. Groundwater vulnerability maps are included as Appendix E.	
Hydrology	The nearest recorded watercourse comprises an unnamed stream roughly 230m to the southwest. The River Roding lies roughly 245m to the east. The Envirocheck report lists five discharge consents within 250m of the site, the closest of which is operated by Thames Water, roughly 70m to the east where sewage discharges are released to a tributary of the River Roding. The nearest surface water abstraction is located 205m to the southeast and abstracts water from the River Roding. This is the only abstraction within 1km. Review of the EA Flood Zone Map for the area indicates that the site lies within Flood Zone 1, which is defined as the area with a low potential risk of flooding from fluvial or tidal sources. It should be noted that the EA maps do not take into account the presence of flood defences or flooding from	

<table>
<tr><th>Detail</th><th>Description</th></tr>
<tr><td>Hydrology Cont.</td><td>poor drainage, or groundwater. A copy of the flood map for the site and surrounding area is also included within Appendix E.</td></tr>
<tr><td>Landfill & Waste</td><td>The Envirocheck report records one historic landfill within 500m, located roughly 160m to the east and named Cascade Road, however no further information is provided. This corresponds with an infilled pit recorded roughly 160m east and is likely to be associated with infilling of the historic brick field in this area. The historic brick field further to the northeast is also recorded as having been infilled.</td></tr>
<tr><td>Licensed Industrial Activity</td><td>Only one permitted industrial use is recorded within 500m, namely a dry cleaner roughly 225m to the northwest.</td></tr>
<tr><td>Industrial Land Use</td><td>The Envirocheck report lists 22 industrial land uses within 250m, the most pertinent of which are summarised below.
<table>
<tr><th>Land Use</th><th>Distance (Direction)</th><th>Status</th></tr>
<tr><td>Simon & Sons Launderette (Dry Cleaners)</td><td>160m (N) (permitted installation)</td><td>Active</td></tr>
<tr><td>Vehicletext (Car Dealers – Used)</td><td>187m (W)</td><td>Inactive</td></tr>
<tr><td>Omega Cleaning Contracts (Commercial Cleaning Services). EFDC highlight ‘Truly Fine Dry Cleaners’ in this location.</td><td>210m (NW)</td><td>Inactive</td></tr>
<tr><td>Victoria Garage (Mot Testing Centres)</td><td>265m (N)</td><td>Active</td></tr>
</table></td></tr>
<tr><td>Pollution Incidents</td><td>One pollution incident to controlled waters is reported within 250m of the site which is recorded as minor. This occurred in February 1997 around 210m to the southeast and involved the release of storm sewage to an unknown receptor. In EFDC’s EIR response, they also highlighted two local authority pollutions incidents within 250m, where domestic misconnections 60m east caused grey water pollution.</td></tr>
<tr><td>Sensitive Land Use</td><td>The site lies within a Nitrate Vulnerable Zone where surface water is identified as being at risk.</td></tr>
<tr><td>EFDC Environmental Information Regulations Request</td><td>EPS consulted EFDC’s EIR team and received a letter and GIS image which are both included in Appendix F. The letter, dated, 14th January 2021, highlights the following pertinent issues:</td></tr>
</table>

Detail	Description
EFDC GIS Database	The response states that are no records on Council electronic systems of this site being inspected or investigated under Part IIA of the Environmental Protection Act 1990. However, the GIS database shows several areas of potential land contamination within a 250 metres radius. As such the site forms part of the Council's Contaminated Land Strategy and is therefore prioritised over other sites however is not currently planned for any future inspection or investigation. The following areas were identified which include railway land, a depot and a coal yard among other sources in the nearby area, although the site itself has no acknowledged potentially contaminated land. • 70 metres north east - milk distribution depot with a filled pond and 2 electricity sub stations. • 75 metres west - railway (Central Line) and former coal yard. • 85 metres north - garage and electricity sub station. • 155 metres east - site with former uses including sewage works, • disposal site for road sweepings and brickfield. • 200 metres south - filled pond. • 210 metres north west - dry cleaners. • 235 metres north west - garage. • 240 metres north east - brickfield. • 240 metres south east - electricity sub station. • 250 metres north west - printing works.
EFDC Planning Database	EFDC's historical planning database (referred to in EIR response) also includes 3 relevant entries for the site as follows: • CHIG/151/63 & 64: 2 & 4 Albert Road, Buckhurst Hill for the redevelopment of houses and gardens into 14 flats in 3 stores and 14 garages. May 1963 • CHIG/381/64, 6325 (BR) 2 Albert Road Buckhurst Hill for the conversion of existing building into two self-contained flats. October 1964 • CHIG/370/65, 6695 (BR) 4 Albert Road, Buckhurst Hill for the conversion of existing building into two self-contained flats. December 1965.

2.3 Site History

A summary of historical map data from 1872 to 2020 is summarised below. Key points are highlighted and copies of relevant historic maps and any others examined during the investigation are included in this report as Appendix G.

- Mapping from the late 1800s shows that a house appears to encroach on the western edge of the site, however this seems to have been demolished by the 1990s when the current layout is shown. No other site use is recorded.
- With regards to the surrounding area, in the late 1800s, the land to the north was predominantly developed with residential properties, whilst the existing railway line was already present to the west. A brick field and sewage work lay around 160m to the east. On mapping from 1920, a coal yard is recorded adjacent to the railway line 100m west, whilst another brick field lay 250m northeast and allotment gardens lay just over 100m southeast.
- By the 1940s, the majority of the land to the south and east had been redeveloped for residential purposes, apart from allotment gardens 40m east. Little change has occurred since apart from the infilling of the brick fields and conversion of the allotment gardens to housing.
- Historical planning records from Epping Forest District Council (CHI/0092/65) indicate that an electricity sub-station and dairy were present to the north east of Cedar Court in 1988, roughly 80m northeast of the site.

3 PRELIMINARY RISK ASSESSMENT & ENVIRONMENTAL CONCEPTUAL MODEL

The following section provides a review of the contaminant linkages that may be active at the site through the process of a Preliminary Risk Assessment, whereby EPS have examined the potential sources that may be present as a result of historic and / or current site activities and where potential interaction between these sources and the identified human / environmental receptors may occur.

3.1 Background

A Desk Study comprises the first stage of any geo-environmental assessment, the purpose of which is to determine what potentially contaminative activities may have occurred at the property or the surrounding area which may pose an environmental or geological risk to site users, the surrounding environment or proposed development, either at present or in the future.

The method used in this investigation to assess the environmental risk posed is based on the concept of 'contaminant linkage', which considers the following three factors:

Source	The location from which an environmentally hazardous / contaminative substance is, (or was,) derived.
Pathway	A route or mechanism via which a source could come into contact with a receptor to cause significant harm.
Receptor	An environmentally sensitive object or condition e.g. person, property, controlled water, or ecological system, which may be present now or in future.

If all three factors are identified, there is the potential for a 'contaminant linkage' to be active, which could result in significant harm being caused to the environment or human health.

3.2 Source Characterisation

The following potential contaminant sources have been identified at the site and in the surrounding area:

Potential Source	Source Description	Principal Contaminants of Concern
Current / Former Site Use	In-fill material of unknown origin (Made Ground) used to level areas beneath former buildings and existing hardstanding, including demolition material from former structures.	PAH, Metals, ACM
Current and Historical Surrounding Land Use	Historic Landfill / Infilled Brick Field 160m to the east and infilled pond 70m north east.	Landfill Gas (CO_2, CH_4)
	Current and historical industrial land use of the surrounding area including a milk depot 70m north, railway line and coal yard 80m west.	TPH, PAH, Metals
	Former allotment gardens 40m to the east.	Pesticides / Herbicides, PAH, Metals

Notes: PAH Polycyclic Aromatic Hydrocarbons; ACM Asbestos Containing Materials; CH_4 Methane; CO_2 Carbon Dioxide; TPH Total Petroleum Hydrocarbons

3.3 Potential Receptors

A framework for the assessment of risks arising from the presence of contamination in soils has been produced by the Environment Agency and the Department for the Environment, Food and Rural Affairs (DEFRA) and is presented with the report: '*Using Science to Create A Better Place: Updated Technical Background to the CLEA Model* – Science Report SC050021/SR3'. This guidance document defines a series of standard land-uses which have been further developed into six generic land uses in the Category 4 Screening Levels project for Land Affected by Contamination (DEFRA/Contaminated Land: Applications in Real Environments (CL:AIRE) Project Report SP1010, 2014) which form a basis for the development of the Conceptual Site Model.

Risks posed to controlled waters have been considered in line with the Environment Agency's *approach to groundwater protection* (v1.2, 2018) and associated position statements.

The proposed development plan for the site includes the construction of a new residential property. This proposed land use has been considered as:

- Residential (with home-grown produce)

In view of the environmental setting, current and potential future land use of the site and surrounding sites, the potential receptors for any contaminant impact are discussed below:

Receptor	Site Specific Description
Human	Future site users and site workers involved in the site redevelopment have the potential to be at risk from exposure to potential contaminants of concern (CoCs).
Groundwater	The site is reported to be underlain by London Clay which is defined by the EA as an unproductive aquifer, the site does not lie within a SPZ for nearby groundwater abstraction and the historic borehole log does not indicate that shallow groundwater is likely to be present at the site. Therefore, underlying groundwater has not been considered as a potential receptor to site derived contaminants.
Surface Water	The nearest surface watercourse is a small unnamed drain, located 230m southwest. Given the distance of this watercourse from the site and the low permeability of local ground conditions, it is considered highly unlikely that site derived contaminants could impact this receptor and on this basis, surface waters have not been identified as a sensitive receptor to site derived contaminants.
Flora and Fauna	The proposed development is likely to include the provision of domestic garden areas. Some of the identified contaminants of concern are known to be phytotoxic and as such the potential for this impact should be considered.
Buildings & Infrastructure	Given the absence of potential site derived contaminants of concern which could pose a risk to sub-surface infrastructure such as petroleum hydrocarbons, buried potable water supply pipes, concrete foundations and other service lines and pipes are not considered to be at risk.

Receptor	Site Specific Description
Adjacent Land	Given the low-mobility nature of site derived contaminants of concern, the adjacent properties are not considered to be at risk from potential contamination at the site.

3.4 Potential Pathways

Where contaminants may be present in soil, there are a number of potential pathways that enable human receptors to come into contact with or be exposed to them. The most direct pathways, considered under current UK legislation, can be summarised as follows:

- Direct ingestion of contaminated soil
- Ingestion of household dust
- Ingestion of contaminated vegetables
- Ingestion of soil attached to vegetables
- Dermal contact with contaminated soil
- Dermal contact with household dust
- Inhalation of fugitive soil dust
- Inhalation of fugitive household dust
- Inhalation of vapours outdoors
- Inhalation of vapours indoors

Clearly, not all of these potential pathways apply for every standard land-use. For example, ingestion of contaminated vegetables will not apply to land uses other than residential with plant uptake and allotments.

However, in addition to direct exposure pathways, a number of physical transport mechanisms / pathways may also exist at a site that allow remote or less accessible contaminants in soil or groundwater to reach human or environmental receptors both at a site and beyond the site boundary. These include the following:

- Downward and lateral movement of contaminants in soil either by gravity or through being 'leached' by percolating rainwater.
- Lateral migration of contaminants dissolved in groundwater.
- Direct seepage or leaching of contaminants from soil into subsurface drains or supply pipework.
- Volatilisation of contaminants from groundwater or unsaturated soils into buildings or outdoor air.

Through examination of the standard land use and environmental setting at each site, the presence of pathways and transport mechanisms described above must be considered when assessing whether a contaminant linkage may plausibly be active, and therefore be included in the conceptual site model.

3.5 Summary of Contaminant Linkages

Considering the site use and environmental setting, and the proposed land use; the plausible contaminant linkages that require further investigation are summarised in the following table:

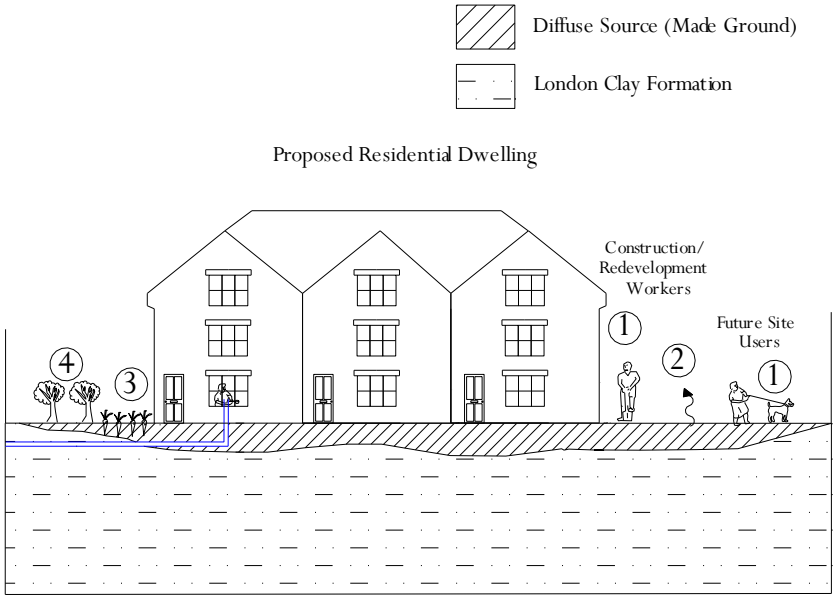
Source	Pathway	Receptor
Contaminated soil (Made Ground)	Direct contact and inadvertent ingestion by eating or smoking with dirty hands	Construction workers during redevelopment & site users
	Inhalation of fugitive dusts	Site users
	Direct uptake and / or adherence of contaminated soil to vegetation and subsequent ingestion	Site users
	Direct uptake via root systems	Plants

The following comments are made with respect to contaminant linkages which have been considered through development of the conceptual model, but have not been concluded as 'plausible' – i.e. through which a significant possibility of significant harm could occur to an identified receptor:

- Whilst an historic landfill / infilled brick field is located approximately 130m from the site along with an infilled pond 70m north east, given the distance of these features from the site and the limited permeability of the underlying geology, a plausible contaminant linkage is not recognised from the on-site migration of landfill gas.
- A number of commercial and industrial sites are located in the surrounding area, most notably the railway line and historic coal yard to the west, however given the limited permeability of the underlying geology risks are not considered to be present associated with the on-site migration of organic compounds in groundwater.
- Whilst it is possible that pesticides and herbicides may have been used on the nearby allotment gardens, these are unlikely to have been used in significant quantities and therefore, combined with the low permeability ground conditions, risks associated with high concentrations of these contaminants persisting in soil and migrating onto site are not considered to be present.

The following diagram provides an illustration of the plausible contaminant linkages that may be active at the site and which may need further investigation or control to ensure safe development:

4a Albert Road, Buckhurst Hill – Illustrative Conceptual Site Model



1 Direct Contact with / Ingestion of Soil

2 Inhalation of Fugitive Dusts.

3 Direct Uptake and/or Adherence of Contaminated Soil to Vegetation and Subsequent Ingestion.

4 Direct Uptake via Root Systems

4 GEOTECHNICAL GROUND MODEL

Geological records indicate the ground conditions to London Clay Formation, although given the historic use, a limited thickness of made ground may be present at the surface. A conceptual geotechnical ground model is provided in the table below which assesses design elements, anticipated strata and ground conditions:

Element	Anticipated Strata	Parameter(s)	Anticipated Conditions
Foundations	Made Ground	Allowable Bearing Pressure	Not appropriate as a bearing strata
		Settlement	High sensitivity
		Volume Change	Depends upon the soil composition
	London Clay	Allowable Bearing Pressure	Maximum of 125kN/m^2
		Settlement	Moderate sensitivity / Long term consolidation under loading
		Volume Change	High volume change potential
Drainage	Made Ground	Permeability	Not suitable for infiltration drainage
	London Clay		Unlikely to be suitable for infiltration drainage
Concrete Grade	Made Ground	Grade	Low to moderate risk of high sulphate levels
	London Clay		Moderate to high risk of high sulphate levels

Potential Hazard	Comment
Trees & Vegetation	Mature trees and bushes are present along the site boundaries and as shallow soils will be cohesive, this could lead to deepening of foundations
Below Ground Structures	Although no significant structures are expected, fill material may contain localised obstructions and the presence of historic foundations is possible.
Excavation Stability	The natural London clay soils are likely to provide stable excavations for short periods, any made ground should not be relied upon.
Slopes	A gentle slope is present on site, along with stepped areas to lower levels, which will need consideration during design.

5 CONCLUSIONS & RECOMMENDATIONS

This Phase I Desk Study has identified that the site is very low risk in terms of contamination.

A small number of plausible contaminant linkages have the potential to become active due to the potential presence of made ground present beneath any structures or hardstanding which may include demolition rubble from the previous dwelling that occupied the site. Where these materials exist in future garden areas, a theoretical risk from contamination does exist.

However, the site only appears to ever been used for residential purposes, and realistically any materials as described above which do remain will pose only limited risks which can be easily managed as described below, without the need for any further assessment or site investigation.

In the context of potentially unacceptable or acceptable risks as outlined within the Environment Agency's *Land Contamination: Risk Management guidance* (LC:RM, 2020), the contaminant linkages which pose potential risks and warrant further action are as follows:

- Human health risks associated with interaction between future residents and potentially contaminated shallow soils, especially within domestic garden areas.
- Potential exposure of site workers to contaminated soils during the proposed redevelopment.

In in order to mitigate any residual risk, it is recommended that the following measure could be implemented to make the site safe and suitable for the proposed end use:

Should any made ground be encountered in areas which are proposed for garden use, it is recommended that it is stripped down to the natural clay soils and replaced with clean, certified topsoil. It should be noted that this recommendation is made only for areas of soft landscaping, and there is no such requirement for areas beneath any hardstanding or building footprints. Its unlikely that the made ground is very thick and its removal in garden areas probably reflects the assumed approach to landscaping the site anyway. If the thickness of made ground materials are found to be significant in any of these areas (i.e., in excess of 0.5m), then EPS should be consulted and it is likely that a maximum thickness of 600mm of clean topsoil material will need to installed in these areas to reduce potential risks to an acceptable level.

All waste materials should be disposed of under the appropriate duty of care with the relevant waste transfer documentation retained, along with photographs. All imported topsoil / subsoil for use within gardens should be accompanied by appropriate laboratory analysis to demonstrate its chemical and physical suitability for use. A checklist to aid in the appropriate installation of any cover system is included as Appendix H and these records should be retained and provided to Epping Forest District Council prior to completion.

The following precautionary measures are also recommended in order to ensure safe development.

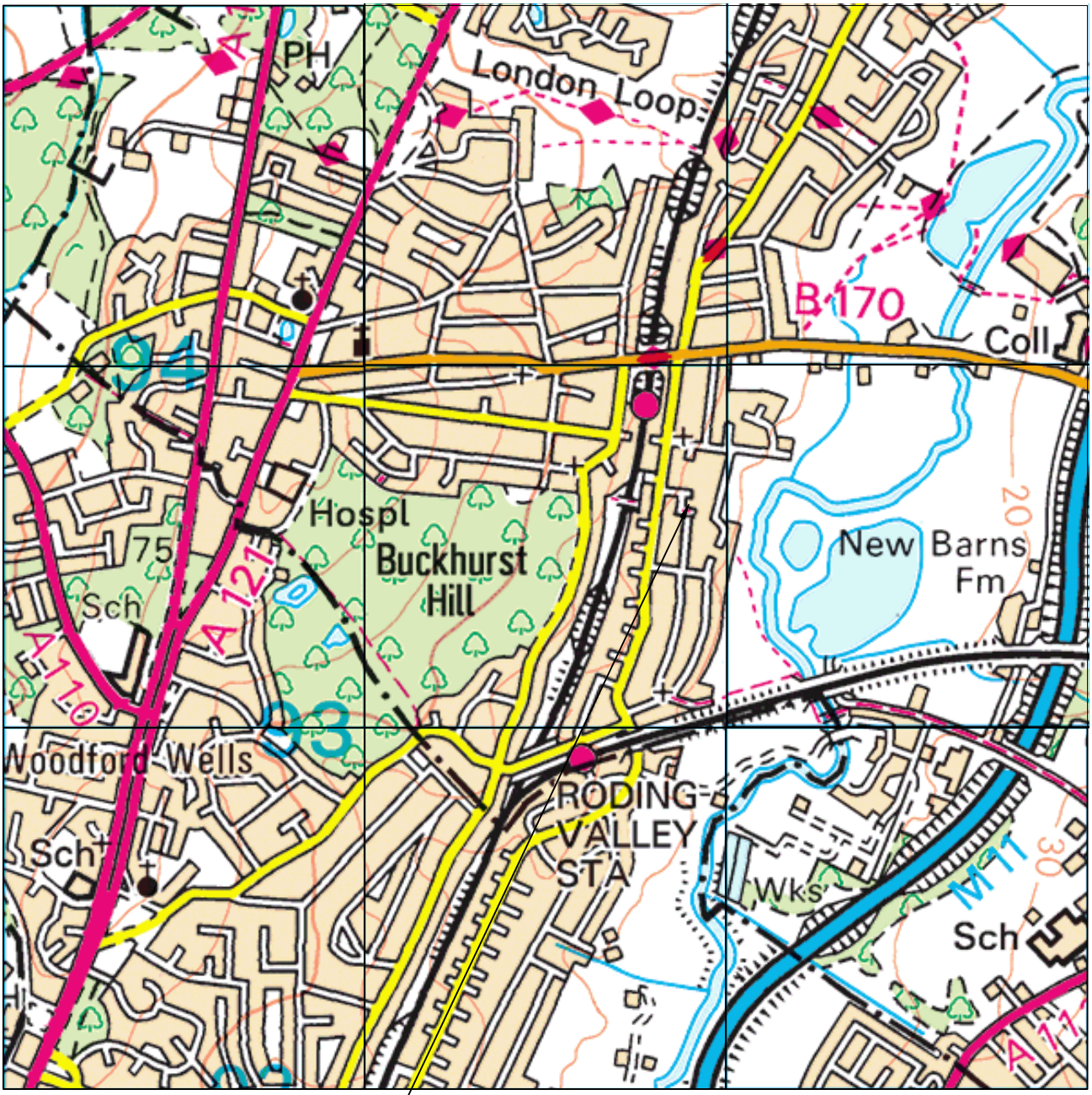
a) All construction workers operating at the site should be advised of the potential for exposure to and contact with made ground in the subsurface. Appropriate health and safety precautions should also be adopted during any excavation works to avoid exposure to soils. Reference

should be made to relevant health & safety guidance including the following CIRIA document: R132 *Guide to Safe Working on Contaminated Sites.*

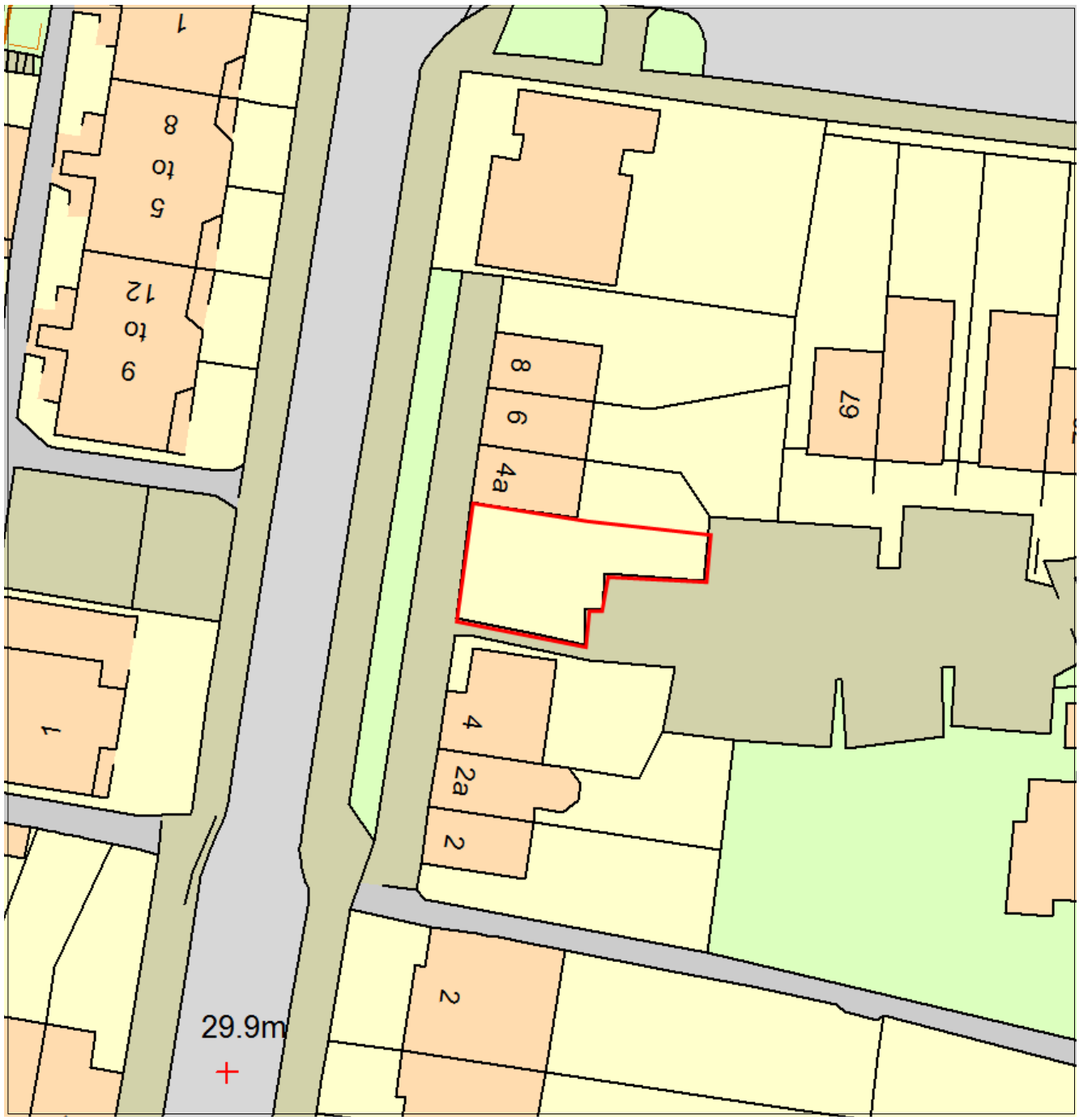
b) Any palpable evidence of contamination encountered during exposure of shallow soils beneath the site during redevelopment work should be reported to EPS so that an inspection can be made and appropriate sampling and assessment work carried out. Construction workers should have a procedure in place for dealing with any previously unidentified contamination if it is encountered during their redevelopment activities and to this end an example method statement has been provided as Appendix I.

A copy of this report should be provided to the Environmental Health department of Epping Forest District Council so that the information may be used to support planning proposals for the site.

FIGURES



eps	**Title:** Site Location Plan	
	Project: 4a Albert Road, Buckhirst Hill	Scale: NTS
		Drawn By: MJ / Approved By: MB
	Fig No: 1	Job No: UK20.5225
		Dwg No: Buckhirst/1220/01
		Date: December 2020



Approximate Site Boundary

Title: Current Site Layout Plan

Project: 4a Albert Road, Buckhirst Hill

Fig No: 2

Scale: NTS

Drawn By: MJ | Approved By: MB

Job No: UK20.5225

Dwg No: Buckhirst/1220/02

Date: December 2020

Approximate Site Boundary

Title: Aerial Photograph

Project: 4a Albert Road, Buckhirst Hill

Fig No: 3

Scale: NTS

Drawn By: MJ | Approved By: MB

Job No: UK20.5225

Dwg No: Buckhirst/1220/03

Date: December 2020

APPENDICES

APPENDIX A

Selected Site Photographs & Walkover Notes

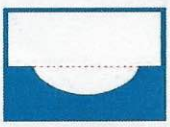
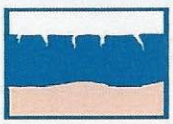
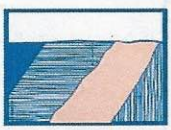
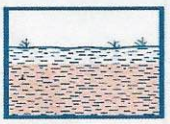
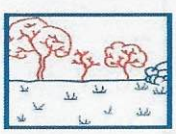
Photo 1: Image showing site, facing southwest.	Photo 2: Image showing site, facing northeast.
	
Photo 3: Image showing walled patio area for shed, facing south.	Photo 4: Image showing patio area at rear of property and steps leading down to central east walled patio area, facing northeast.
	
Photo 5: Image showing walled patio area central east, facing west.	Photo 6: Image showing steps and southeast corner exit to car park, facing south.
	

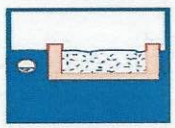
Walk Over Check List

12pm

Site Ref:	UK20.5225
Date:	16.12.20
Made by:	C. Cowley

4a Albert Road
Buckhurst Hill
IG9 6EH

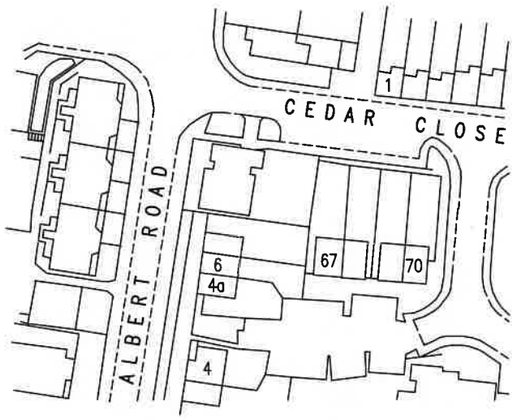
 Are there any abrupt changes in slope profiles?	Yes. Downslope to the west. Backgarden has stepped walls and paving steps. Property atop peak in ground.
 Is there evidence of overburden on the slopes?	possibly, if levelled for property specifically.
 Is there evidence of excvation at the base of a slope?	Yes, lower patio areas are levelled.
 Are there signs of landslip, such as tilting trees/posts?	No.
 Are there signs of subsidence ?	No.
 Is there evidence of cracked ground?	No
 Is there evidence of compressible ground (i.e. Peat) ?	No.
 Is there evidence of an abrupt change in ground conditions?	No.
 Is there evidence of high groundwater, such as areas of waterlogged ground?	No.
 Do signs of water loving plants such as reeds exist?	No.
 Are there any ponds, streams, ditches (even if dry), springs or wells?	No.
 What is the nature of the vegetation?	Grassland, manicured domestic garden.
 Species & Height of trees	Evergreen tree (?) coniferous x 2. Hedgerow type bushes to West of garden - trimmed down.

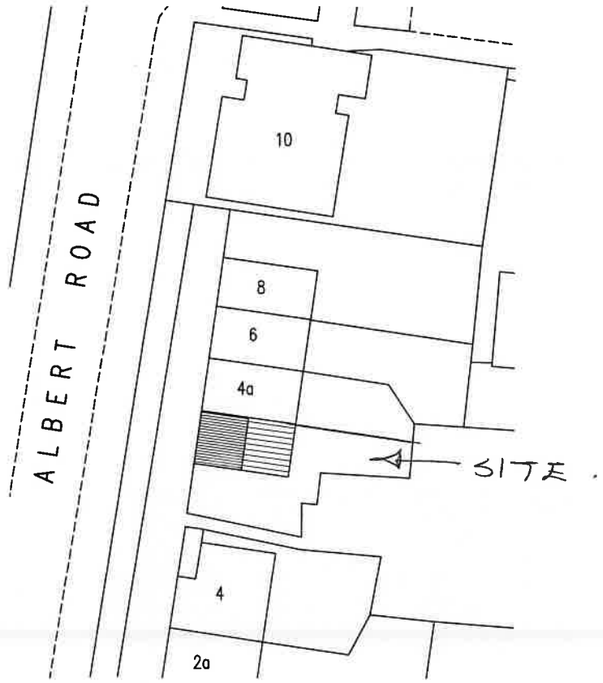
 What is the nature and condition of vegetationon adjoing land?	West - Albert Rd. East - car parking South + North. residential properties.
 Is there evidence of former vegetation?	Few trunks left from previous trees/bushes.
 Is there eveidence of movement of any exisiting structures?	No.
 Evidence of below ground structures & services?	Manhole cover - sewage.
 Evidence of ground contamination?	No.
 Evidence of groundwater /surface water contamination?	No.
 Evidence of historic site use (including tanks)	No.
 Anecdotal evidence	No.
 Evidence of /suspected Asbestos	No.

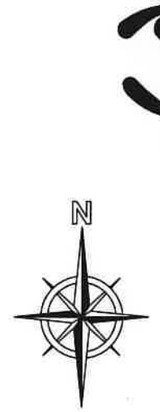
Any Other Comments:

APPENDIX B

Proposed Development Plan







Location Plan

Scale 1:1250

0 10 20 30 40 50

Block Plan

Scale 1:500

0 5 10 15 20 25

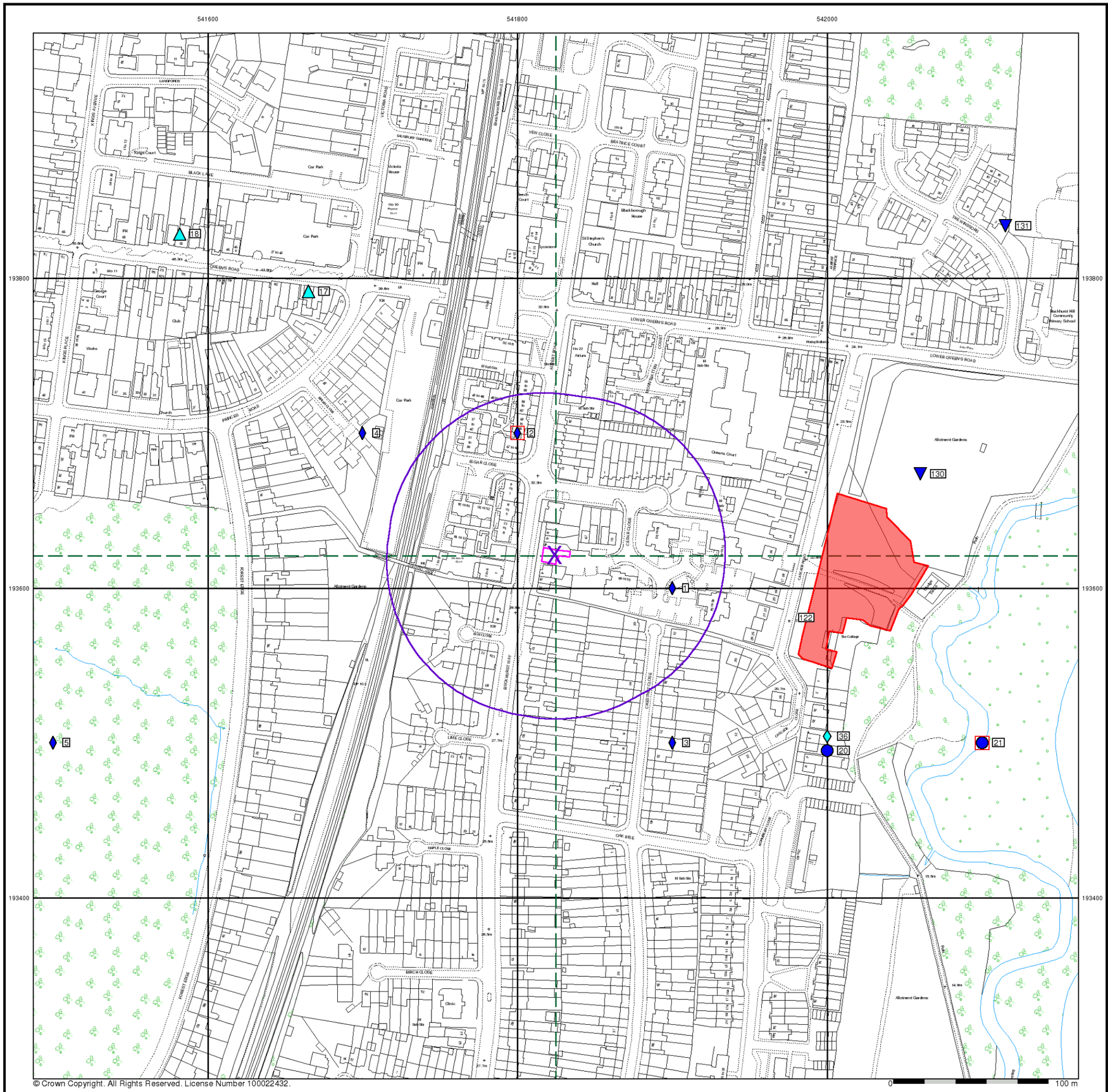
JSP Chartered Town Planners and Design Consultants
1 Bansons Yard,
High Street, Ongar,
Essex CM5 9AA

T 01277 366886
F 01277 366864

Site	4A Albert Road, Buckhurst Hill IG9 6EH
Title	Proposed new dwelling
Drawing	Location & Block Plan
Scale	1:1250 and 1:500 @ A3
Date	Oct 2020
Number	2708.1

APPENDIX C

Surrounding Land Use



General

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

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

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

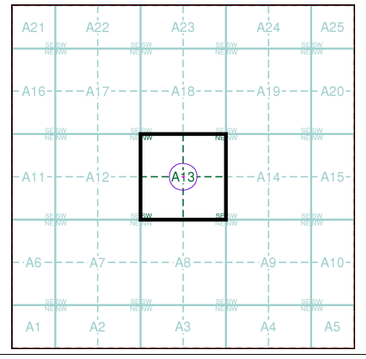
Geological

- BGS Recorded Mineral Site

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Segment A13



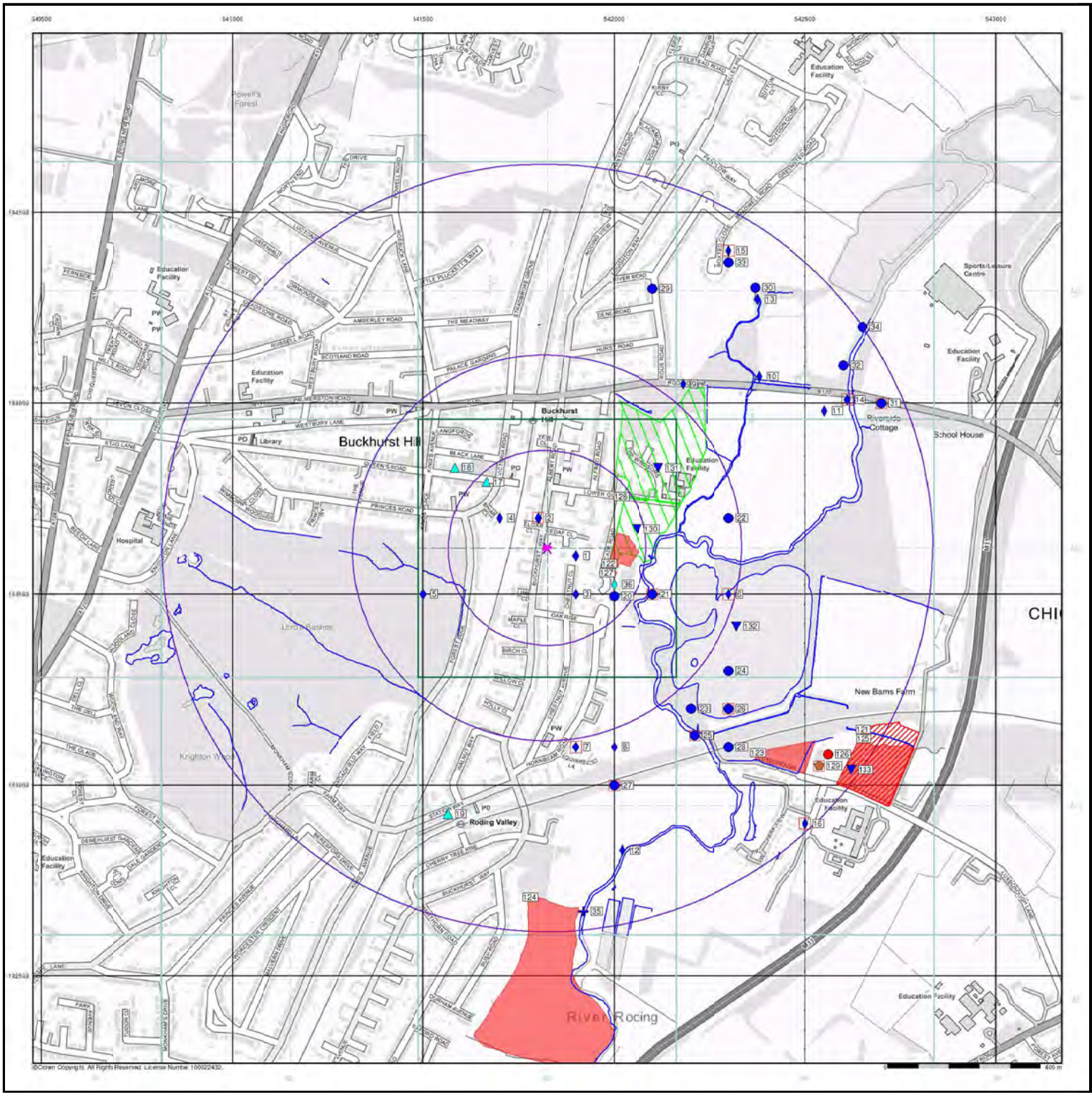
Order Details

Order Number:	270203782_1_1
Customer Ref:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Plot Buffer (m):	100

Site Details

Site at 541820, 193620

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



General

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

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

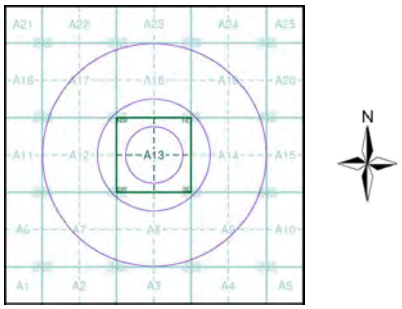
Hazardous Substances

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

Geological

- BGS Recorded Mineral Site

Site Sensitivity Map - Slice A



Order Details

Order Number:	270203782_1_1
Customer Ref:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	1000

Site Details

Site at 541820, 193620

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

APPENDIX D

Geological Context

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

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

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	ROSI	Roding Silt Member	Clay and Silt	Not Supplied - Devensian
	KPGR	KEMPTON PARK GRAVEL MEMBER	Sand and Gravel	Not Supplied - Devensian
	TPGR	TAPLOW GRAVEL MEMBER	Sand and Gravel	Not Supplied - Wolstonian
	BHT	Boyn Hill Gravel Member	Sand and Gravel	Not Supplied - Hoxnian
	LOFT	Lowestoft Formation	Diamicton	Not Supplied - Anglian
	WOGR	Woodford Gravel Formation	Sand and Gravel	Not Supplied - Cromerian
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LC	London Clay Formation	Clay, Silt and Sand	Not Supplied - Ypresian

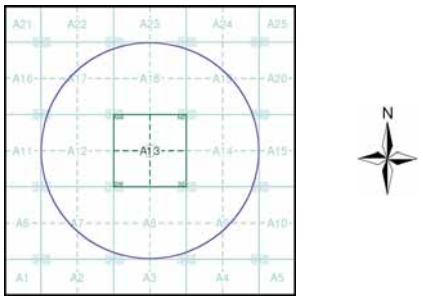
Geology 1:50,000 Maps

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:	**257**
Map Name:	**Romford**
Map Date:	**1996**
Bedrock Geology:	**Available**
Superficial Geology:	**Available**
Artificial Geology:	**Available**
Faults:	**Not Supplied**
Landslip:	**Available**
Rock Segments:	**Not Supplied**

Geology 1:50,000 Maps - Slice A



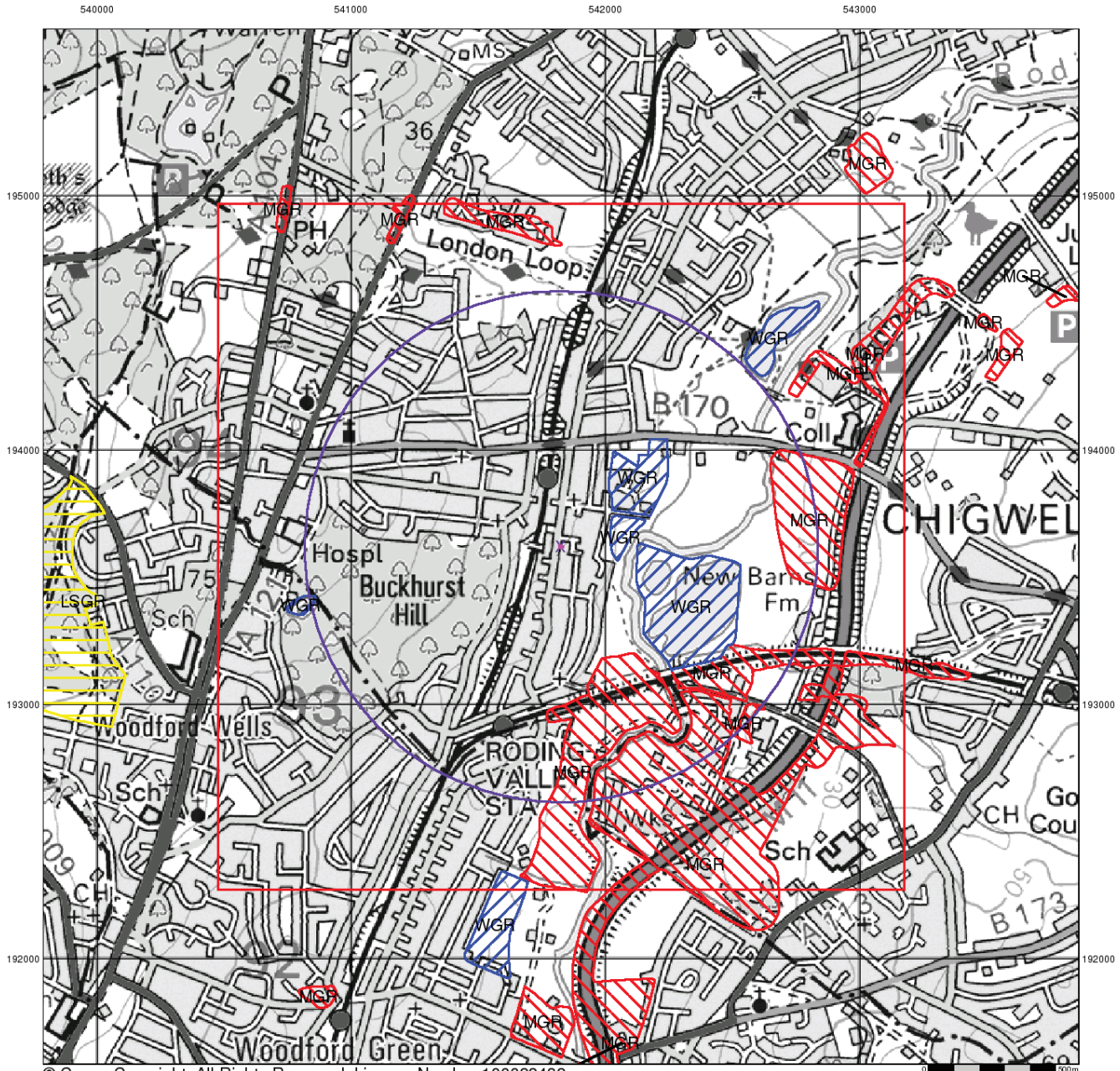
Order Details:

Order Number:	270203782_1_1
Customer Reference:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	1000

Site Details:

Site at 541820, 193620

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



Artificial Ground and Landslip

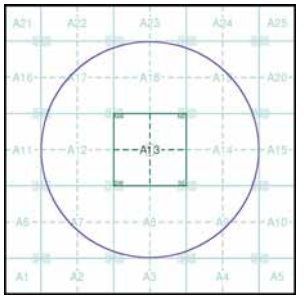
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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



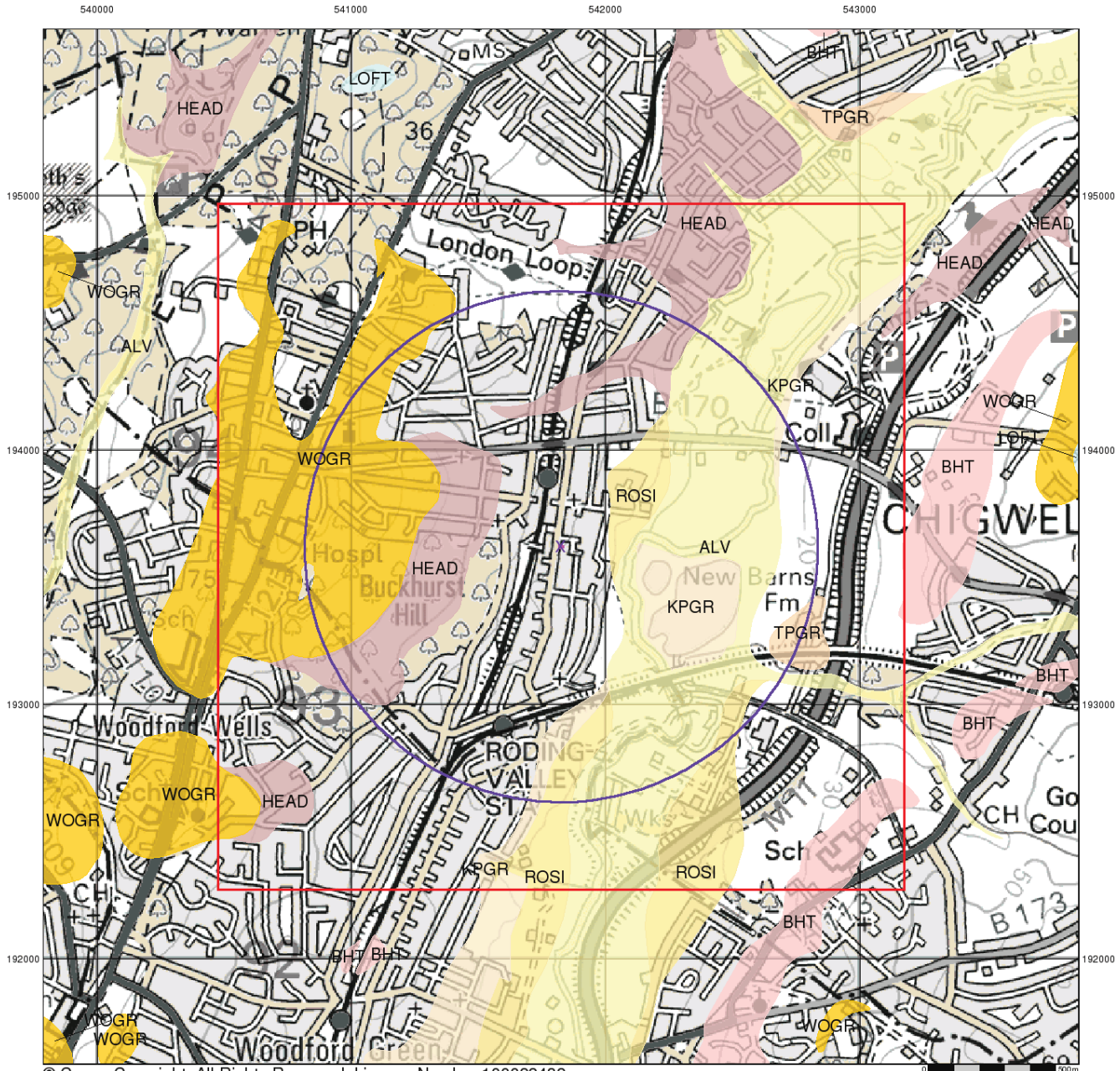
Order Details:

Order Number:	270203782_1_1
Customer Reference:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	1000

Site Details:

Site at 541820, 193620

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



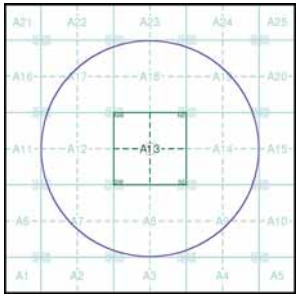
Superficial Geology

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

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

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

Superficial Geology Map - Slice A



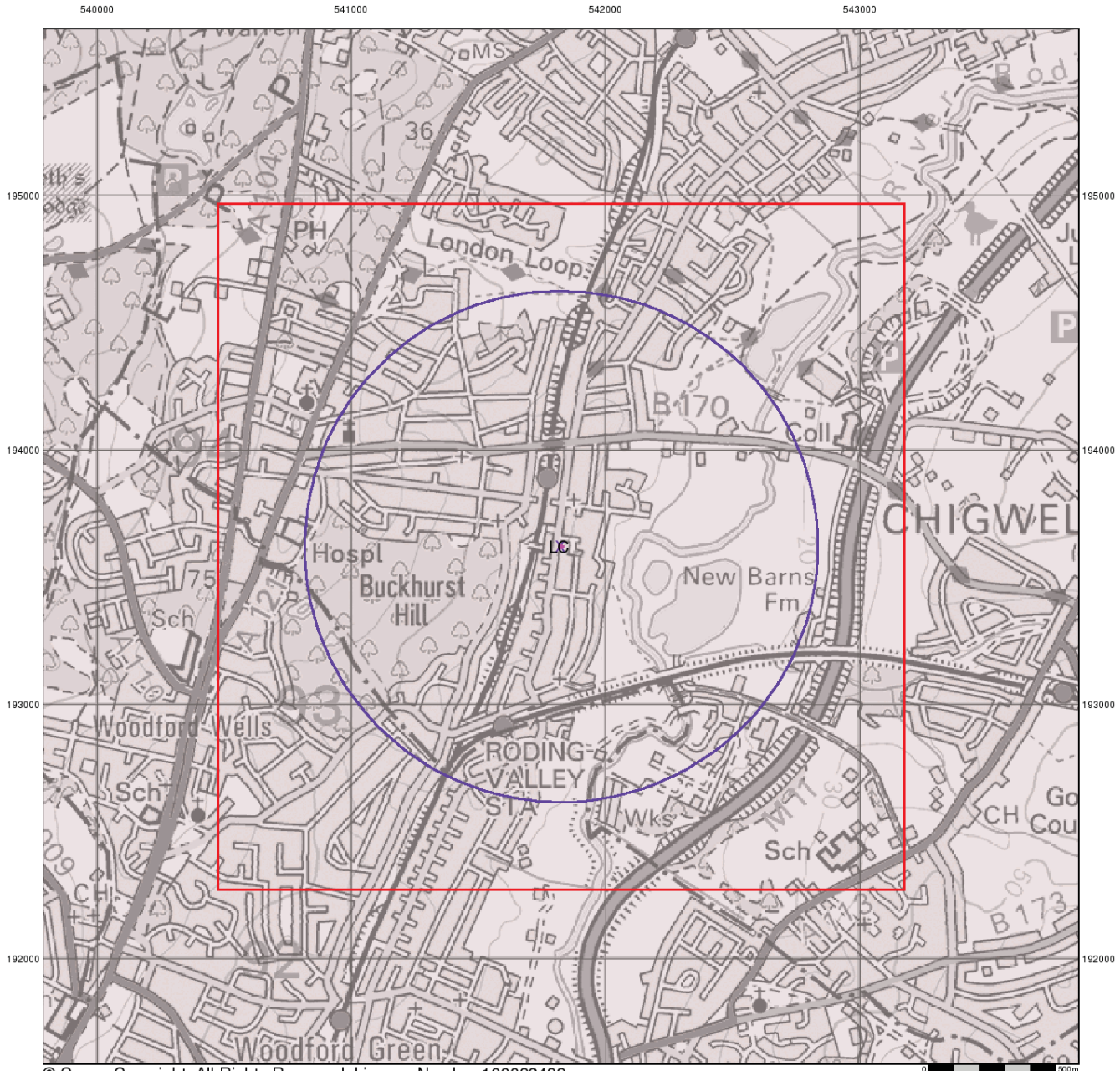
Order Details:

Order Number:	270203782_1_1
Customer Reference:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	1000

Site Details:

Site at 541820, 193620

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



Bedrock and Faults

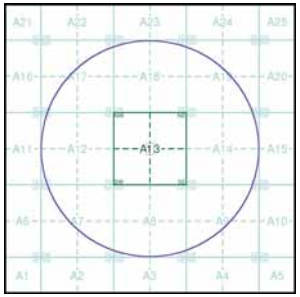
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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

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

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

Bedrock and Faults Map - Slice A



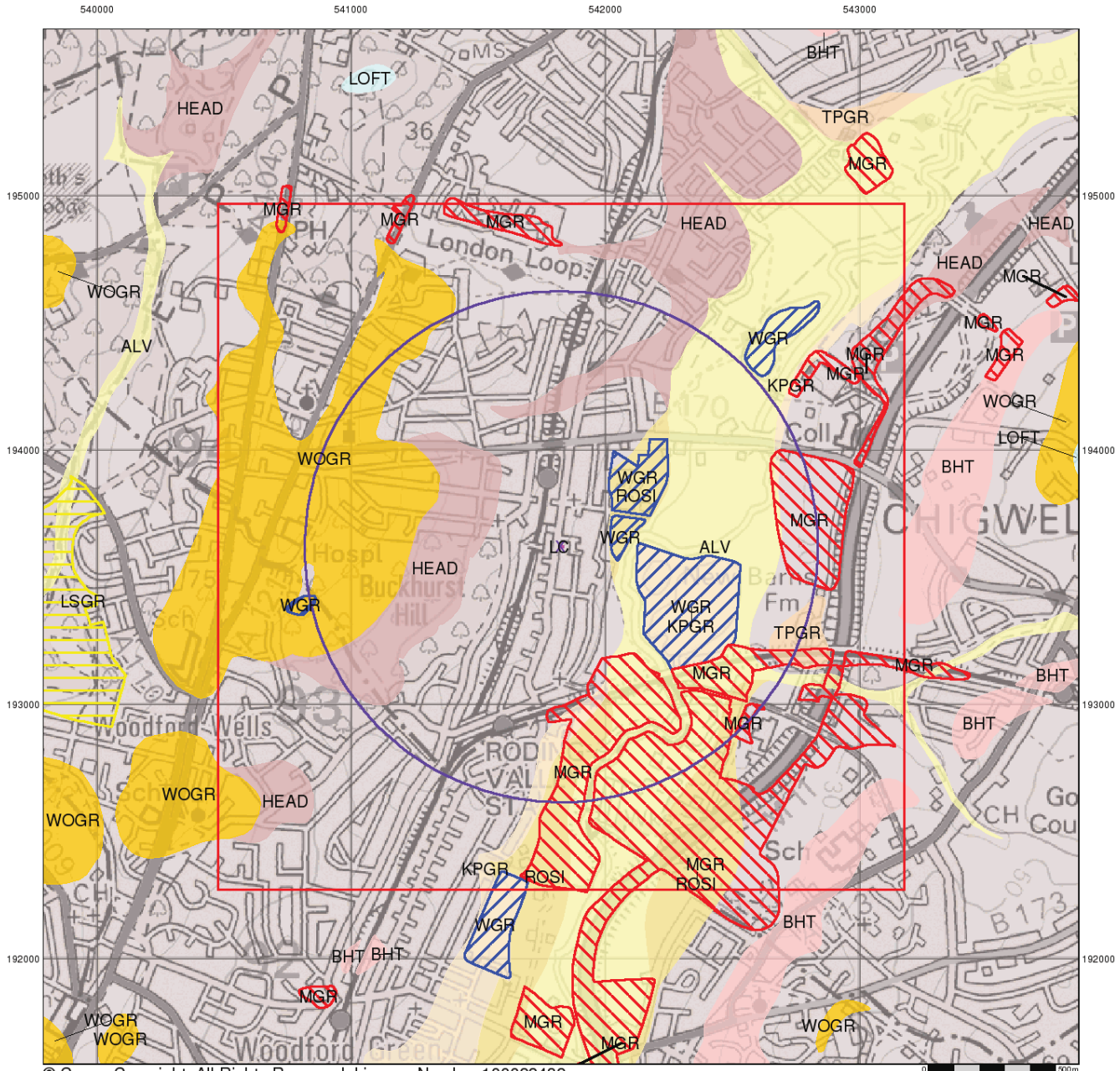
Order Details:

Order Number:	270203782_1_1
Customer Reference:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	1000

Site Details:

Site at 541820, 193620

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



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.

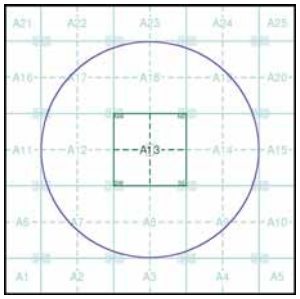
Additional Information

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:	270203782_1_1
Customer Reference:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	1000

Site Details:

Site at 541820, 193620

Contract Name	BUCKHURST HILL TQ 49 SW 179	Borehole No.	3
		Sheet	1 of 1

Method of boring Light cable percussion
Diameter 150mm
Ground level 36.16m O.D.
Start 5.8.84.
Finish 5.8.84.

TQ 4176 9302/179

Daily progress	Water levels	In-situ tests	Samples	Depth (m)	Reduced level (m O.D.)	Thickness (m)	Description of Strata	Legend
				0.10	36.06	0.10	Made Ground (Tarmac)	
				0.35	35.81	0.25	Made Ground (Sand and gravel)	
			B U			0.90	Soft brown fissured silty CLAY with small pockets of silty sand and occasional roots (possibly Made Ground)	1
5/8				1.25	34.91			
			J	1.45	34.71	0.20	Firm brown silty CLAY with with occasional pockets of sand and gravel (possibly Made Ground)	
			U			1.65	Stiff brown fissured silty CLAY with some blue-grey reduction zones along fissure surfaces and small pockets of selenite crystals	2 3
			U	3.10	33.06			
			J					4
			U			4.40	Stiff brown fissured silty CLAY with occasional small pockets and partings of brown fine sand and silt, traces of selenite crystals	5
			J					6
			U					7
			J	7.50	28.66			
			U			3.00	Stiff grey-brown fissured silty CLAY with a band of claystone from 9.75 to 9.85m	8
			U					9
			*U					10

Cont'd/...

Notes Borehole remained dry throughout drilling

Contract Name	BUCKHURST HILL	Borehole No. 3
		Sheet 2 of 2

Method of boring / Diameter: AS SHEET 1

Ground level / Start / Finish: AS SHEET 1

TQ 49 SW 179

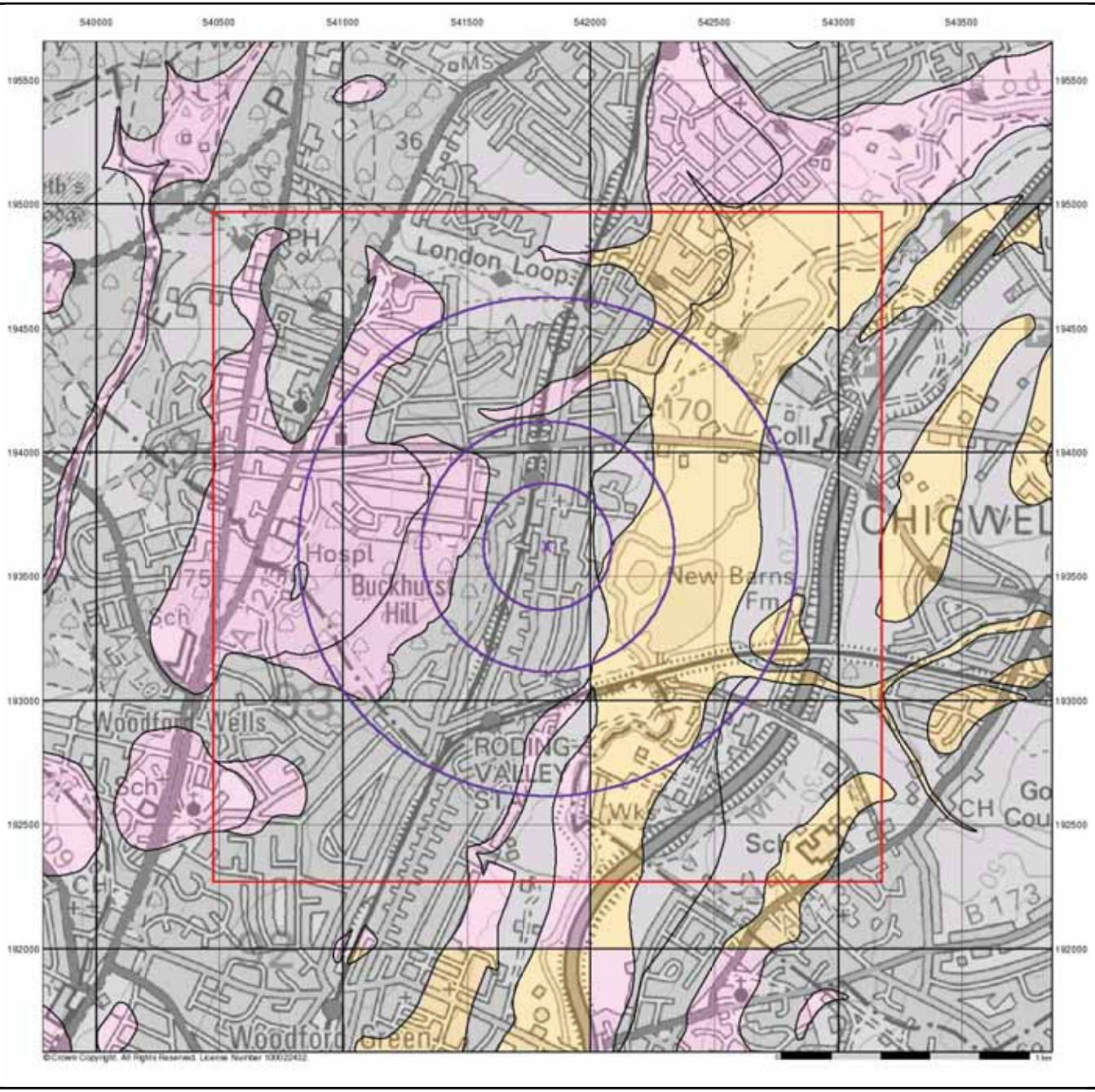
Daily progress	Water levels	In-situ tests	Samples	Depth (m)	Reduced level (m O.D.)	Thickness (m)	Description of Strata	Legend
5/8			U 3	10.50	25.66		SEE ABOVE BOTTOM OF BOREHOLE	

Notes

Terresearch Limited	Report No. S.34/774A	Appendix 1	Sheet 2

APPENDIX E

Groundwater Vulnerability and Flood Maps



Groundwater Vulnerability

General

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

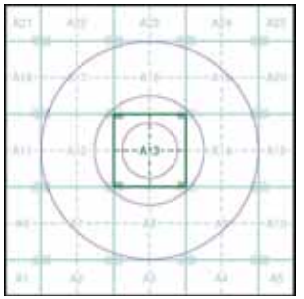
Agency and Hydrological

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

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



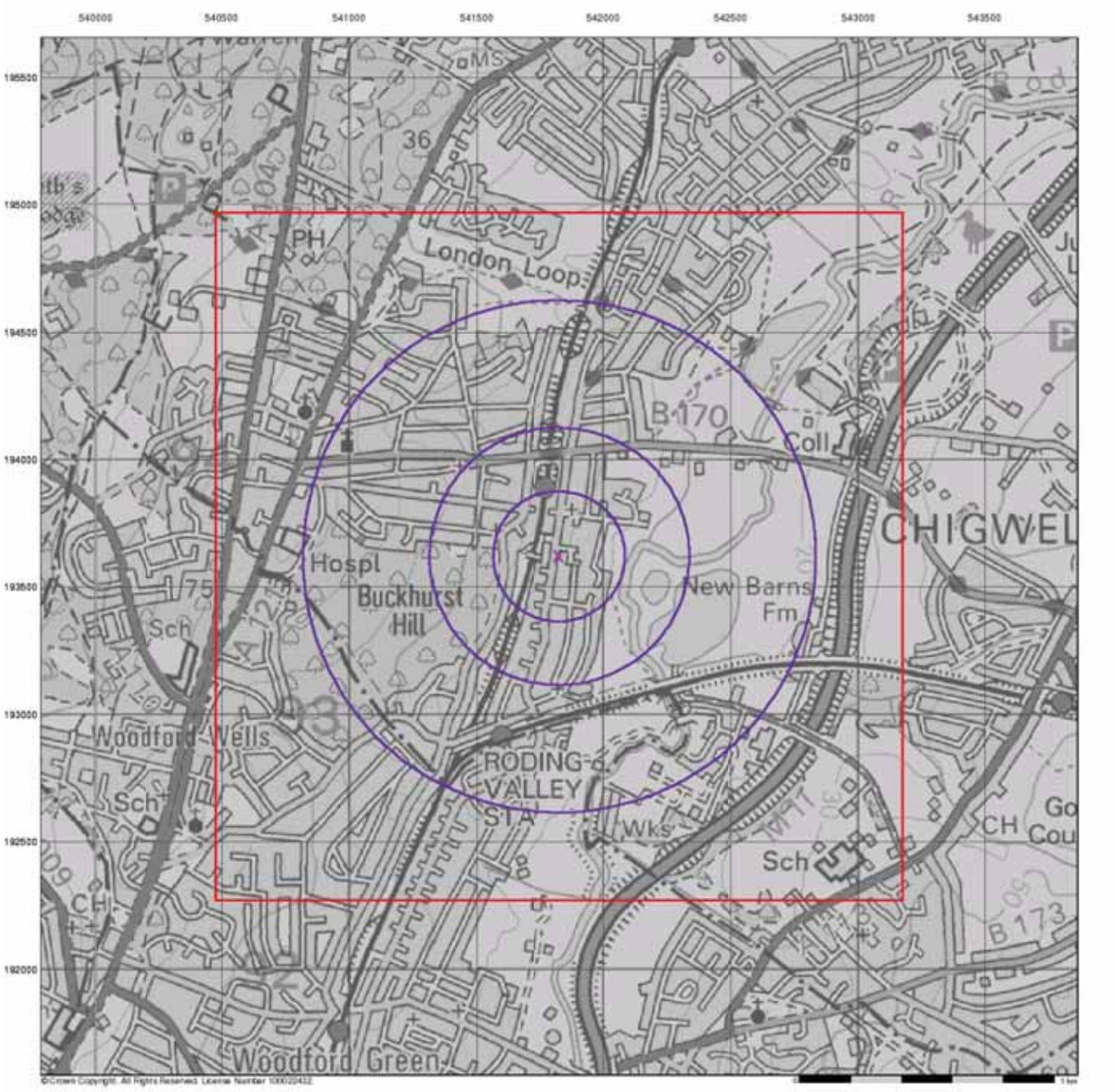
Order Details

Order Number:	270203782_1_1
Customer Ref:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	1000

Site Details

Site at 541820, 193620

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



Bedrock Aquifer Designation

General

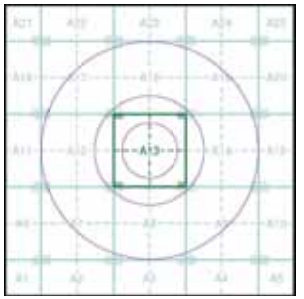
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



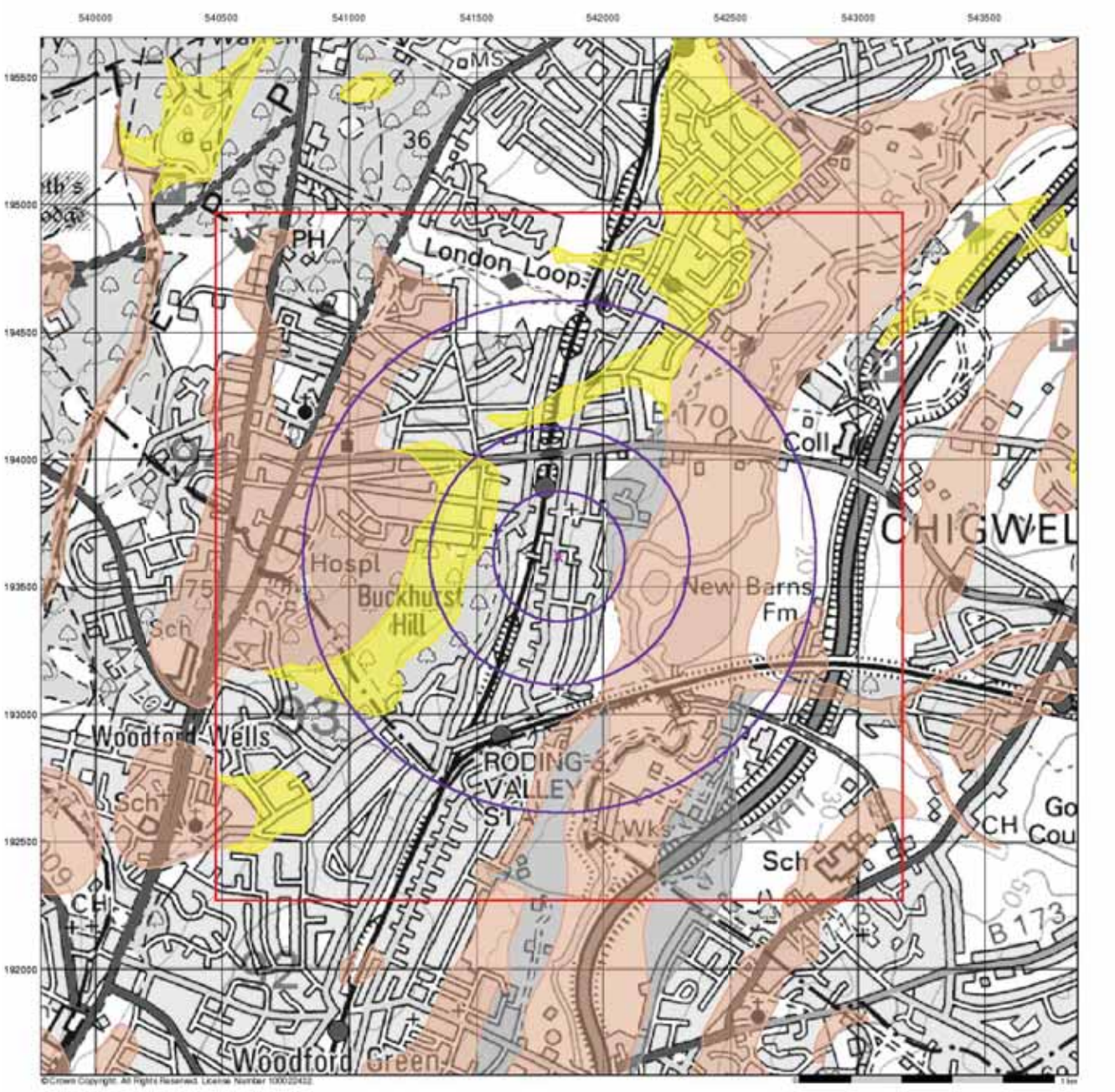
Order Details

Order Number:	270203782_1_1
Customer Ref:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	1000

Site Details

Site at 541820, 193620

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



Superficial Aquifer Designation

General

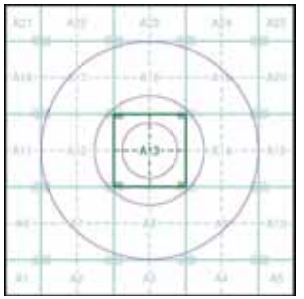
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



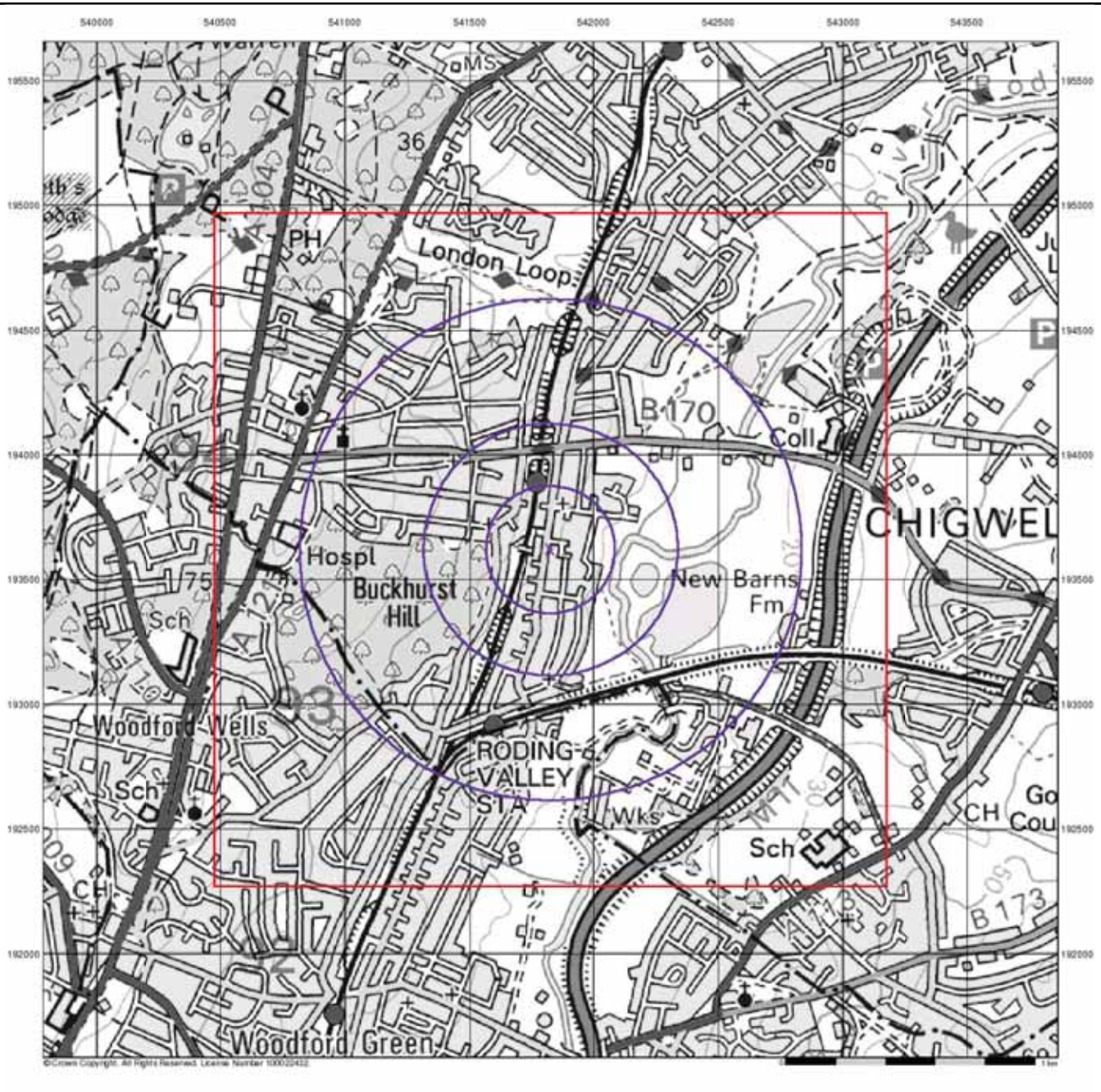
Order Details

Order Number:	270203782_1_1
Customer Ref:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	1000

Site Details

Site at 541820, 193620

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



eps

Source Protection Zones

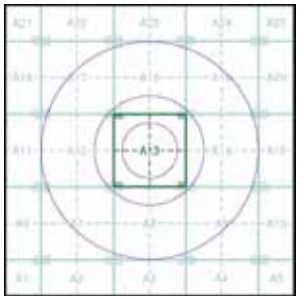
General

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

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A



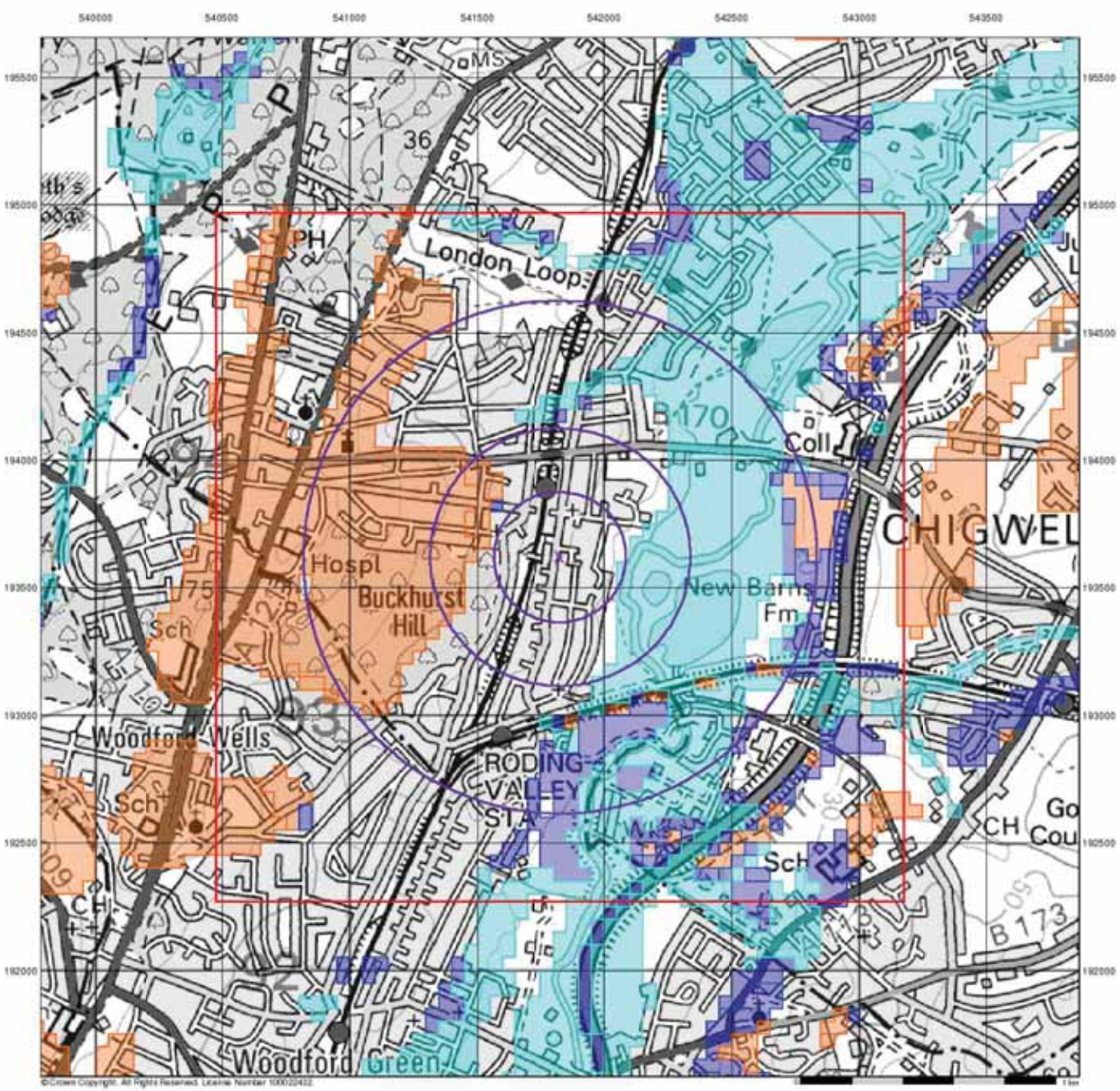
Order Details

Order Number:	270203782_1_1
Customer Ref:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	1000

Site Details

Site at 541820, 193620

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



BGS Flood GFS Data

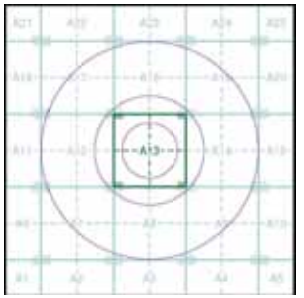
General

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

Agency and Hydrological (Flood)

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

Site Sensitivity Context Map - Slice A



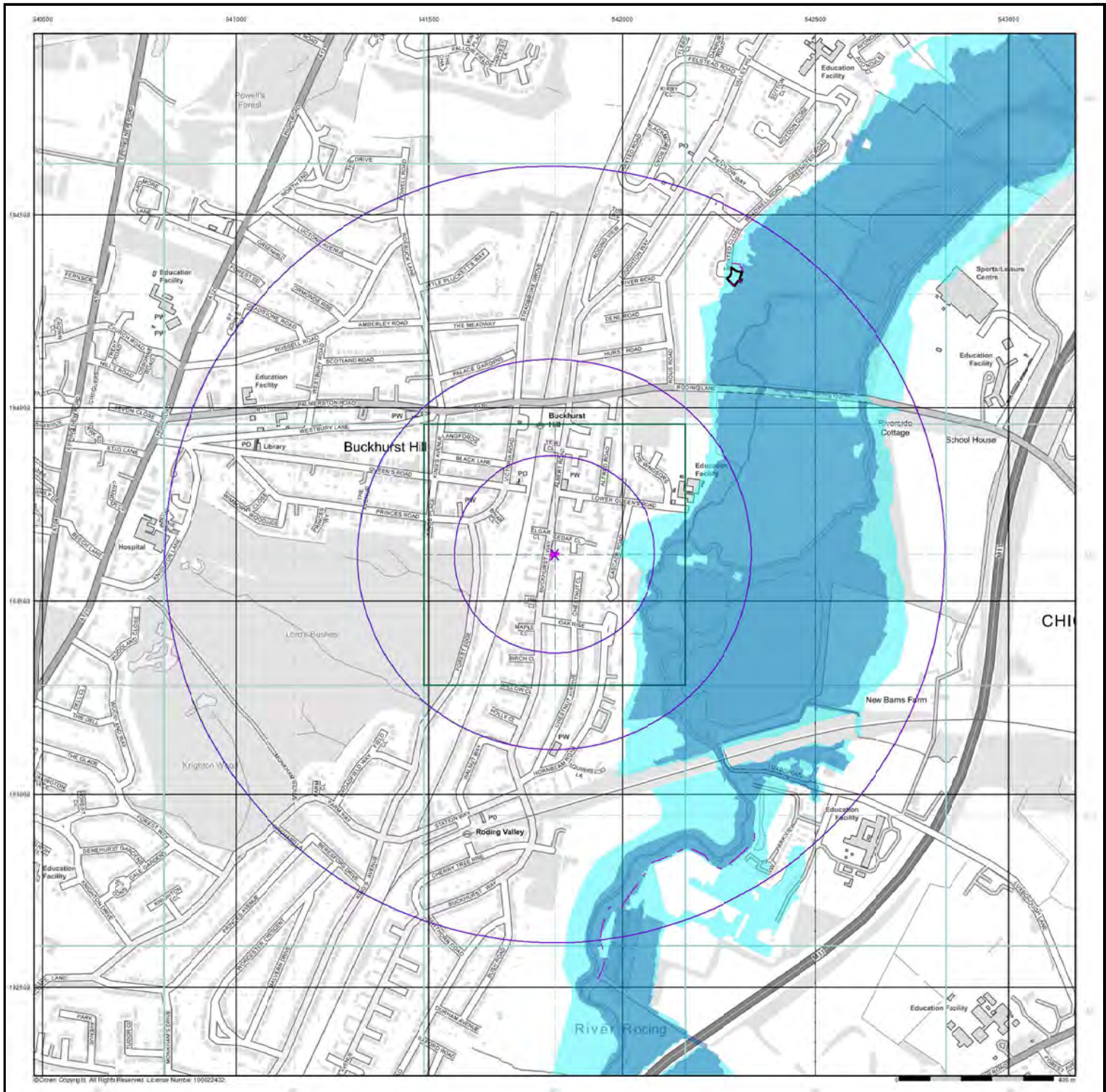
Order Details

Order Number:	270203782_1_1
Customer Ref:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	1000

Site Details

Site at 541820, 193620

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



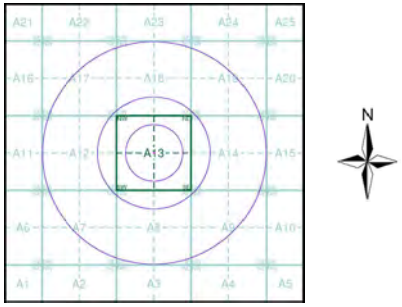
General

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

Agency and Hydrological (Flood)

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

Flood Map - Slice A



Order Details

Order Number:	270203782_1_1
Customer Ref:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	1000

Site Details

Site at 541820, 193620

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

APPENDIX F

EFDC EIR Response

Epping Forest District Council
www.eppingforestdc.gov.uk

Date: 15 January 2021

Civic Offices
High Street
Epping
Essex
CM16 4BZ

Our Ref:WK/202045871
Your Ref:

Ms Smith
EPS Ltd
7B Caxton House
Broad Street
Cambourne
Cambridgeshire
CB23 6JN

Subject: Environmental Information Regulations Request

Dear Ms Smith

I am writing with regards to your recent request for information under Environmental Information Regulations. Please find below our reply to the enquiry you made under this scheme on 10th December 2020.

Environmental Protection & Drainage

1. Local Authority pollution incidents

According to the council's electronic systems, there has been 2 reported pollution incidents within 250 meters of the site. Both reports concerned a domestic misconnection 60 metres east of the site causing grey water.

2. Historic Private sewer & cesspool overflows and sewage pollution incidents

According to the council's electronic systems, there have been no reported private sewerage-related incidents within 250 meters of the search area. Additionally, please contact the Environment Agency who are the primary authority for this data. For incidents relating to mains sewerage please contact Thames Water for more information.

3. Records of private water supplies within a 1000m radius of the site

There are no private water supplies monitored under the Private Water Supplies (England) Regulations 2016 (as amended) within 1000 metres of the site. For any private water supplies used for other purposes eg irrigation, please consult the Environment Agency and/or the British Geological Survey. For any private water supplies used for other purposes eg irrigation, please consult the Environment Agency and/or the British Geological Survey.

5. Local Authority regulated prescribed processes

Information not held by Environmental Protection & Drainage - please contact the Public Health Team.

6. Any inspection, investigation or determinations carried out under Part IIA EPA sites

There are no records on Council electronic systems of this site being inspected or investigated under Part IIA of the Environmental Protection Act 1990. However, our GIS database shows several areas of potential land contamination within a 250 metres radius. As such the site forms part of the Council's Contaminated Land Strategy and is therefore prioritised over other sites however is not currently planned for any future inspection or investigation.

- The entirety of the site has no acknowledged potentially contaminated land.
- 70 metres north east of the site due to a milk distribution depot with a filled pond and 2 electricity sub station.
- 75 metres west of the site due to railway (Central Line) and former coal yard.
- 85 metres north of the site due to a garage and electricity sub station.
- 155 metres east of the site due to a site with former uses including sewage works, disposal site for road sweepings and brickfield.
- 200 metres south of the site due to a filled pond.
- 210 metres north west of the site due to a dry cleaners.
- 235 metres north west of the site due to a garage.
- 240 metres north east of the site due to a brickfield.
- 240 metres south east of the site due to an electricity sub station.
- 250 metres north west of the site due to a printing works.

GIS Mapping

Please find attached a printout from our GIS Contaminated Land database of the site requested. There is some potential sources of contamination to the site in the nearby area. This is due to railway land, a depot and a coal yard among other sources in the nearby area. It is noted that this map is generated from a draft internal database and is not meant to be definitive, but instead assist you with your investigations.

Docreqplanning

Please note that all documents & plans for this site can be found on our website. I have attached a how to guide for you on how to search this.

Furthermore, for all older microfiche documents/plans relating to this site, please follow the following link and instructions- Anite Online - select 'Planning' then choose Document Type 'Development Control Microfiche Documents' from the drop down menu, enter the 'File Number 010275

After viewing the results click 'Back to Search' and select Document Type 'Development Control Microfiche Plans' to view plans.

The rest of the documentation you require is also available, using the File Number(s) and these links, on our Planning and Building Control search pages.

Public health

According to our records, there *is 1 process* within 1km of *4a Albert Road* that holds a permit under the Environmental Permitting Regulations 2016. *Truly Fine Dry Cleaners* is located approximately *220m* to the *north-west* of this site where it operates a *dry-cleaning process.*

Neighbourhoods

No information from the Neighbourhoods' team

If you are dissatisfied with the handling of your request, you have the right to ask for an internal review. Internal review requests should be submitted within two months of the date of receipt of the response to your original letter and should be addressed to: EIR@eppingforestdc.gov.uk

Please remember to quote the reference number above in any future communications.

If you are not content with the outcome of the internal review, you have the right to apply directly to the Information Commissioner for a decision. The Information Commissioner can be contacted at: Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire SK9 5AF.

Yours sincerely

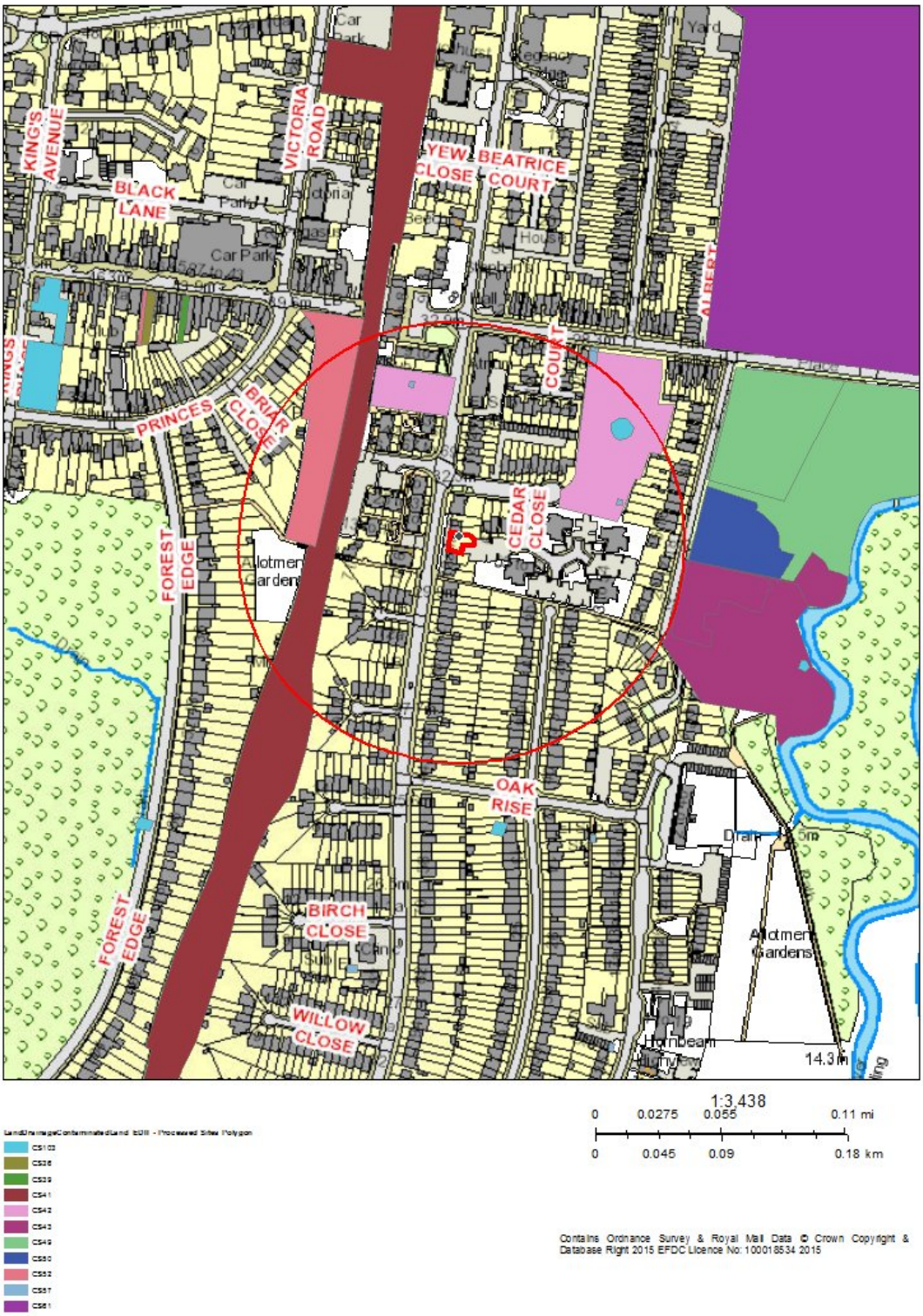
Kiri Cunnane
Epping Forest District Council,
EIR team
Tel No: (01992) 564000
Email: EIR@eppingforestdc.gov.uk

Screening Report

Area of Interest (AOI) Information

Area : 79,248.99 m²

Dec 10 2020 10:30:28 Greenwich Mean Time



Summary

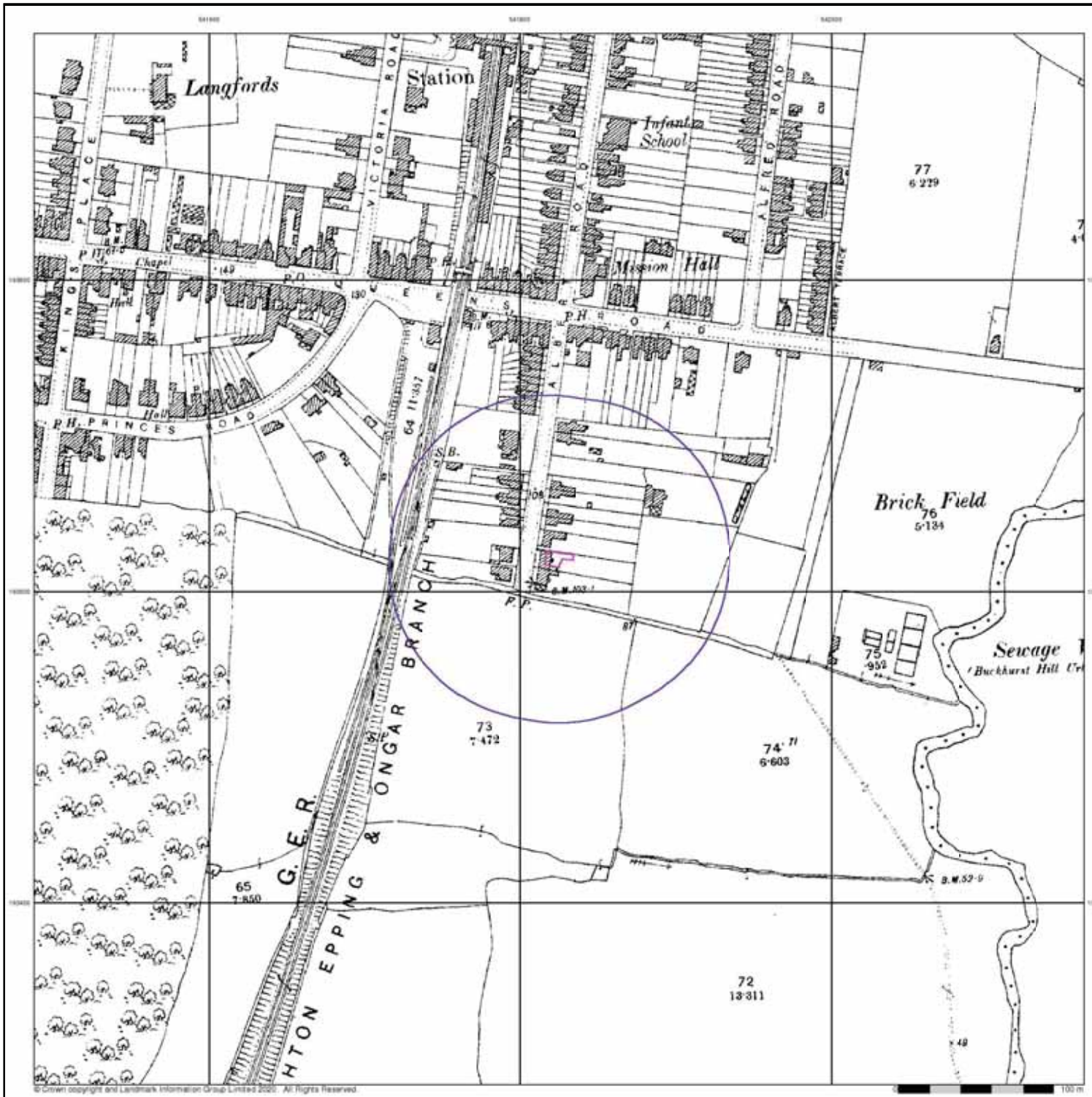
Name	Count	Area(m²)	Length(m)
Processed Sites	45	73,126.41	N/A
Private Water Supplies	0	N/A	N/A

Processed Sites

#	DESCRIPTION	CONSEPT_CLASSIFICATION	CONSEPT_RANKING	CONSEPT_CODE	Area(m²)
1	RAILWAY	Railway Land	Medium	CS41	23,810.26
2	DEPOT (DAIRYCREST MILK DEPOT)	Road Vehicle Servicing & Repair Works, Garages & Filling Stations, Transport and Haulage Centres	Medium	CS42	22,712.51
3	COAL YARD	Collieries and spoil heaps	High	CS52	17,309.77
4	GARAGE	Road Vehicle Servicing & Repair Works, Garages & Filling Stations, Transport and Haulage Centres	Medium	CS42	8,000.82
5	FILLED POND	Unspecified high contam landuse	High	CS103	945.12
6	EL SUB STA	Electricity sub-station	Very Low	CS57	205.26
7	SEWAGE WORKS	Sewage Works and Sewage Farms	High	CS43	142.67

APPENDIX G

A Selection of Historic Maps



Essex

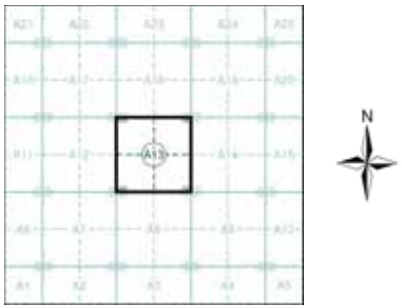
Published 1896

Source map scale - 1:2,500

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

Map Name(s) and Date(s)

Historical Map - Segment A13



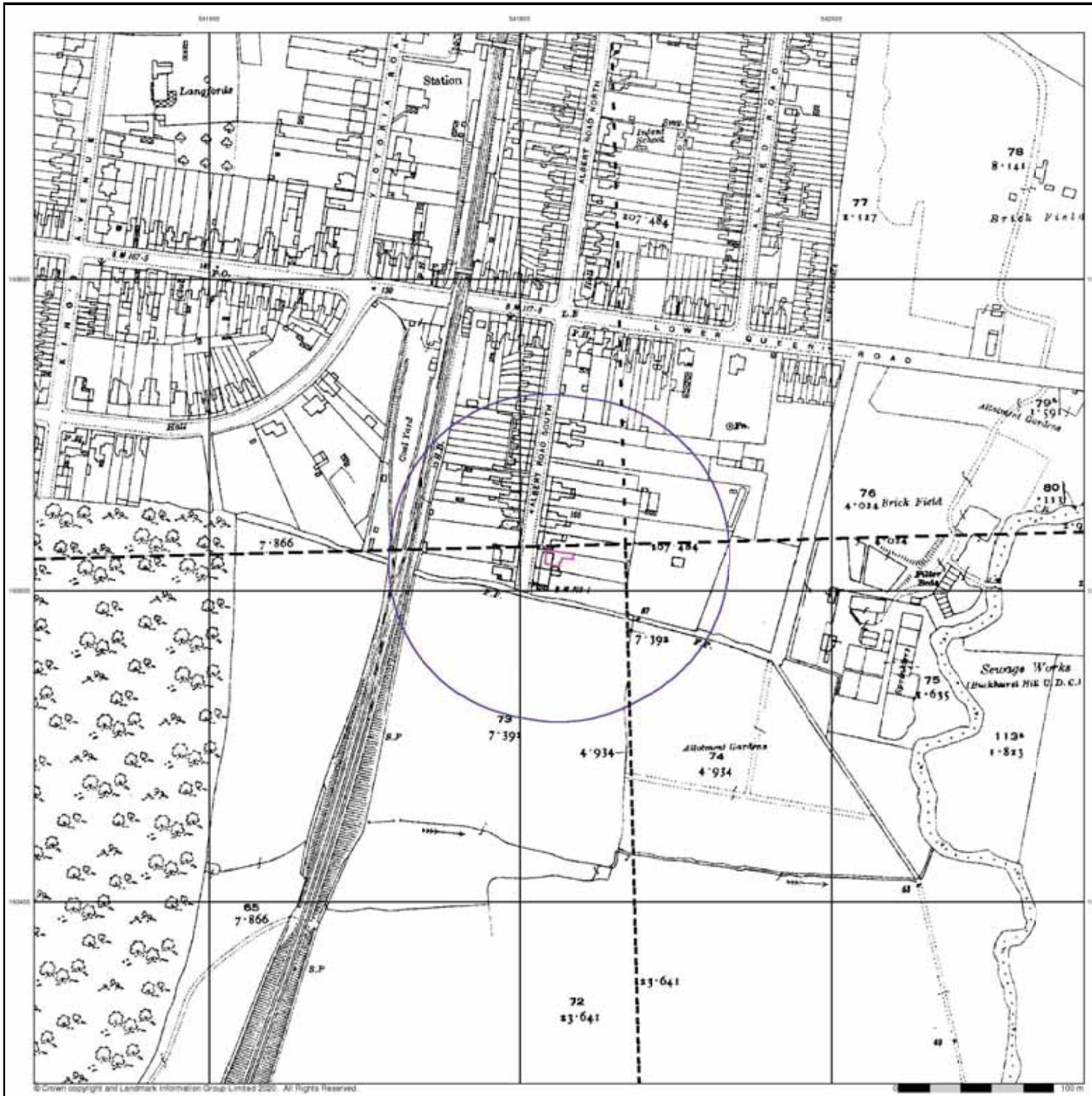
Order Details

Order Number:	270203782_1_1
Customer Ref:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	100

Site Details

Site at 541820, 193620

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



eps

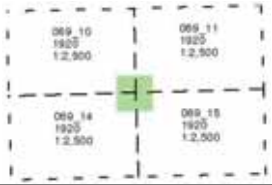
Essex

Published 1920

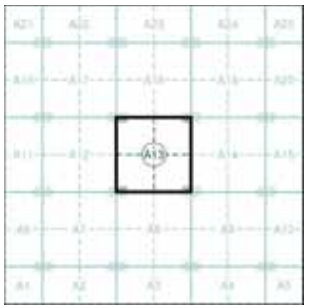
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	270203782_1_1
Customer Ref:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	100

Site Details

Site at 541820, 193620

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

Historical Aerial Photography

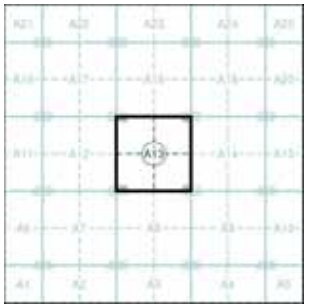
Published 1946

Source map scale - 1:1,250

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

Map Name(s) and Date(s)

Historical Aerial Photography - Segment A13



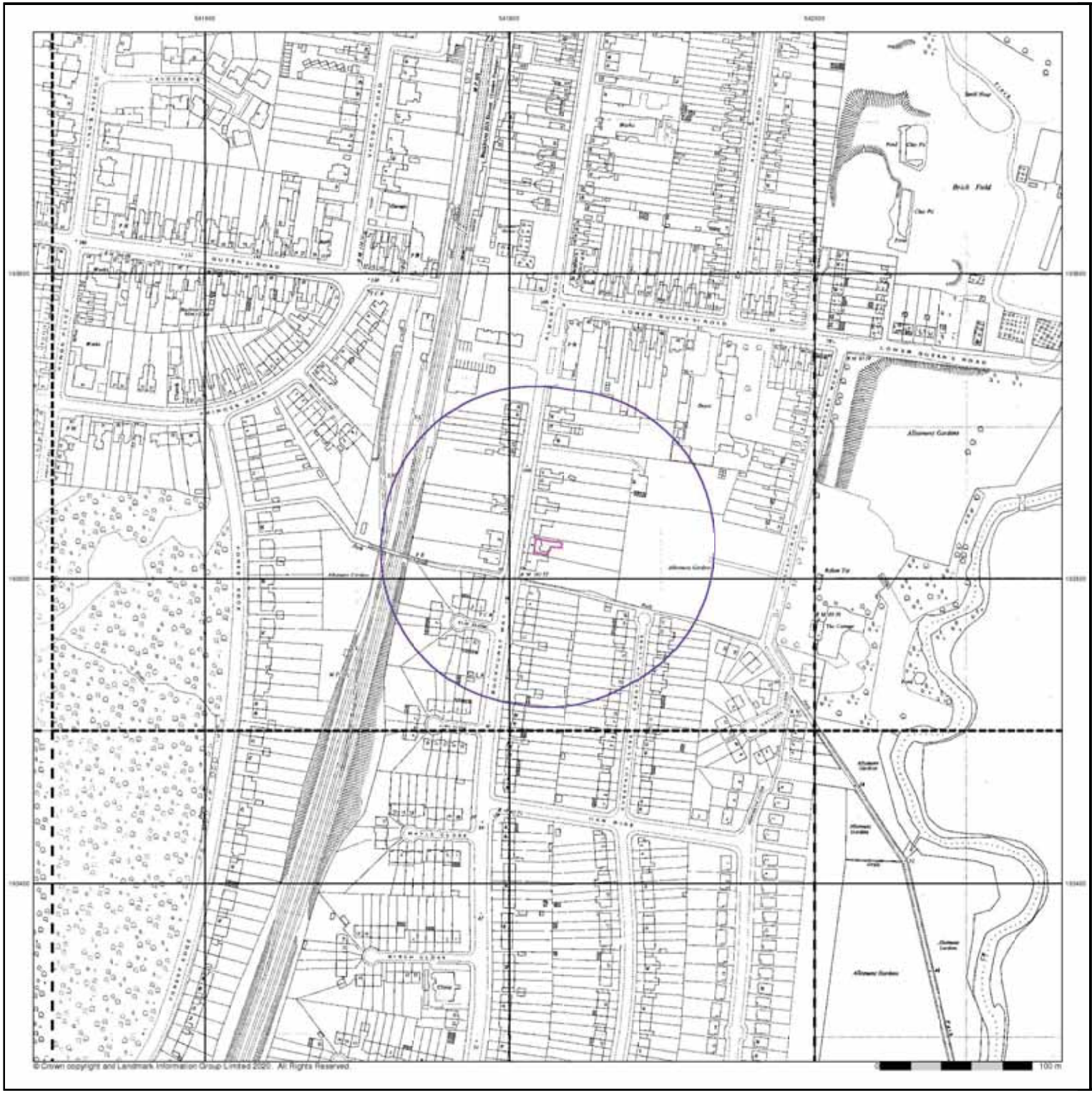
Order Details

Order Number:	270203782_1_1
Customer Ref:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	100

Site Details

Site at 541820, 193620

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



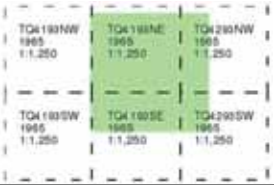
Ordnance Survey Plan

Published 1965

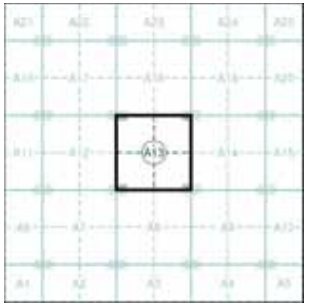
Source map scale - 1:1,250

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)



Historical Map - Segment A13



Order Details

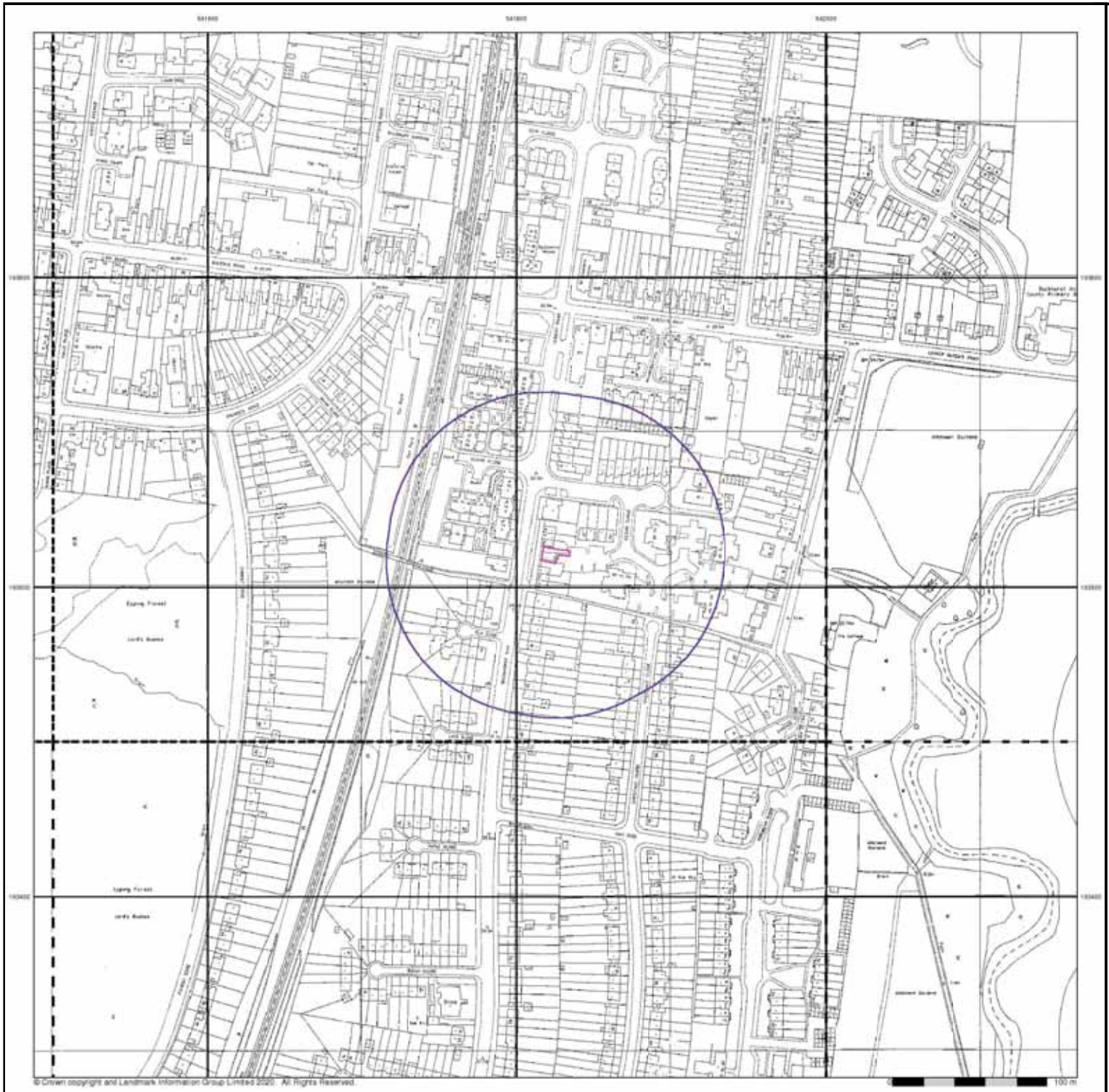
Order Number:	270203782_1_1
Customer Ref:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	100

Site Details

Site at 541820, 193620

Landmark INFORMATION GROUP

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



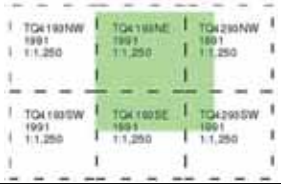
Large-Scale National Grid Data

Published 1991

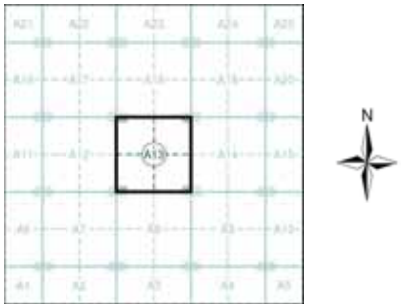
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	270203782_1_1
Customer Ref:	UK20.5225
National Grid Reference:	541820, 193620
Slice:	A
Site Area (Ha):	0.02
Search Buffer (m):	100

Site Details

Site at 541820, 193620

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

APPENDIX H

Cover Soils Checklist

Pre-Verification Cover System Checklist		Yes?
Soil Source	The soil must not be a waste. Please confirm that the soil is not a waste and has never been deemed as such in the past.	
	Has the source of the soil been provided?	
	Have all the delivery notes confirming the source, volume and type of soil been provided for all that is to be used?	
Soil Quality	The soils are free of invasive plant species such as Japanese Knotweed, and have not been sourced from an affected area?	
	Do the soils look clean and of a high quality? I.e. the soil must not have an odour or contain any visual evidence of contamination, including oils, asbestos, glass, plastic, rubble, metal, ash, tarmac/bitumen?	
	Testing to 'BS 3882:2015 *Specification for topsoil and requirements for use*' is preferable but generally not essential for public health regulation, provided you can confirm the soils comply with the above points, are suitable for their intended purpose and will provide an adequate growing medium?	
	Has the soil been chemically tested prior to it arriving at site? Any soil test results presented to EPS by a third party must be current and clearly relate to the soil used, i.e. the testing must generally be dated within 6 weeks of delivery. The quantity of testing will be dependent on how much confidence is generated in the quality of the material, as well any specific local regulatory requirements. If the soil is clean soil from an established source such as British Sugar, the testing they provide at source may be sufficient alone. For other soils, EPS can advise on the likely testing frequencies but as a rule of thumb, anticipate at least one sample per plot. The testing would usually comprise the following: Heavy Metals, Poly Aromatic Hydrocarbons, Asbestos and Total Petroleum Hydrocarbons at an accredited lab. If adequate testing has not been completed, then EPS will need to test it from stockpiles prior to installation.	
Cover Thickness	Are all excavations ready which will allow the necessary thickness of cover soils to be installed?	
	If yes, can you provide waste transfer documentation for any excavated soils?	

APPENDIX I

Method Statement for Encountering Unexpected Contamination

METHOD STATEMENT

ACTIONS TO BE TAKEN IN THE EVENT OF DISCOVERING UNEXPECTED CONTAMINATION DURING INTRUSIVE GROUNDWORKS

If at any point during intrusive groundworks at a site, evidence of unforeseen contamination is encountered in the form of significant noxious odours, discolouration, or instability within soils or sheen/ discolouration in groundwater, the following actions will be taken:

- Intrusive works in the immediate area of the impacted ground will be suspended and the continuation of work in other areas of the site will be considered within the context of the site specific health & safety plan.
- Environmental Protection Strategies Ltd (EPS) will be contacted and appraised of the situation so that arrangements can be made to characterise the impact and determine what action may be necessary in addition to the scheduled site works. Where possible / health & safety plan permits, digital photographs of the impacted ground will be taken and emailed to EPS at the address below to assist in the initial assessment
- It may well be necessary for EPS to attend site to undertake visual inspection and obtain samples for field and/or laboratory analysis, although the actions taken will be dependent on the nature of what is encountered
- In cases where EPS consider the unforeseen contamination likely to pose a significant risk of significant harm to adjacent site users or local environmental receptors, the local authority and the Environment Agency will be informed of the situation and the actions being taken
- Once appropriate action has been agreed and undertaken, a written summary will be produced by EPS for submission to the Local Authority, (and where relevant, the Environment Agency) in accordance with planning requirements. The submission will include details of work undertaken, analytical results of investigative and validation samples obtained and conclusions and recommendations for any further actions considered necessary
- Where regulatory bodies have been involved, site works should only recommence following their agreement and in all cases should only recommence when the site manager considers it safe to do so within the context of the site specific health & safety plan.

EPS Contact Details:

Marcus Bell	Associate Director	Tel: 0787 206 9979
Will Evans	Director	Tel: 0781 253 9655
Steve Bullock	Director	Tel: 0786 694 9221

Email: info@epstrategies.co.uk (Automatically forwarded to the above and office-based personnel)

7B Caxton House
Broad Street
Cambourne
Cambridge CB23 6JN

T +44 (0) 1954 710666
F +44 (0) 1954 710677
E info@epstrategies.co.uk
W www.epstrategies.co.uk

Registered Number: 4330320