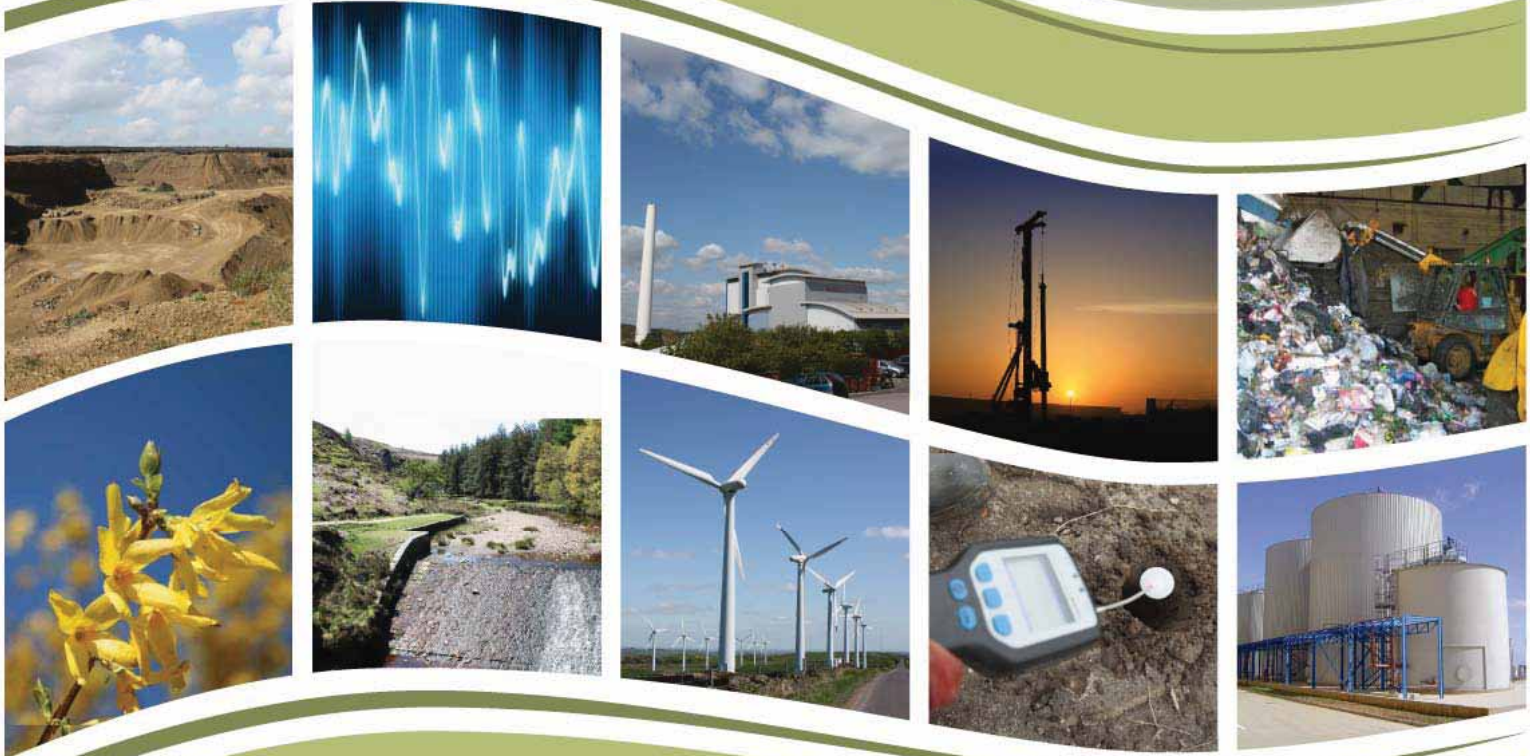




Geo-Environmental Report

52 Russell Street, Reading, RG1 7XH.
for:

Nimbus Property Developments Ltd



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Geo-Environmental Report

Project:	52 Russell Street, Reading, RG1 7XH
For:	Nimbus Property Developments Ltd
Ref:	CRM.1201.001.GE.R.001.A
Status:	Final
Date:	May 2014
Author:	Steve Rhodes Technical Director
Reviewer:	Richard Hamilton Associate Director

Executive Summary

Proposed Development

The site is to be re-developed for a residential property with associated gardens and infrastructure.

Investigation

Site investigation, desk study and monitoring visit were undertaken by Enzygo Ltd. in April 2015.

Ground Conditions

Ground Conditions comprise between 2.9m and 3.85m of Made Ground over loose sand. Groundwater was encountered at depths of greater than 4m bgl.

Contamination

The investigation identified elevated lead, in the Made Ground associated with ash and clinker. It is recommended that cover soils are used within soft landscape areas.

Foundations

Conventional strip foundations are not considered suitable. Options include piled foundations, raft or use of ground improvement.

Floor Slabs

Suspended floor slabs are recommended unless a raft foundation is used.

Pavement Design

A design CBR of 20% is recommended. Soils are not considered to be frost susceptible. Settlement may occur due to the loose nature of the soils and therefore consideration should be given to using a geo-grid below the capping.

Buried Concrete

It is recommended that Class AC-1s conditions of Special Digest 1 are used.

Drainage

Use of soakaways is not considered feasible.

Ground Gas

No Radon or significant ground gas risk has been identified.

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1.0 INTRODUCTION

Background

- 1.1 Enzygo Limited has been commissioned by Nimbus Property Developments Ltd to prepare a Geo-Environmental Report for land behind 52 Russell Street, Reading, RG1 7XH.

Proposed Development

- 1.2 Nimbus Property Developments Ltd is seeking to develop the site for residential properties with associated gardens and infrastructure. The proposed development layout is included within a Design and Access Statement for the scheme. This shows the development of three residential houses with domestic gardens.
- 1.3 Planning Consent has been granted for the development (ref 131337) which includes Planning Condition 4 which requires a ground investigation to be undertaken including an assessment of contamination risk. Planning Conditions 5 and 6 require that where contamination is identified remedial measures are implemented and validated to allow safe development of the site.

Objectives

- 1.4 The objectives of the study are to:
- Review historical plans, geology, hydrogeology, site sensitivity, mining records and contaminated land information provided by the local authority in order to complete a Desk Study. A Groundsure report has been obtained for the site, a copy of which is included in Appendix A;
 - Undertake a targeted ground investigation;
 - Assess the implications of any potential environmental risks, liabilities and development constraints associated with the site in relation to the future use of the site and in relation to off-site receptors; and
 - Provide a factual and interpretative report relating to the desk study and site investigations. Provide a revised conceptual model and recommendations on any potential development issues and mitigation measures, where appropriate.
 - Provide geotechnical recommendations in relation to foundations and infrastructure.

Risk Classification

- 1.5 Enzygo has utilised the available information, together with our experience to assess the likely risks to development from land quality issues. Definitions of the risk terms used are provided on the following table.

Risk	Description
Negligible	No contamination risk has been identified which is likely to affect development.
Low	No significant contaminated land risks have been encountered affecting development and a low risk that remediation will be required.
Low-Moderate	There are unlikely to be significant contaminated land issue associated with the site which will adversely affect its re-development. However, minor or localised contamination may be present requiring remediation. Remediation should be possible under a discovery strategy and with a call out service.
Moderate	Some potential contaminated land risks have been encountered or identified which may affect re- development. The risks identified are unlikely to affect the entire site or preclude development. Remediation is considered feasible as part of the development process and no further investigation is considered necessary.
Moderate-High	Some potentially significant contaminated land risks have been identified at the property that requires remediation. It is recommended that a separate remedial methodology is prepared supported by a site specific risk assessment
High	Significant potential contaminated land risks have been identified and remediation is required supported by further intrusive ground investigation, risk assessment and remedial design.

- 1.6 Where adverse risks from ground instability are identified these are discussed within the report.

2.0 SITE SETTING

Site Description

Item	Description
Site Address	52 Russell Street, Reading, RG1 7XH
National Grid Reference	470707,173081
Site Area	0.08 Ha

Current Site Description

- 2.1 The following site description has been compiled from the site inspection, together with current maps, aerial photographs and a topographical survey.
- 2.2 At the time of the ground investigation the site was occupied by an area of concrete. Garages had previously been constructed on the concrete slab but these had been demolished by the time of the site investigation.
- 2.3 The site extends north of the concrete slab and on to the rear garden of No. 50 Russell Street.
- 2.4 The concrete slab associated with the former garage area appears to be raised approximately 1m above the adjacent garden areas. A concrete and brick retaining wall was noted separating the slab from the adjoining land.
- 2.5 The concrete slab was inspected prior to commencement of the investigation and no evidence of oil staining was noted. In addition, to evidence of potentially contaminating materials were noted within the adjoining land.
- 2.6 Access to the site is via a concrete track leading off Russell Street and to the south of the house at No. 52 Russell Street. The access track slopes upwards from Russell Street to the site with the concrete slab being approximately 2m higher than Russell Street.

Surrounding Area

2.7 The surrounding land uses are summarised as follows:

Direction	Land Use
North	Residential properties with domestic gardens.
West	Church.
East	Residential properties with domestic gardens.
South	Residential properties with domestic gardens.

2.8 No evidence of contamination sources were noted on or adjacent to the site and therefore the risk to the development from on and off-site sources is considered negligible.

3.0 SITE HISTORY

- 3.1 A review of historical Ordnance Survey maps and information pertinent to the site and within a 250m radius is summarised below:

Potentially Contaminative Historical Land Use		
Map Edition	Site	Surrounding Area
1879	Gardens.	Residential properties with domestic gardens 0m N, S, E & W. Russell Street 40m E. Tilehurst Road 40m S. Earthworks 150m W.
1900	No change.	No change.
1912	No change.	Additional residential development 20m W.
1931	No change.	Church 0m W.
1957	No change.	Earthworks 150m W shown as recreation ground.
1959	No change.	No change.
1969	Garages.	Houses 0m E re-developed as newer houses. Residential houses 0m S.
1974	No change.	No change.
1986	No change.	No change.
1993	No change.	No change.
2002	No change.	No change.
2010	No change.	No change.
2014	No change.	No change.

- 3.2 No potentially contaminating site uses are identified on or within 250m of the site.
- 3.3 There are no infilled ponds or pits close to the site which could give rise to potential ground gas.
- 3.4 No sources of significant contamination have been identified from historical maps.

4.0 ENVIRONMENTAL SETTING

Ground Conditions

- 4.1 The British Geological Survey (BGS) indicates that the site is underlain by the following geological sequence:

Geological Unit	Type	Description	Aquifer Classification
Drift	Lynch Hill Gravels.	Sand and Gravel	Secondary A
Solid	Lambeth Group.	Clay, Silt and Sand	Secondary A

- 4.2 The Lynch Hill Gravels are only identified within the south western corner of site.
- 4.3 No Made Ground is identified below the site and there are no records of landslips within 500m of the site.
- 4.4 Records of background soil chemistry do not identify any significant concentrations above residential GAC values.

Groundwater

- 4.5 The permeability of the drift geology is recorded as being high to very high consistent with sand and gravel deposits. The permeability of the solid geology is recorded as being moderate to very low.
- 4.6 The GroundSure Report shows the site being outside of any Source Protection Zone.
- 4.7 There are no groundwater abstraction licenses within 500m of the site.
- 4.8 The site is identified as being at limited risk of groundwater flooding.

Coal Mining

- 4.9 No historical or current coal mining extraction has been identified within 1000m of the site.

Non Coal Mining and Natural Cavities

- 4.10 There are no non-coal mining activities within 1000m of the site. Natural cavities are identified within 250m of the site but none close enough to pose a significant risk.

Ground workings

- 4.11 There are no active or historic ground workings within 250m of the site other than those identified from the historical map search. No new risks are identified.

Hydrology

- 4.12 No water courses are present on or within 250m of the site.
- 4.13 There are no surface water abstractions within 500m of the site.
- 4.14 Environment Agency records show that the site is not located within a Flood Zone.

Radon Risk Potential

- 4.15 The Groundsure GeoInsight Report indicates that the site is not within a Radon Affected Area therefore no radon protective measures are necessary in the construction of new dwellings.

Natural Hazards Finding

- 4.16 BGS information presented within the Groundsure Geoinsight report identifies the following ground conditions:

Hazard	Risk Designation (Groundsure)
Coal Mining	None.
Collapsible Ground	Very low.
Compressible Ground	Negligible.
Ground Dissolution	Low/Negligible.
Landslide	Very low.
Running Sand	Very low.
Swelling / Shrinking Clay	Moderate.

- 4.17 A moderate risk of clay heave is identified associated with the Lambeth Group clays. No other significant ground stability risks have been identified.

Sensitive Land Uses

- 4.18 The site and surrounding land are residential use.
- 4.19 No ecologically sensitive designations are identified on the site.

Historical and Archaeological Features

- 4.20 English Heritage does not identify any Scheduled Ancient Monuments or Listed Buildings on the site.

Environmental Sensitivity

- 4.21 Overall the site is currently considered to be of **low** sensitivity due to the following:
- The underlying stratum is classified as an Secondary A Aquifer which can provide base flow to water courses; but
 - There are no surface water courses on or near to the site;
 - No licensed groundwater abstractions within 500m of the site;
 - Site not within a Source Protection Zone; and
 - No sensitive ecology noted on site.
- 4.22 The proposed end use of the site is residential and as such future sensitivity will be high for end users.

Industrial Land Uses

- 4.23 The site is located within an area characterised by residential properties. Potentially contaminative industrial uses identified within 25m of the site are limited to light industrial, electrical substations and fuel filling station. These features are not considered to pose a risk.
- 4.24 The Groundsure EnviroInsight Report indicates that there is one active fuel station entries within 250m of the site. This is located 45m south of the site and appears to be of modern construction. As such it is likely to have double skinned tanks and leak detection equipment. Given the age of construction and distance from the site this is not considered a significant risk.
- 4.25 There are no high pressure oil/gas pipelines located within 500m of the site.
- 4.26 No new risks are identified from the register of industrial uses.

5.0 CONSULTATIONS

Regulatory Database

- 5.1 The following information has been obtained from a commercially available environmental database. The summary table only includes records not otherwise detailed in the report.

Environmental Permits, Incidents and Registers	0 -250m	250-500m	Details
Site determined as contaminated land	0	0	Not Applicable.
Authorised industrial processes	0	0	Not Applicable.
Registered radioactive substances	0	5	Disposal of radioactive waste associated with hospital 163m S. These activities are strictly regulated and not considered a risk to the site.
Enforcements, prohibitions or prosecutions	0	0	Not Applicable.
Pollution Incidents	0	2	Nearest is Category 4 (No) impact from fuels located 334m E. Not considered a risk.
Consents issued under the Planning (Hazardous Substances) Act 1990	0	0	Not Applicable.
Control of Major Accident Hazard (COMAH)/ Notification of Installations Handling Hazardous Substances (NIHHS) sites	0	0	Not Applicable.
Records of Licensed Discharge Consents	0	3	Sewage discharges the nearest of which is 265m E. Not considered a risk to the site.

- 5.2 No significant risks to the site have been identified.

Landfill Sites and Waste Treatment Sites

- 5.3 There are no landfills or waste management facilities within 500m of the site.
- 5.4 No risks are identified from waste activities.

6.0 PRELIMINARY CONCEPTUAL MODEL

Source	Location	Exposure Pathway	Potential Receptor	Probability of Exposure	Details
Human Health					
Asbestos, hydrocarbon and metals.	Unforeseen Contamination.	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	Normal PPE will address risk.
			Site users	Negligible.	No significant sources identified.
Hydrocarbon and metals	Potential localised spillage off site.	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	No sources identified.
			Site users.		
Ground Gas.	Landfills.	Inhalation & Explosive.	Construction Workers.	Dismissed.	No source.
			Site users.		
	Potential Made Ground.	Inhalation & Explosive.	Construction Workers.	Negligible.	No significant putrescible material likely.
			Site users.		
Groundwater					
Hydrocarbon and metals.	Potential spillage on site.	Vertical Migration.	Groundwater.	Negligible.	No significant source identified.
Surface Water					
Hydrocarbon and metals.	Potential spillage on site.	Horizontal Migration.	Water Courses.	Dismissed.	No receptor.
Environmental Receptors					
On site contaminants		Ingestion dermal and inhalation.	Ecology.	Dismissed.	No sensitive ecology designation on site.
		Direct.	Archaeology.	Dismissed.	None present.
		Direct.	Geology.	Dismissed.	None present.
		Phytotoxic.	Woodland.	Dismissed.	None present.
		Phytotoxic.	Crops.	Dismissed.	None present.
		Ingestion dermal and inhalation.	Livestock.	Dismissed.	None present.
Building Services					
On site contaminants		Direct.	Historic Buildings.	Dismissed.	None present.
		Direct.	Proposed Buildings.	Dismissed.	No source identified.
		Permeate into pipework.	Water Pipes.	Dismissed.	No source identified.

6.1 There is a negligible risk associated with unforeseen contamination on site. Typically this can occur due to inclusion of ash and clinker within re-worked soils on site.

6.2 No other risks are identified.

7.0 SITE INVESTIGATION

General

- 7.1 A ground investigation was undertaken based on the findings of the desk study and taking account of the proposed development layout.

Site Works

- 7.2 The site works were undertaken on 30th April 2015 and comprised window sampler boreholes and a hand pit. The investigation works are summarised in the table below:

Rational	Exploratory Holes	Notes
Foundation Design.	WS1 & WS3.	Below or adjacent to proposed buildings.
Gas and Groundwater Monitoring	WS1 & WS3.	Installations.
Preliminary Soil Infiltration.	WS2.	Soakaway test.
Former garages	WS1.	Below former garages.
Garden Areas.	WS1, WS3 & HP1.	Within proposed garden areas.

- 7.3 Boreholes WS4 and WS4A were attempted several times but the concrete slab was too thick for the corer to penetrate. Locations of all exploratory holes are shown on Drawing CRM.1201.001.GE.D.001.
- 7.4 Strength of soils were assessed using SPT and hand shear vane tests. The results of which are included on the borehole logs presented in Appendix B.
- 7.5 Representative soil samples were collected for chemical and geotechnical testing. Soil samples destined for chemical analysis were collected in appropriate containers provided by the analytical laboratory. Samples were stored in cool boxes prior to dispatch to the laboratory for analysis. All samples were collected using appropriate sampling equipment that was cleaned at each sampling location.
- 7.6 Generally samples were collected from Made Ground, which may contain potential inclusions of contaminating materials and also materials displaying evidence of potential contamination.
- 7.7 In the absence of any evidence of contamination samples were collected near surface as this material is more likely to be contaminated by surface spillages and also will potentially be in contact with future residents.

Laboratory Testing

- 7.8 Samples for geotechnical testing were sent to the laboratories of GSSL, which is UKAS accredited, for the following analysis:
- Particle Size Distribution (PSD);and
 - Soluble sulphate and pH.
- 7.9 Samples for chemical analysis were sent to The Environmental Laboratories Ltd who are NAMAS and MCERTS accredited. Samples were tested for the CLEA metal suite, pH, sulphate, cyanide, phenols, speciated Polycyclic Aromatic Hydrocarbons (PAH), organic carbon, banded Total Petroleum Hydrocarbon (TPH) and asbestos screen.

8.0 GROUND AND GROUNDWATER CONDITIONS

Summary of Ground and Groundwater Conditions

8.1 The investigations undertaken identified the following strata:

Strata	Summary Description	Thickness (m)
Made Ground	Concrete slab over red brown sandy gravel. Gravel comprises brick and flint.	0.6 to 0.65
	Loose brown clayey gravelly sand and soft sandy clay with fragments of brick, ash, flint, concrete and Chalk.	2.3 to 3.2
Lynch Hill Gravels.	Loose yellow brown gravelly SAND. Gravel is fine to coarse sub-angular to sub-rounded flint.	1.05 to 1.35
Lambeth Group.	Firm to stiff red brown sandy silty CLAY.	>0.55
Groundwater	Seepages.	4.5m bgl.

8.2 Details of the ground and groundwater conditions encountered are given on the exploratory hole records included in Appendix B and are summarised in the sections below:

Made Ground

8.3 Made Ground was encountered across the site. Within areas of hardstanding this was noted to comprise 180mm of concrete slab over a sub-base like material composed of red brown sandy gravel. The gravel comprises brick and flint.

8.4 Borehole WS2 was located within an area of soft landscaping and the Made Ground comprised 250mm of topsoil like material with fragments of concrete, flint and brick over the sub-base like material.

8.5 Below the sub-base Made Ground was encountered comprising loose brown clayey gravelly sand with fragments of brick, ash, flint, concrete and Chalk. In places the material was noted to vary to a soft sandy clay.

Lynch Hill Gravels

8.6 Natural soils were encountered at depths of between 2.9m and 3.85m below ground level (bgl) comprising loose yellow brown gravelly sand. The gravel was noted to be fine to coarse sub-angular to sub-rounded flint medium dense clayey sand and gravel.

8.7 It is considered that this material represents the feather edge of the Lynch Hill Gravels.

Lambeth Group

- 8.8 Lambeth Beds were encountered below the Lynch Hill Gravels comprising firm to stiff red brown sandy silty clay.

Visual and Olfactory Evidence of Contamination

- 8.9 No visual or olfactory evidence of contamination was encountered during the site works other than ash and clinker within the Made Ground.
- 8.10 No evidence of organic material was noted on site.

Soil Consistency

- 8.11 Standard Penetration Tests (SPT) undertaken within the window sample boreholes recorded blow counts ranging from 4 to 8 within the Made Ground and Lynch Hill Gravels.
- 8.12 Density was noted to be loose to medium dense below 4m bgl with blow counts of between 8 and 14.

Groundwater

- 8.13 Groundwater was only encountered in Borehole WS1 during the site investigation at a depth of 4.5m bgl.
- 8.14 The depth of groundwater measured from the installation during a return visit are summarised below:

Exploratory Hole	Depth m(bgl)	
	Site works	8.5.15
WS2	Dry	4.13
WS2	Dry	Dry

Ground Gas

- 8.15 Ground gas was monitored during a return visit to measure groundwater and the results are summarised on the table below:

Exploratory Hole	Atmos pressure (Mb)	Flow (l/hr)	CH4		CO2		O2
			Concentration (%)	GSV (l/hr)	Concentration (%)	GSV (l/hr)	Concentration (%)
8.5.15							
WS2	1008	<0.1	<0.1	<0.0001	2.7	<0.0027	18.3
WS4	1008	<0.1	<0.1	<0.0001	1.5	<0.0015	19.4

9.0 CONTAMINATION ASSESSMENT

General

- 9.1 A Tier I risk assessment has been undertaken using available and current screening values for human health and where appropriate controlled waters. The risk assessment is undertaken based on the findings of the preliminary conceptual model presented in Section 6. Based on the contamination testing and Tier I assessment a revised Conceptual Model has been prepared, which is presented later in this section.
- 9.2 Where significant risks are identified remedial measures are recommended.

Human Health

- 9.3 Assessment of the risks to human health has been undertaken by comparing the soil quality data with reference values obtained from the Contaminated Land Exposure Assessment (CLEA), Soil Guideline Values (SGV) and General Acceptance Criteria (GAC) published by LQM/CIEH. The LQM/CIEH S4ULs values are used and summary tables of the reference values are included in Appendix C.
- 9.4 Where an exceedance is identified the risk is assessed by considering the sensitivity of the proposed development and the potential pathway.
- 9.5 The soil quality shows exceedance of the reference values for residential use for the following determinant only:

Exploratory Holes	Determinant	GAC (mg/kg)	Concentration (mg/kg)
HP1 @ 0.1m	Lead	200	527
WS2 @ 0.4m			252
WS3 @ 0.8m			540

- 9.6 It is considered that these elevated metals are associated with ash material within the Made Ground. Ash typically contains elevated metals from the coal debris which is concentrated through the loss of organic matter.
- 9.7 No asbestos fibres were detected.

Controlled Waters

- 9.8 Where groundwater samples have been analysed the results are compared against reference values. These reference values are summarised in Appendix C and are taken from Fresh Water Environmental Quality Standards (EQS), UK Drinking Water Standards and World Health Organisation (WHO) values for Drinking Water.
- 9.9 Where the controlled waters receptor is a surface water course then the EQS are used as the primary reference value. Drinking Water Standards and WHO values are used where EQS values are not available. An assessment of likely risk is then made based on a source-pathway-receptor model. Where the receptor is potable groundwater resources the Drinking Water Standards and WHO values are used.
- 9.10 Surface water risk has been dismissed within the Initial Conceptual Model and the site investigation did not identify any new risk.
- 9.11 The only elevated concentrations were Lead associated with ash material. This is present in a vitrified form and as such has low mobility and solubility.
- 9.12 With the absence of any contamination source being identified from the chemical analysis it is considered that there is no significant contaminant source on site. The risk to groundwater resources are therefore dismissed.

Ground Gas

- 9.13 Following the guidance provided in Section 3 of CIRIA C665 an initial assessment is undertaken to determine if there are any significant sources of potential ground gas. Such sources include landfills, organic clays and made ground incorporating putrescible materials such as rags, paper and wood. Where no significant source is identified no further assessment is necessary.
- 9.14 This approach is further supported by supplementary guidance given in RB17, published by CL:AIR which confirms that gas monitoring is not generally required on sites where Made Ground is less than 5m thick and with low organic matter content or on natural soils such as alluvial clays and Chalk as the ground gas sources are not considered significant. The supplementary guidance given in RB17 also takes account of the current requirements for sealing of floor slabs and substructures to meet air tightness requirements under Part L of the Building Regulations which were not considered in CIRIA C665. The advice given in RB17

is consistent with CIRIA C665 and the Local Authority Guide to Ground Gas published by CIEH.

- 9.15 Where significant potential risk from ground gas has been identified from the Initial Conceptual Model and the intrusive ground investigation works ground gas monitoring is undertaken and the results of the monitoring are compared against the Gas Screening Values given in CIRIA Report 665. From this the Characteristic Situation is identified and remedial measures proposed.
- 9.16 When assessing the risk and type of remedial measures appropriate consideration is given to the likely construction of the development, the nature of the gas posing a risk and the nature of the likely source. The use of engineering judgement when determining risk from ground gas is consistent with the recommendations given in CIRIA C665.
- 9.17 No significant sources of ground gas were noted from the desk study. Made Ground encountered on site did not include significant discrete putrescible materials and as such there is not considered to be a viable significant risk from ground gas.
- 9.18 Gas monitoring was undertaken during a return visit to monitor groundwater level. Ground gas has not recorded significant elevated concentrations of Methane or Carbon Dioxide or detectable flow rate consistent with the Preliminary Conceptual model. Concentrations of Carbon Dioxide are consistent with ash and clinker which has a very low degradation rate and therefore limited potential to generate gas flux.
- 9.19 Gas flux values measured fall into Characteristics Situation 1. This supports the assessment and findings of the desk study and ground investigation with no measures being required to protect against ground gas other than normal sealing of floor slabs to meet the requirements of Building Regulations.

Revised Conceptual Model

- 9.20 The Initial Conceptual Model presented in Section 6 has been revised based on the findings of the ground investigation and the revised Conceptual Model is presented below:

Source	Location	Exposure Pathway	Potential Receptor	Probability of Exposure	Details
Human Health					
Lead	Made Ground	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	Use of PPE will address potential risk.
			Site users	Low.	Remediation Recommended.
Hydrocarbon, asbestos and metals.	Un-foreseen Contaminants.	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	Use of PPE will address potential risk.
			Site users	Negligible	Discovery strategy proposed.
Hydrocarbon and metals	Potential localised spillage off site.	Ingestion dermal and inhalation.	Construction Workers.	Dismissed.	No sources identified.
			Site users.		
Ground Gas.	Landfill.	Inhalation & Explosive.	Construction Workers.	Dismissed.	No source.
	Potential Made Ground.	Inhalation & Explosive.	Site users.		No putrescible material encountered and no significant elevated ground gas or flow rate.
			Construction Workers.		
			Site users.		
Groundwater					
Hydrocarbon and metals.	Potential spillage on site.	Vertical Migration.	Groundwater.	Dismissed.	No significant mobile source identified.
Surface Water					
Hydrocarbon and metals.	Potential spillage on site.	Horizontal Migration.	Water Courses.	Dismissed.	No receptor.
Environmental Receptors					
On site contaminants		Ingestion dermal and inhalation.	Ecology.	Dismissed.	No sensitive ecology designation on site.
		Direct.	Archaeology.	Dismissed.	None present.
		Direct.	Geology.	Dismissed.	None present.
		Phytotoxic.	Woodland.	Dismissed.	None present.
		Phytotoxic.	Crops.	Dismissed.	None present.
		Ingestion dermal and inhalation.	Livestock.	Dismissed.	None present.
Building Services					
On site contaminants		Direct.	Historic Buildings.	Dismissed.	None present.
		Direct.	Proposed Buildings.	Dismissed.	No source identified.
		Permeate into pipework.	Water Pipes.	Dismissed.	No source identified.

Remediation

- 9.21 Within areas of buildings and pavements the hardstanding will provide a physical barrier between site users and residual contaminants within the soils thereby breaking the potential pathway linkage. No further remediation is considered necessary below areas of hardstanding.
- 9.22 Within areas of the soft landscaping it is recommended that clean cover soils are provided. Soils should comprise 600mm of cover with a geotextile separator below. Clean cover soils could comprise 450mm of subsoil with 150mm of clean Topsoil on top.
- 9.23 The Local Planning Authority are likely to require testing of clean cover soils. Sample frequency should be agreed with the Local Planning Authority but is likely to be one sample per 100m³.
- 9.24 If unforeseen contamination is encountered during construction works such as localised spillage outside the areas investigated an Environmental consultant will be available on a 'call out' basis to undertake an assessment of risk. If 'unforeseen contamination' is encountered the discovery strategy will be to remove the source as it is likely to be very limited in extent and the Local Planning Authority advised.
- 9.25 On completion of the site works a Verification Report will be prepared and submitted for approval to the Local Planning Authority,

Waste Classification

- 9.26 None of the soil samples TPH or PAH above the threshold value for inert waste.
- 9.27 Due to elevated Lead concentrations being recorded it is likely that Made Ground will generally be classified as non-hazardous waste, however, the entire report should be sent to a landfill operator for waste classification.
- 9.28 It is also possible that the waste operator will require additional testing prior to classifying surplus soils.

10.0 GEOTECHNICAL ASSESSMENT

Proposed Development

- 10.1 The proposed development comprises residential structures together associated infrastructure. Structural loadings are not known and therefore assumed to be 50kN/m run for preliminary assessment purposes.
- 10.2 It is considered that the scheme meets the criteria of Geotechnical Category 1 of Eurocode 7.

Ground Conditions

- 10.3 Ground Conditions comprise 2.9m to 3.85m of loose Made Ground over loose sand. Groundwater was encountered at depths of greater than 4m bgl.

Site Preparation

- 10.4 The site should be cleared and any vegetation below areas of proposed development stripped in accordance with Series 200 of the Specification for Highway Works. This should include:
- Any redundant services should be sealed off and grubbed out and replaced with suitable compacted engineered fill;
 - Tree root balls and soils with significant organic material should be grubbed out; and,
 - Old foundations should be excavated from below the proposed structures with the resulting void backfilled.
- 10.5 It is anticipated that imported topsoil will be required for garden areas.

Foundations

General

- 10.6 Conventional strip foundations are not considered suitable based on the depth of Made Ground present across the site. Foundation options considered are:
- Vibroflotation;
 - Raft foundation; or
 - Piles.

10.7 Foundation options are discussed in the sections below:

Vibroflotation.

10.8 Vibroflotation involves improving the density of the soils using vibro granular columns such that conventional foundations can be used. Typically a bearing capacity of 100kN/m² can be achieved following ground improvement.

10.9 If this option is considered further it will be necessary to discuss ground improvement with a specialist contractor to confirm suitability of the soils. In addition, there may be restrictions on the use of vibro flotation methods given access constraints and potential impact from vibration on nearby properties.

Raft Foundation

10.10 A raft foundation could be considered using a maximum allowable bearing capacity of 30kN/m². Settlements should be less than 25mm but this should be re-assessed once structural loadings and are finalised and any final levels have been determined.

10.11 If a raft foundation is to be used early discussion with Building Control is recommended as some organisations, such as NHBC may not underwrite raft foundations on Made Ground.

Piled Foundation

10.12 Piled foundations are the least risky option and early involvement with a specialist piling contractor is recommended.

Ground Floor Slab

10.13 It is recommended that suspended ground floor slabs are used due to the thickness of the Made Ground unless a raft foundation is adopted.

Pavement Construction

10.14 An assessment of the likely California Bearing Ratio (CBR) has been assessed from the following sources:

- Description of the materials encountered in the exploratory holes;
- Guidance given in HD25/94.

10.15 Based on the assessment it is considered that a CBR of 20% is appropriate following proof rolling of the sub-formation.

- 10.16 Any localised areas of soft material should be excavated and replaced with suitable capping material. As the underlying soils are loose there is a risk of settlement occurring and as such it may be necessary to include a geogrid below the capping to reduce cracking of the pavement.
- 10.17 Soils are not considered to be frost susceptible.

Drainage

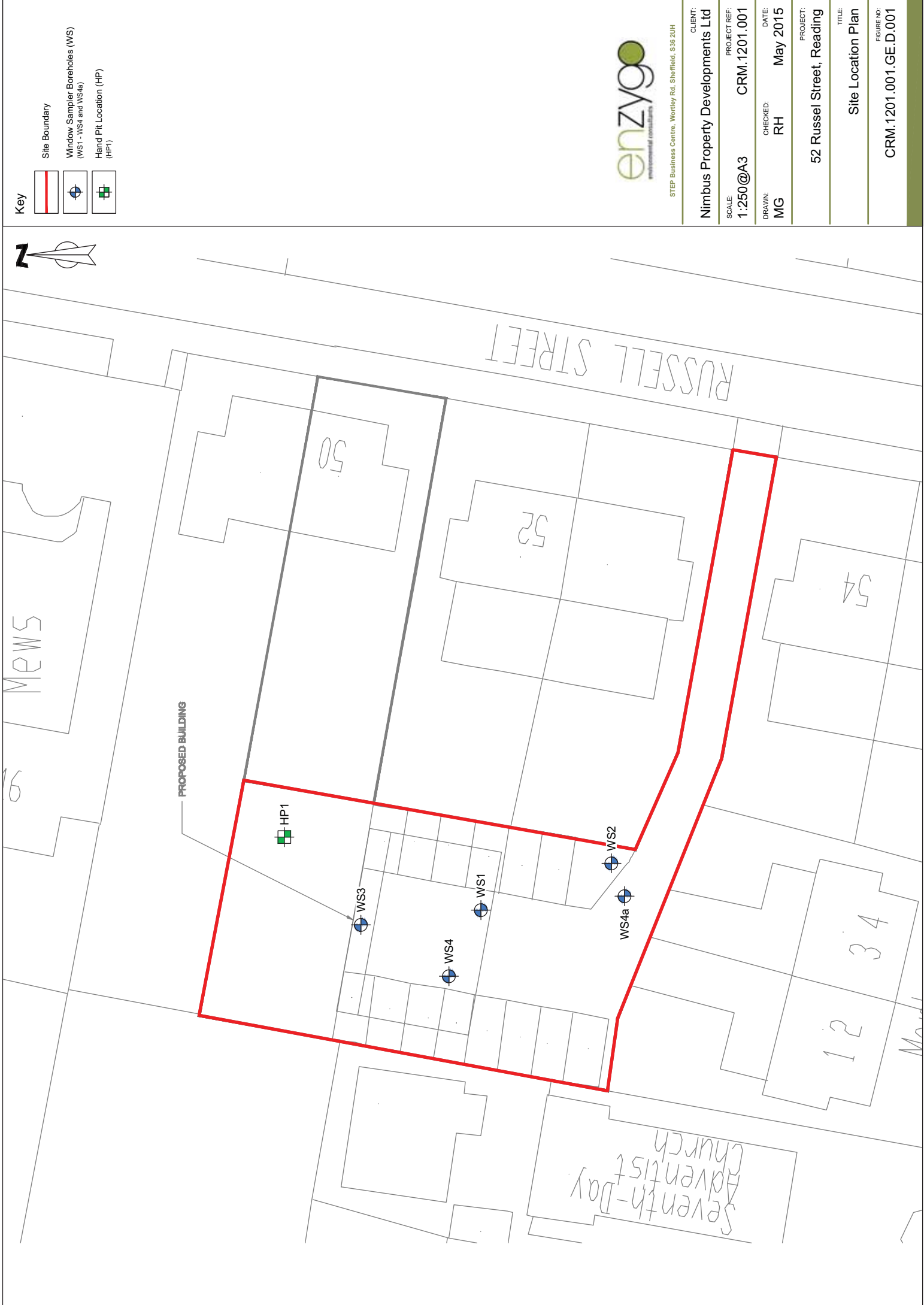
- 10.18 Based on the thickness of Made Ground encountered soakaway drainage is not considered viable.
- 10.19 Chemical results should be provided to the water authority to confirm the design of potable water supply pipes.

Buried Concrete

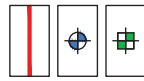
- 10.20 Results of the sulphate testing indicate that soils have soluble sulphate concentrations of less than 0.5 g/l consistent with DS1 Conditions and as such buried concrete can be designed to Class AC1-s.

Excavation

- 10.21 Based on the ground investigation undertaken it is considered that excavations are feasible with conventional plant, although a breaker will be required to remove the existing hardstanding.
- 10.22 Excavations are likely to experience instability due to the loose nature of the soils. Excavations where access is required should be supported in accordance with CIRIA RR97.
- 10.23 Shallow groundwater was not encountered and as such the need for de-watering is not considered likely.



Key



Site Boundary
Window Sampler Boreholes (WS)
(WS1 - WS4 and WS4a)
Hand Pit Location (HP)
(HP1)



STEP Business Centre, Wortley Rd, Sheffield, S36 2UH

CLIENT:		Nimbus Property Developments Ltd	
PROJECT REF:		CRM.1201.001	
SCALE:		1:250@A3	
DRAWN:		MG	
CHECKED:		RH	
DATE:		May 2015	
PROJECT:		52 Russel Street, Reading	
TITLE:		Site Location Plan	
FIGURE NO:		CRM.1201.001.GE.D.001	



EmapSite

Masdar House,
Eversley, RG27 0RP

Report Reference: EMS-298265_403206

Your Reference: EMS_298265_403206

Report Date 14 Apr 2015

Report Delivery Method: Email - pdf

Groundsure Geoinsight

Address: Russell St Reading, RG1 7XH,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geoinsight** as requested.

If you would like further assistance regarding this report then please contact the emapsite customer services team on 0118 9736883 quoting the above report reference number.

Yours faithfully,

emapsite customer services team

Enc.
Groundsure Geoinsight



Groundsure Geoinsight

Address: Russell St Reading, RG1 7XH,

Date: 14 Apr 2015

Reference: EMS-298265_403206

Client: EmapSite



Aerial Photograph Capture date: 08-Jul-2013

Grid Reference: 470707,173081

Site Size: 0.08ha

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Overview of Findings

The Groundsure Geosight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow Mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and Groundsure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1:Geology

1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	Yes
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	Yes
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	No
1.4 Radon data	1.4.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level
	1.4.2 Is the property in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary

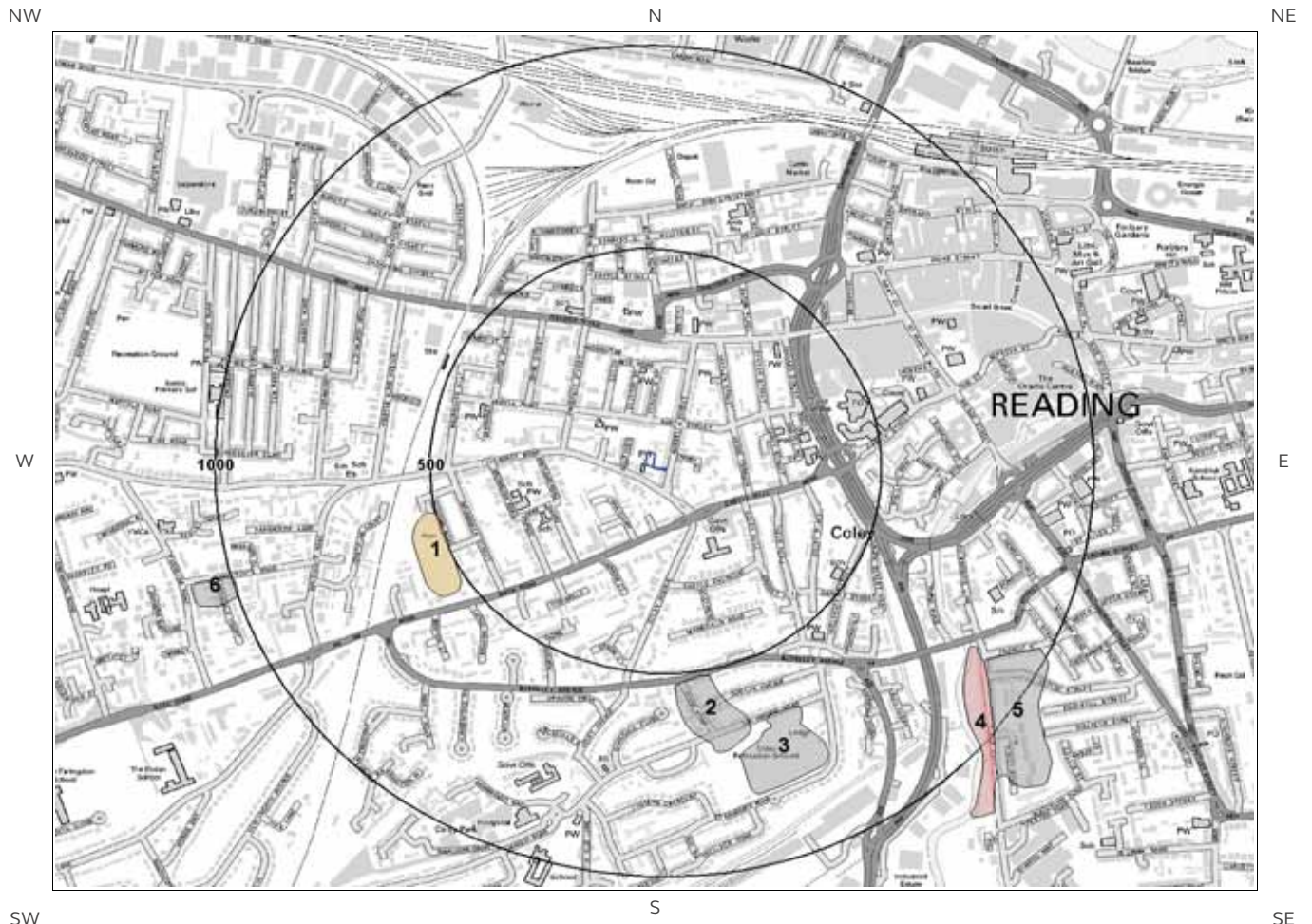
Section 2:Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	0	6	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
2.3 Current Ground Workings	0	0	0	1	7

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	0
3.2 Coal Mining	0	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	1	0	1	2	2
3.4 Non-Coal Mining	2	0	3	2	11
3.5 Non-Coal Mining Cavities	0	0	1	2	4
3.6 Natural Cavities	0	0	5	26	19
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0
Section 4: Natural Ground Subsidence	On-site				
4.1 Shrink Swell Clay	Moderate-High				
4.2 Landslides	Very Low				
4.3 Ground Dissolution of Soluble Rocks	Low				
4.4 Compressible Deposits	Negligible				
4.5 Collapsible Deposits	Very Low				
4.6 Running Sand	Very Low				
Section 5: Borehole Records	On-site	0-50m	51-250		
5 BGS Recorded Boreholes	0	0	3		
Section 6: Estimated Background Soil Chemistry	On-site	0-50m	51-250		
6 Records of Background Soil Chemistry	2	0	11		
Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500	
7.1 Tunnels	0	0	0	Not Searched	
7.2 Historical Railway and Tunnel Features	0	0	0	Not Searched	
7.3 Historical Railways	0	0	0	Not Searched	
7.4 Active Railways	0	0	0	Not Searched	

Section 7:Railways and Tunnels	On-site	0-50m	51-250	251-500
7.5 Railway Projects	0	0	0	0

1 Geology

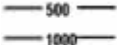
1.1 Artificial Ground Map



Artificial Ground Legend



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	Site Outline		Made Ground (undivided)		Disturbed Ground (undivided)
	Search Buffers (m)		Worked Ground (undivided)		Landscaped Ground (undivided)
			Infilled Ground		Reclaimed Ground

1 Geology

1.1 Artificial Ground

1.1.1 Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:268

Are there any records of Artificial/Made Ground within 500m of the study site boundary? Yes

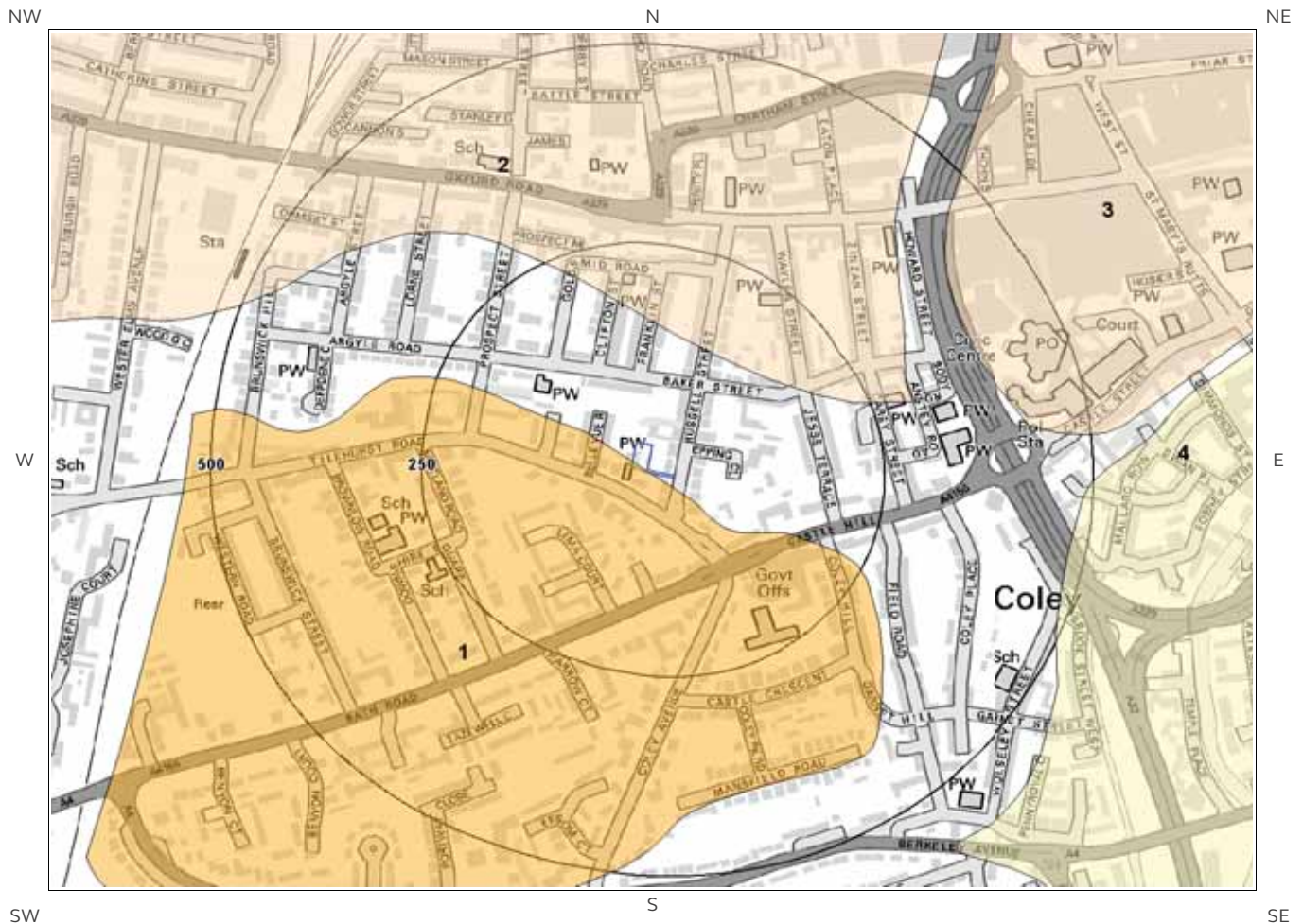
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	495.0	W	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

1.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? No

Database searched and no data found.

1.2 Superficial Deposits and Landslips Map



Superficial Deposits and Landslips
Legend



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1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	LHGR	LYNCH HILL GRAVEL MEMBER	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
2	135.0	NE	TPGR	TAPLOW GRAVEL FORMATION	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
3	389.0	E	TPGR	TAPLOW GRAVEL FORMATION	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]
4	479.0	E	ALV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]

1.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	Very High	High

1.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.2.4 Landslip Permeability

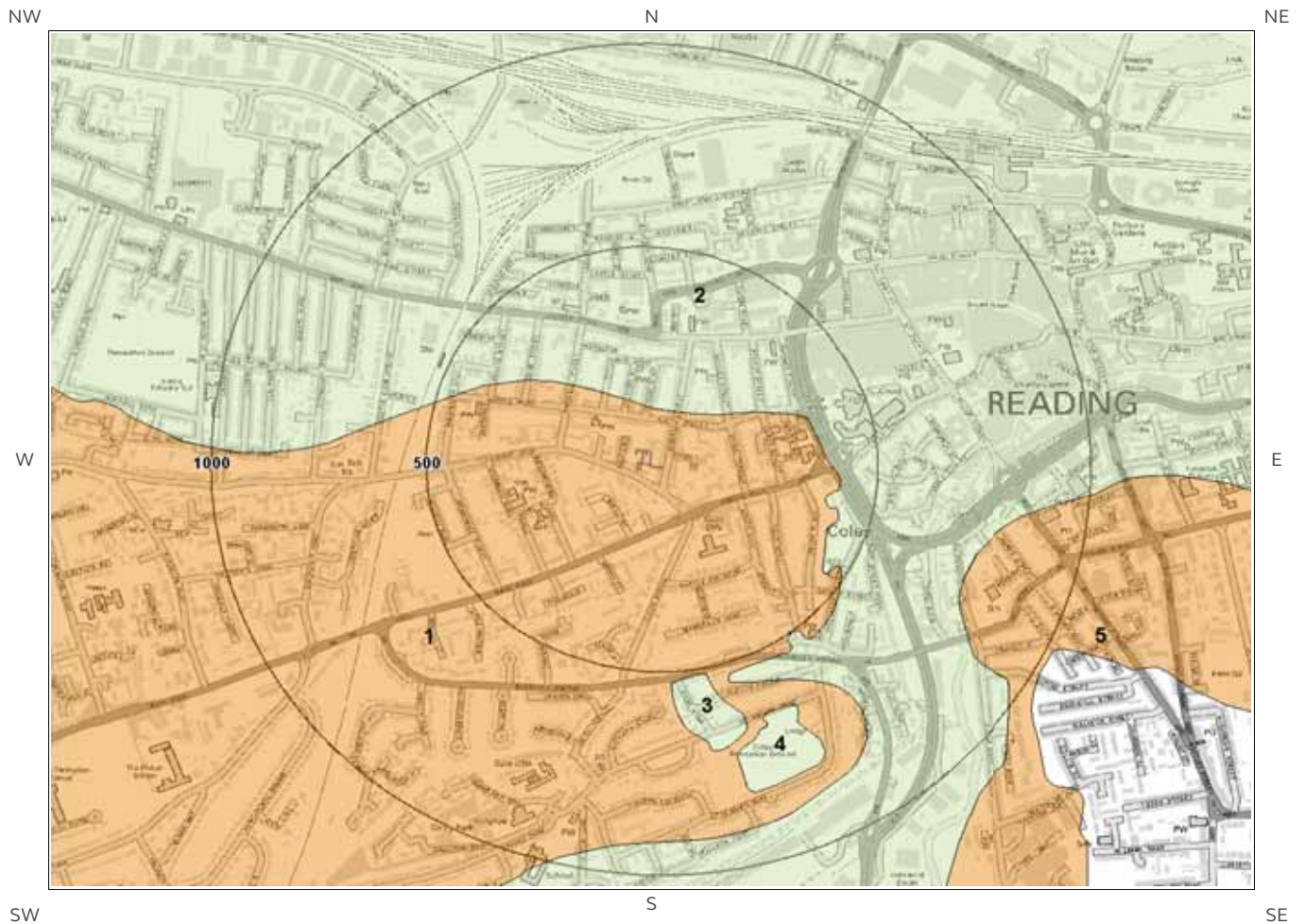
Are there any records relating to permeability of landslips within the study site** boundary?

No

Database searched and no data found.

* This includes an automatically generated 50m buffer zone around the site

1.3 Bedrock and Faults Map



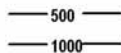
Bedrock and Faults Legend



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Site Outline



Search Buffers (m)

1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:268

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/ Solid Geology within 500m of the study site boundary:

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	LMBE-CLSISA	Lambeth Group - Clay, Silt And Sand	No Details
2	106.0	N	SNCK-CHLK	Seaford Chalk Formation And Newhaven Chalk Formation (undifferentiated) - Chalk	Campanian / Coniacian

1.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site* boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	Moderate	Very Low

1.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

* This includes an automatically generated 50m buffer zone around the site

1.4 Radon Data

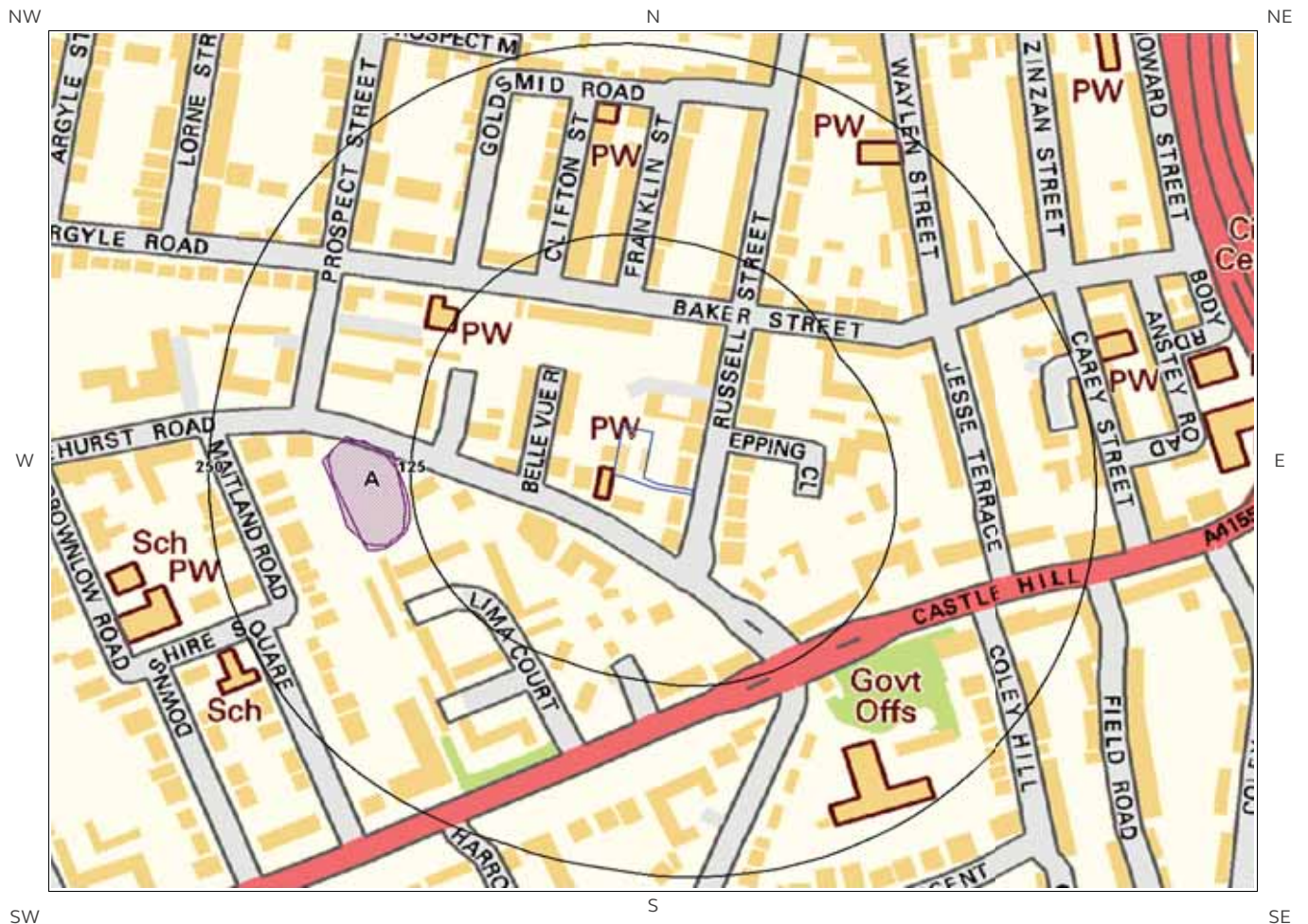
1.4.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level

1.4.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary

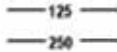
2 Ground Workings Map



Ground Workings Legend



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-  Site Outline
-  Search Buffers (m)
-  Historic Surface Ground Workings
-  Historic Underground Workings
-  Current Ground Workings

2 Ground Workings

2.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping.

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

The following Historical Surface Ground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
1A	127.0	W	470540 173058	Unspecified Pit	1910
2A	127.0	W	470540 173058	Unspecified Pit	1938
3A	130.0	W	470537 173060	Unspecified Pit	1977
4A	130.0	W	470537 173060	Unspecified Pit	1994
5A	130.0	W	470537 173060	Unspecified Pit	1989
6A	130.0	W	470537 173060	Unspecified Pit	1971

2.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? No

Database searched and no data found.

2.3 Current Ground Workings

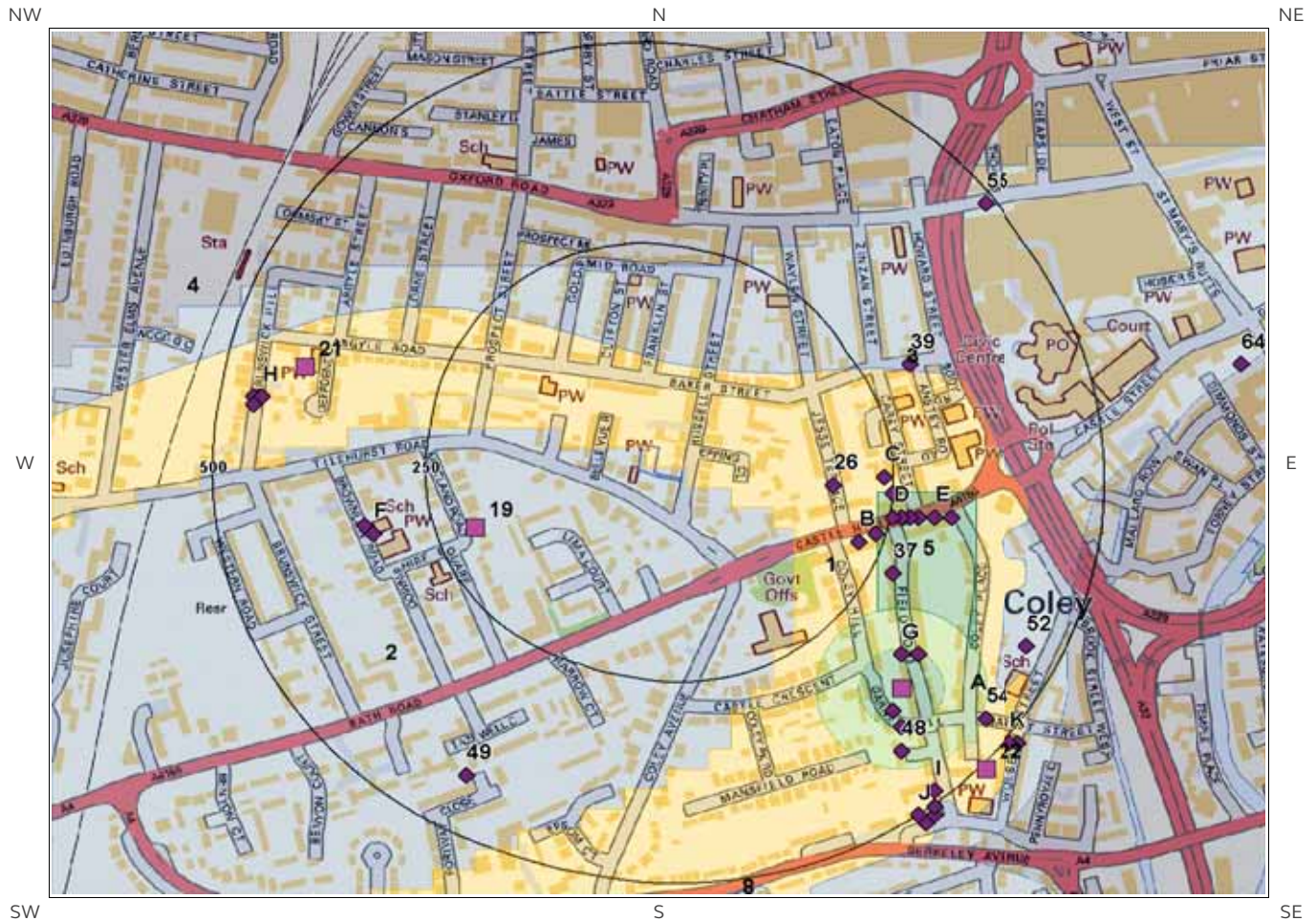
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? Yes

The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	484.0	SE	471044 172680	Clay & Shale	Coley Pottery	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	627.0	S	470872 172445	Clay & Shale	Avenue Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	675.0	SE	471046 172456	Clay & Shale	Coley Kilns	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	757.0	S	470968 172336	Clay & Shale	Coley Kilns	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	848.0	NW	470178 173774	Sand & Gravel	Battle Farm Gravel Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	877.0	SW	470134 172393	Sand & Gravel	Coley Park Gravel Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	905.0	SW	470254 172279	Sand & Gravel	Coley Park Gravel Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	994.0	SE	471552 172483	Clay & Shale	Highgrove Brick Field	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

3 Mining, Extraction & Natural Cavities Map

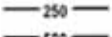


Mining, Extraction and
Natural Cavities Legend

Mapping
sourced from

**Ordnance
Survey**

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 Site Outline
 Search Buffers (m)
250
500

 Historical Mining
 Non-Coal Mining Cavities
 Natural Cavities

Non-Coal Mining

 Highly likely
 Likely
 Unlikely
 Highly unlikely
 Rare

3 Mining, Extraction & Natural Cavities

3.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? Yes

The following information provided by JPB is not represented on mapping: Whilst outside of an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) have information such as mining plans and maps held within their archive of mining activities that have occurred within 1km of this property. Further details and a quote for services can be obtained by emailing this report to enquiries.gs@jpb.co.uk.

3.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	0.0	On Site	Not available	Chalk	Small scale mining may have occurred but restricted in extent.
2	0.0	On Site	Not available	Chalk	Rare and localised small scale mining may have occurred.

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
3	106.0	N	Not available	Chalk	Rare and localised small scale mining may have occurred.
4	222.0	N	Not available	Chalk	Occasional minor mining may have occurred but of restricted extent.
5	231.0	E	Hannover Mine	Chalk	Underground or opencast mining is known or considered likely within or very close to the area. Location, extent & nature of past mining should be considered in site investigations. Potential for difficult ground conditions should be considered.
6A	266.0	SE	Not available	Chalk	Underground mining is known or considered likely to have occurred within or close to the area. The location extent and nature of past mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
7A	316.0	SE	Not available	Chalk	Underground or opencast mining is known or considered likely within or very close to the area. Location, extent & nature of past mining should be considered in site investigations. Potential for difficult ground conditions should be considered.
8	511.0	S	Not available	Chalk	Rare and localised small scale mining may have occurred.
Not shown	646.0	S	Not available	Chalk	Rare and localised small scale mining may have occurred.
Not shown	691.0	W	Not available	Chalk	Small scale mining may have occurred but restricted in extent.
Not shown	694.0	W	Not available	Chalk	Rare and localised small scale mining may have occurred.
Not shown	695.0	W	Not available	Chalk	Rare and localised small scale mining may have occurred.
Not shown	703.0	W	Not available	Chalk	Occasional minor mining may have occurred but of restricted extent.
Not shown	729.0	E	Not available	Chalk	Rare and localised small scale mining may have occurred.
Not shown	748.0	E	Not available	Chalk	Small scale mining may have occurred but restricted in extent.
Not shown	825.0	E	Not available	Chalk	Rare and localised small scale mining may have occurred.
Not shown	905.0	SE	Not available	Chalk	Underground mining is known or considered likely to have occurred within or close to the area. The location extent and nature of past mining should be considered in any site investigation. Potential for difficult ground conditions should be considered.
Not shown	955.0	SE	Not available	Chalk	Underground or opencast mining is known or considered likely within or very close to the area. Location, extent & nature of past mining should be considered in site investigations. Potential for difficult ground conditions should be considered.

3.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled “Review of mining instability in Great Britain, 1990” PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? Yes

The following Non-Coal Mining Cavities information provided by Peter Brett Associates:

ID	Distance (m)	Direction	NGR	Address	Superficial Deposits	Bedrock Deposits	Extracted Mineral
19	204.0	W	470500 173000	Reading (West), Berkshire	Lynch Hill Gravel	Lambeth Group, Upper Chalk Formation	Chalk
20A	366.0	SE	471000 172800	'Castle Hill Kiln', Reading (Coley), Berkshire	Lynch Hill Gravel	Lambeth Group, Upper Chalk Formation	Chalk
21	409.0	W	470300 173200	'Cooper's Brick & Lime Manufactory', Reading (West), Berkshire	Lynch Hill Gravel	Lambeth Group, Upper Chalk Formation	Chalk
22	507.0	SE	471100 172700	'Coley Potteries', Reading (Coley), Berkshire	-	Lambeth Group, Upper Chalk Formation	Chalk
Not shown	707.0	S	471000 172400	'Wheeler Works', Reading (Coley), Berkshire	Worked Ground	Lambeth Group, Upper Chalk Formation	Chalk
Not shown	886.0	SE	471500 172600	'Katesgrove Kilns' (2), Reading, Berkshire	Worked Ground	Lambeth Group, Upper Chalk Formation	Chalk
Not shown	972.0	E	471700 172900	Reading, Berkshire	Taplow Gravel	Lambeth Group, Upper Chalk Formation	Chalk

3.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? Yes

The following Natural Cavities information provided by Peter Brett Associates:

ID	Distance (m)	Direction	NGR	Superficial Deposits	Bedrock Deposits	Cavity Type and Number
26	179.0	E	470920 173050	-	Chalk Group, Lambeth Group	Solution Pipe x 1
27B	223.0	E	470950 172980	Lynch Hill Gravel	Chalk Group, Lambeth Group	Solution Pipe x 2
28B	239.0	E	470970 172990	-	Chalk Group, Lambeth Group	Solution Pipe x 1
29C	239.0	E	470980 173060	-	Chalk Group, Lambeth Group	Solution Pipe x 1
30C	250.0	E	470990 173040	-	Chalk Group, Lambeth Group	Solution Pipe x 1

ID	Distance (m)	Direction	NGR	Superficial Deposits	Bedrock Deposits	Cavity Type and Number
31D	254.0	E	470990 173010	-	Chalk Group, Lambeth Group	Solution Widened Joint or Fissure x 1
32D	263.0	E	471000 173010	-	Chalk Group, Lambeth Group	Solution Widened Joint or Fissure x 1
33D	263.0	E	471000 173010	-	Chalk Group, Lambeth Group	Solution Widened Joint or Fissure x 1
34D	263.0	E	471000 173010	-	Chalk Group, Lambeth Group	Solution Widened Joint or Fissure x 1
35D	273.0	E	471010 173010	-	Chalk Group, Lambeth Group	Solution Widened Joint or Fissure x 1
36D	273.0	E	471010 173010	-	Chalk Group, Lambeth Group	Solution Widened Joint or Fissure x 1
37	276.0	SE	470990 172940	-	Chalk Group, Lambeth Group	Solution Pipe x 1
38D	283.0	E	471020 173010	-	Chalk Group, Lambeth Group	Solution Pipe x 1
39	303.0	NE	471010 173200	-	Chalk Group, Lambeth Group	Solution Widened Joint or Fissure x 3
40E	303.0	E	471040 173010	-	Chalk Group, Lambeth Group	Solution Pipe x 1
41F	321.0	W	470380 172990	Lynch Hill Gravel	Chalk Group, Lambeth Group	Solution Pipe x 1
42E	323.0	E	471060 173010	-	Chalk Group, Lambeth Group	Solution Widened Joint or Fissure x 1
43F	329.0	W	470370 173000	Lynch Hill Gravel	Chalk Group, Lambeth Group	Solution Pipe x 2
44G	339.0	SE	471000 172840	-	Chalk Group, Lambeth Group	Solution Pipe x 1
45G	354.0	SE	471020 172840	-	Chalk Group, Lambeth Group	Solution Pipe x 3
46A	381.0	SE	470990 172770	-	Chalk Group, Lambeth Group	Solution Pipe x 1
47A	402.0	SE	471000 172750	Lynch Hill Gravel	Chalk Group, Lambeth Group	Solution Pipe x 1
48	426.0	SE	471000 172720	-	Chalk Group, Lambeth Group	Solution Pipe x 1
49	431.0	SW	470490 172690	Lynch Hill Gravel	Chalk Group, Lambeth Group	Solution Pipe x 1
50H	450.0	W	470250 173160	-	Chalk Group, Lambeth Group	Solution Pipe x 1
51H	458.0	W	470240 173150	Lynch Hill Gravel	Chalk Group, Lambeth Group	Solution Pipe x 1
52	459.0	SE	471150 172850	-	Chalk Group	Solution Widened Joint or Fissure x 1
53H	460.0	W	470240 173160	Lynch Hill Gravel	Chalk Group, Lambeth Group	Solution Pipe x 1
54	467.0	SE	471100 172760	-	Chalk Group, Lambeth Group	Solution Pipe x 1
55	488.0	NE	471100 173400	Taplow Gravel	Chalk Group	Solution Pipe x 3

ID	Distance (m)	Direction	NGR	Superficial Deposits	Bedrock Deposits	Cavity Type and Number
56I	490.0	SE	471040 172670	-	Chalk Group, Lambeth Group	Solution Pipe x 1
57J	503.0	SE	471020 172640	-	Chalk Group, Lambeth Group	Solution Pipe x 1
58I	506.0	SE	471040 172650	-	Chalk Group	Solution Pipe x 1
59K	509.0	SE	471130 172730	-	Chalk Group, Lambeth Group	Solution Pipe x 1
60J	514.0	SE	471040 172640	-	Chalk Group	Solution Pipe x 1
61J	516.0	SE	471030 172630	-	Chalk Group, Lambeth Group	Solution Pipe x 1
62K	517.0	SE	471140 172730	-	Chalk Group, Lambeth Group	Solution Pipe x 1
Not shown	602.0	S	470500 172500	Lynch Hill Gravel	Chalk Group, Lambeth Group	Sinkhole x 1
64	674.0	E	471400 173200	Taplow Gravel	Chalk Group	Solution Pipe x 2
Not shown	694.0	W	470000 173010	-	Chalk Group, Lambeth Group	Solution Widened Joint or Fissure x 1
Not shown	772.0	SW	470130 172540	Lynch Hill Gravel	Chalk Group, Lambeth Group	Sinkhole x 1, Solution Pipe x 1
Not shown	782.0	W	469950 172820	Lynch Hill Gravel	Chalk Group, Lambeth Group	Sinkhole x 1, Solution Pipe x 1
Not shown	784.0	SW	470000 172700	Lynch Hill Gravel	Chalk Group, Lambeth Group	Solution Pipe x 1
Not shown	796.0	E	471500 173300	Taplow Gravel	Chalk Group	Solution Pipe x 1
Not shown	831.0	NE	471500 173400	Taplow Gravel	Chalk Group	Solution Pipe x 3
Not shown	836.0	W	469900 172800	Lynch Hill Gravel	Chalk Group, Lambeth Group	Solution Pipe
Not shown	847.0	SW	469980 172610	Lynch Hill Gravel	Chalk Group, Lambeth Group	Sinkhole x 1, Solution Pipe x 1
Not shown	877.0	NE	471550 173400	Taplow Gravel	Chalk Group	Solution Pipe x 5
Not shown	897.0	E	471600 172800	-	Chalk Group, Lambeth Group	Unknown
Not shown	921.0	SW	469900 172600	Lynch Hill Gravel	Chalk Group, Lambeth Group	Unknown x 3

3.7 Brine Extraction

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level.

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.10 Clay Mining

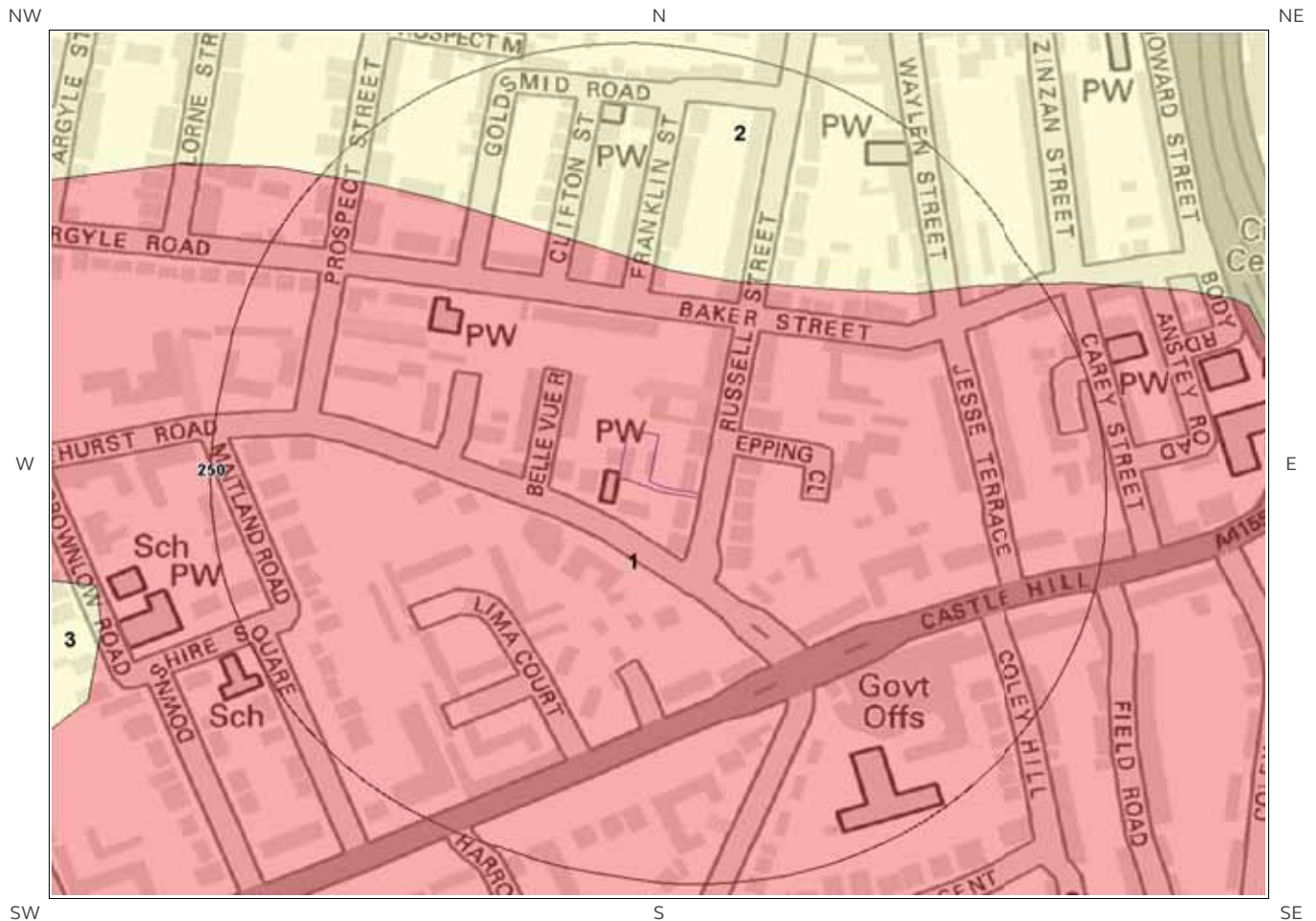
This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

4 Natural Ground Subsidence

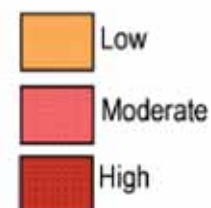
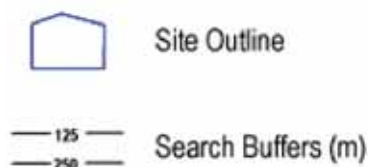
4.1 Shrink-Swell Clay Map



Shrink Swell Clay Legend



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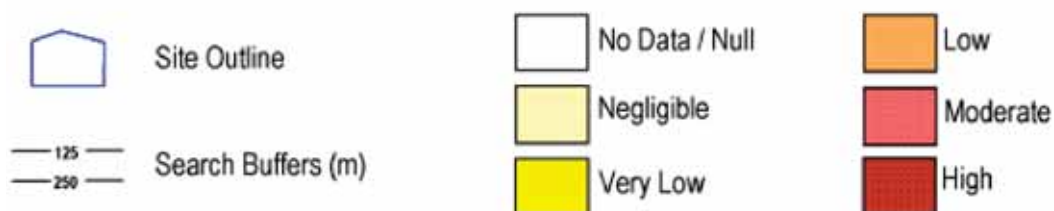
4.2 Landslides Map



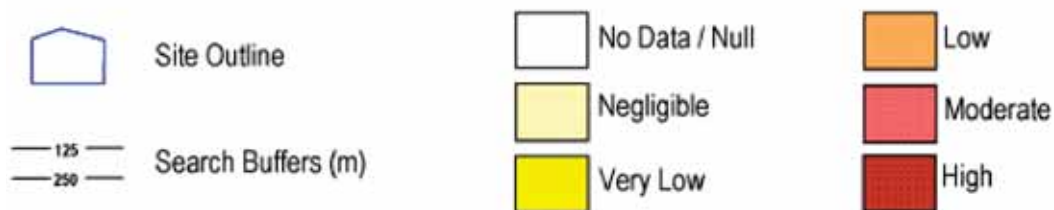
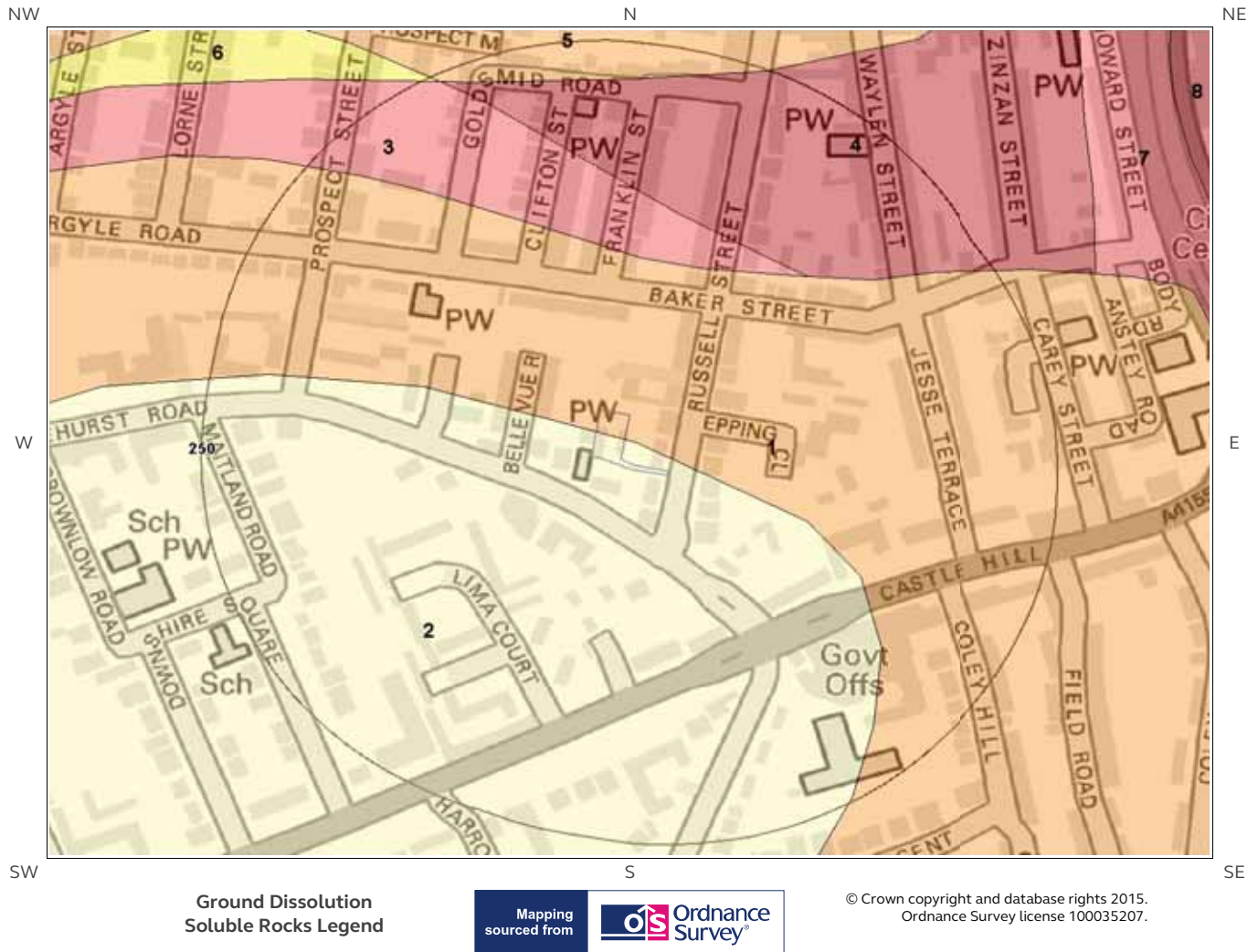
Landslides Legend



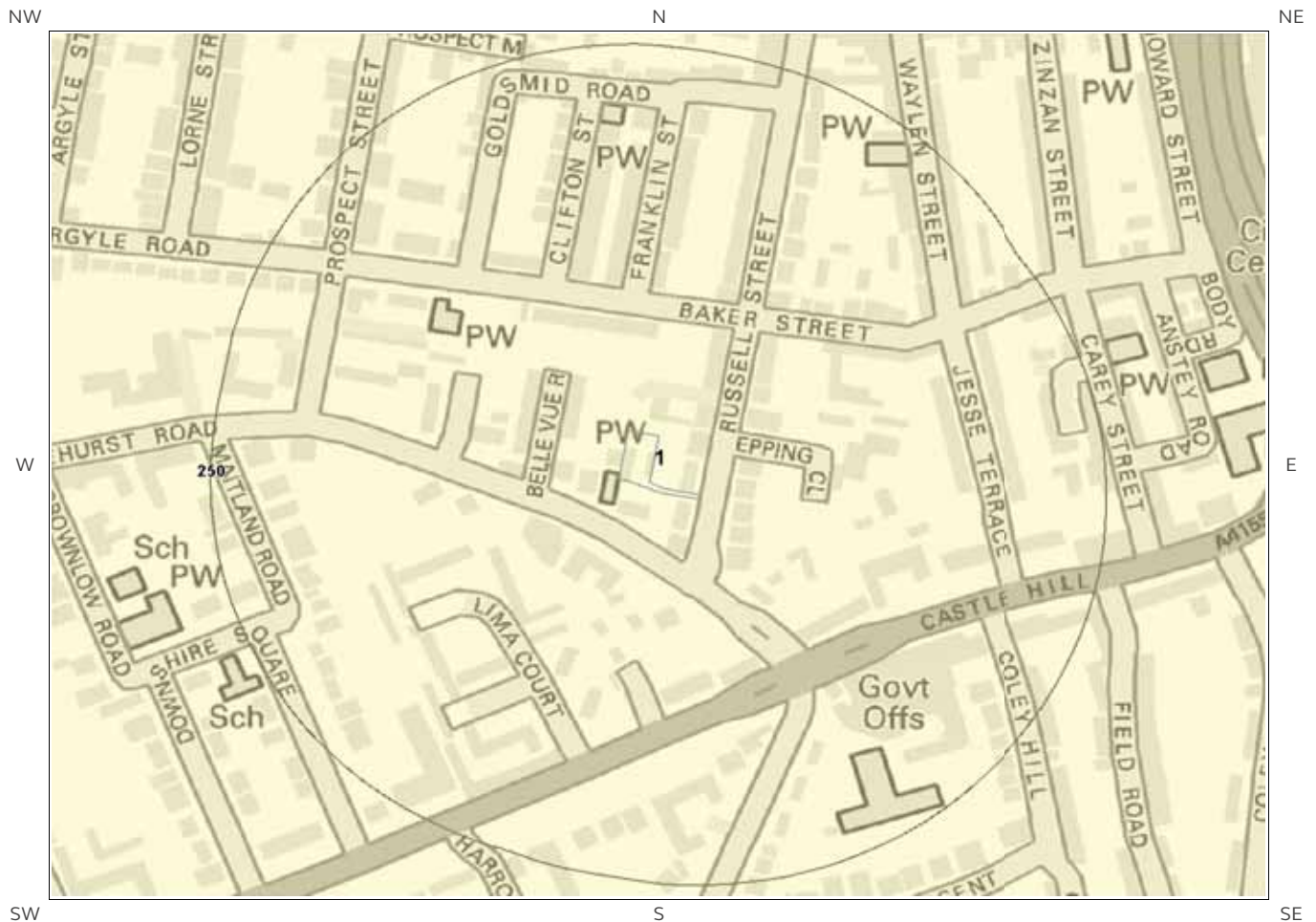
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4.3 Ground Dissolution Soluble Rocks Map



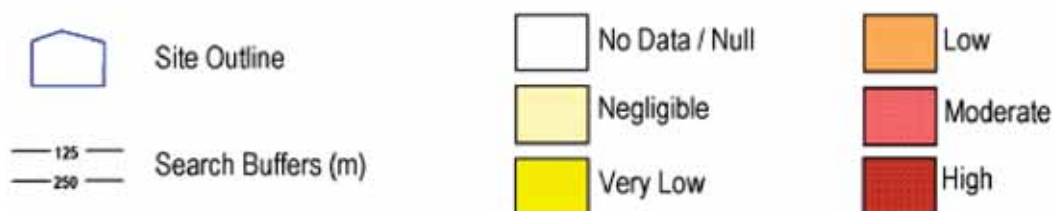
4.4 Compressible Deposits Map



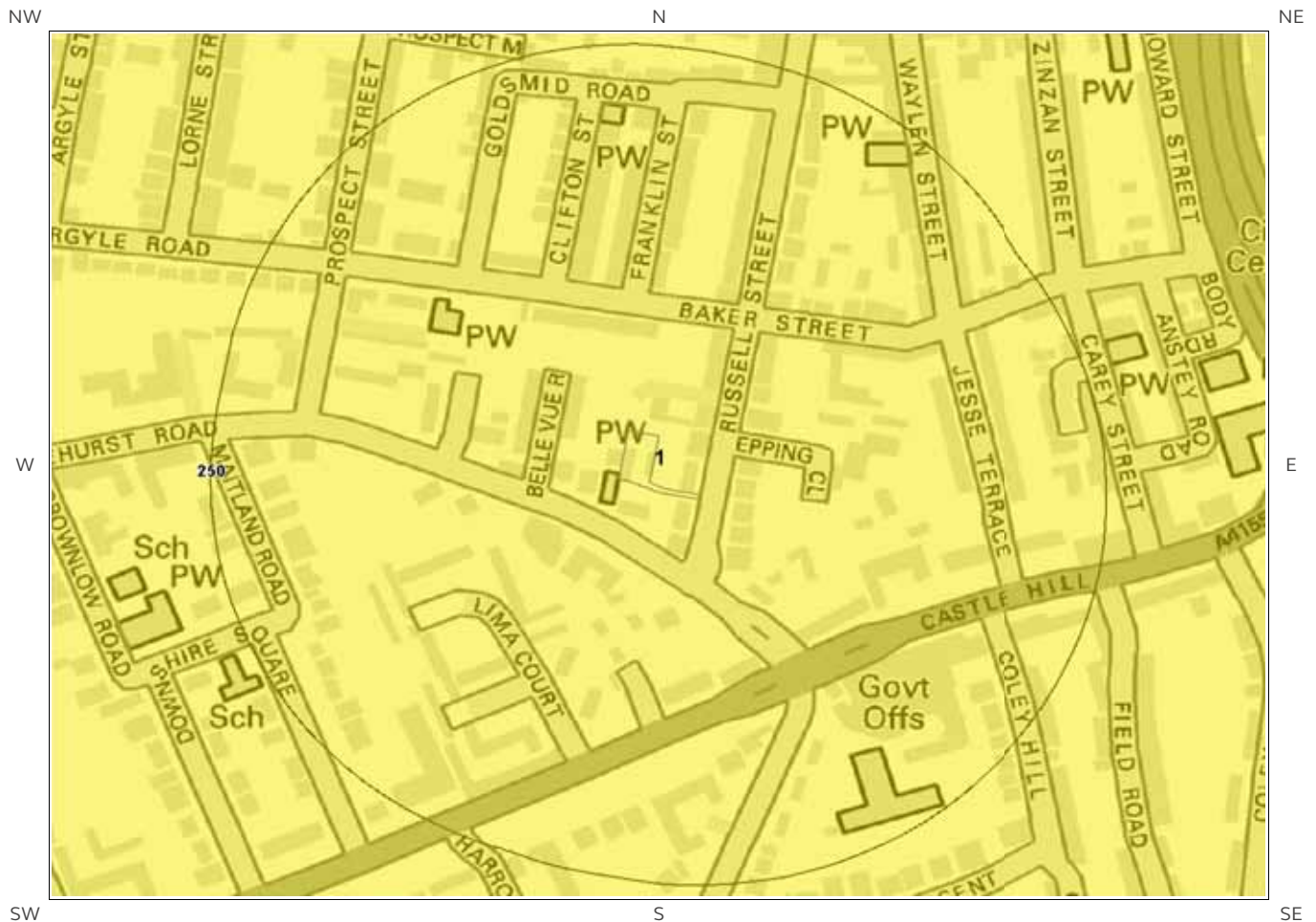
Compressible Deposits Legend



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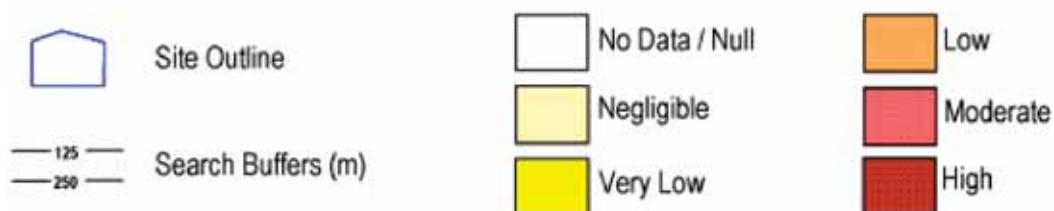
4.5 Collapsible Deposits Map



Collapsible Deposits Legend



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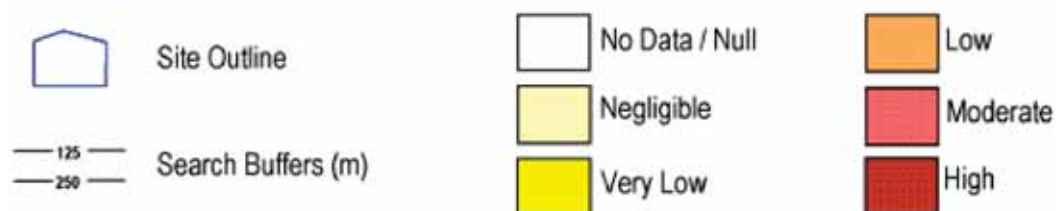
4.6 Running Sand Map



Running Sand Legend



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4 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site** boundary? Moderate-High

4.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Moderate-High-Moderate-High	Ground conditions predominantly high plasticity. Do not plant or remove trees or shrubs near to buildings without expert advice about their effect and management. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a probable increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a probable increase in insurance risk during droughts or where vegetation with high moisture demands is present.

4.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

* This includes an automatically generated 50m buffer zone around the site

4.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Significant soluble rocks are present. Low possibility of subsidence occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow. Consider implications for stability when changes to drainage or new construction are planned. For new build, site investigation should consider potential for dissolution problems on the site and its surroundings. Care should be taken with local drainage into the bedrock. Some possibility groundwater pollution. For existing property, possible increase in insurance risk due to soluble rocks.
2	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

4.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible ground identified. No special actions required to avoid problems due to compressible ground. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible ground.

4.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

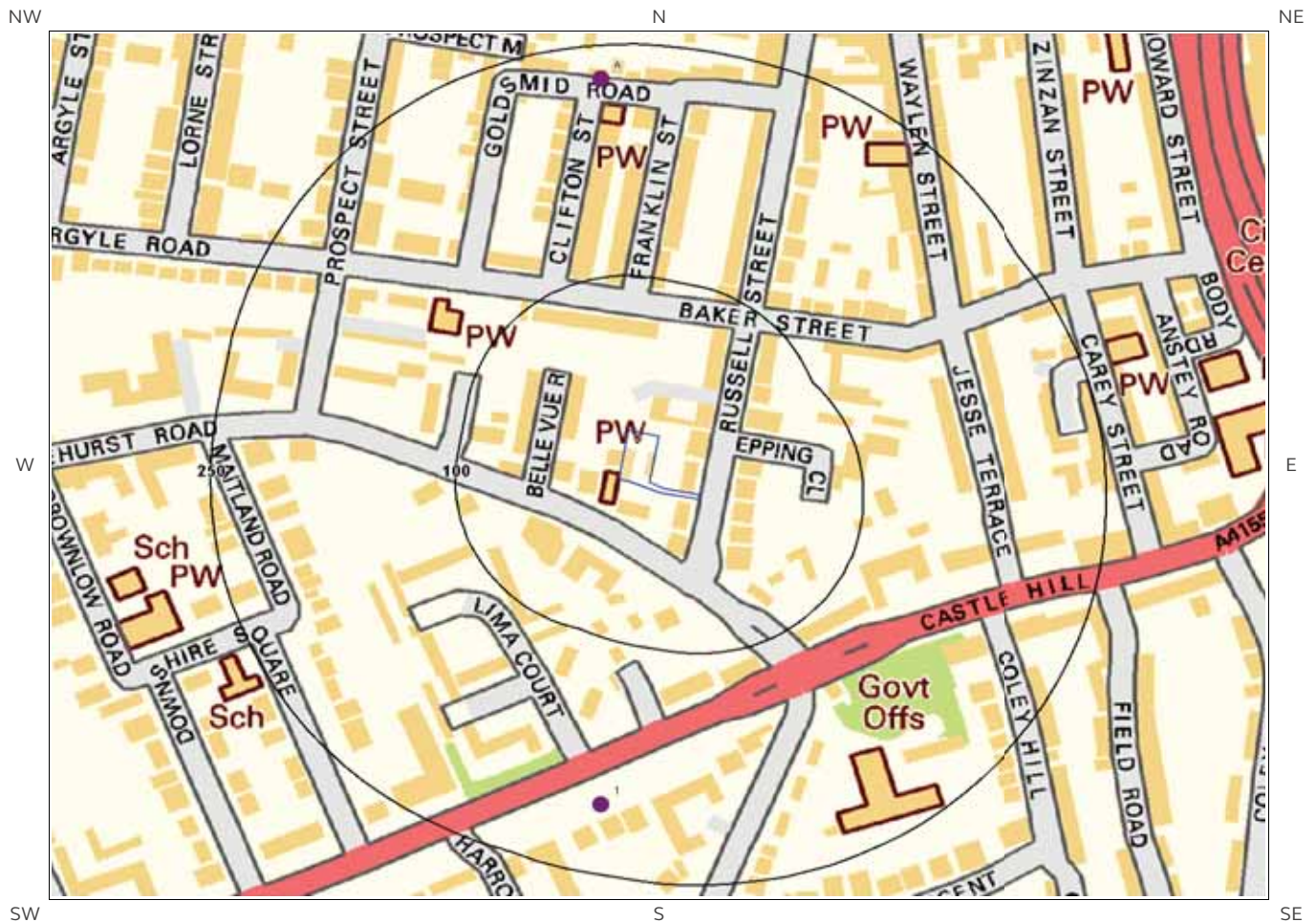
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

4.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

5 Borehole Records Map



Borehole Records Legend



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5 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

3

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	205.0	S	470680 172860	SU77SW50	5.94	BATH ROAD NEAR COLEY AVE
2A	228.0	N	470680 173330	SU77SW826	3.1	26-28 GOLDSMITH ROAD-READING TP 2
3A	228.0	N	470680 173330	SU77SW825	3.1	26-28 GOLDSMITH ROAD-READING TP 1

Additional online information is available for the following boreholes listed above:

#1: scans.bgs.ac.uk/sobi_scans/boreholes/428202

#2A: scans.bgs.ac.uk/sobi_scans/boreholes/15618026

#3A: scans.bgs.ac.uk/sobi_scans/boreholes/15618023

6 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

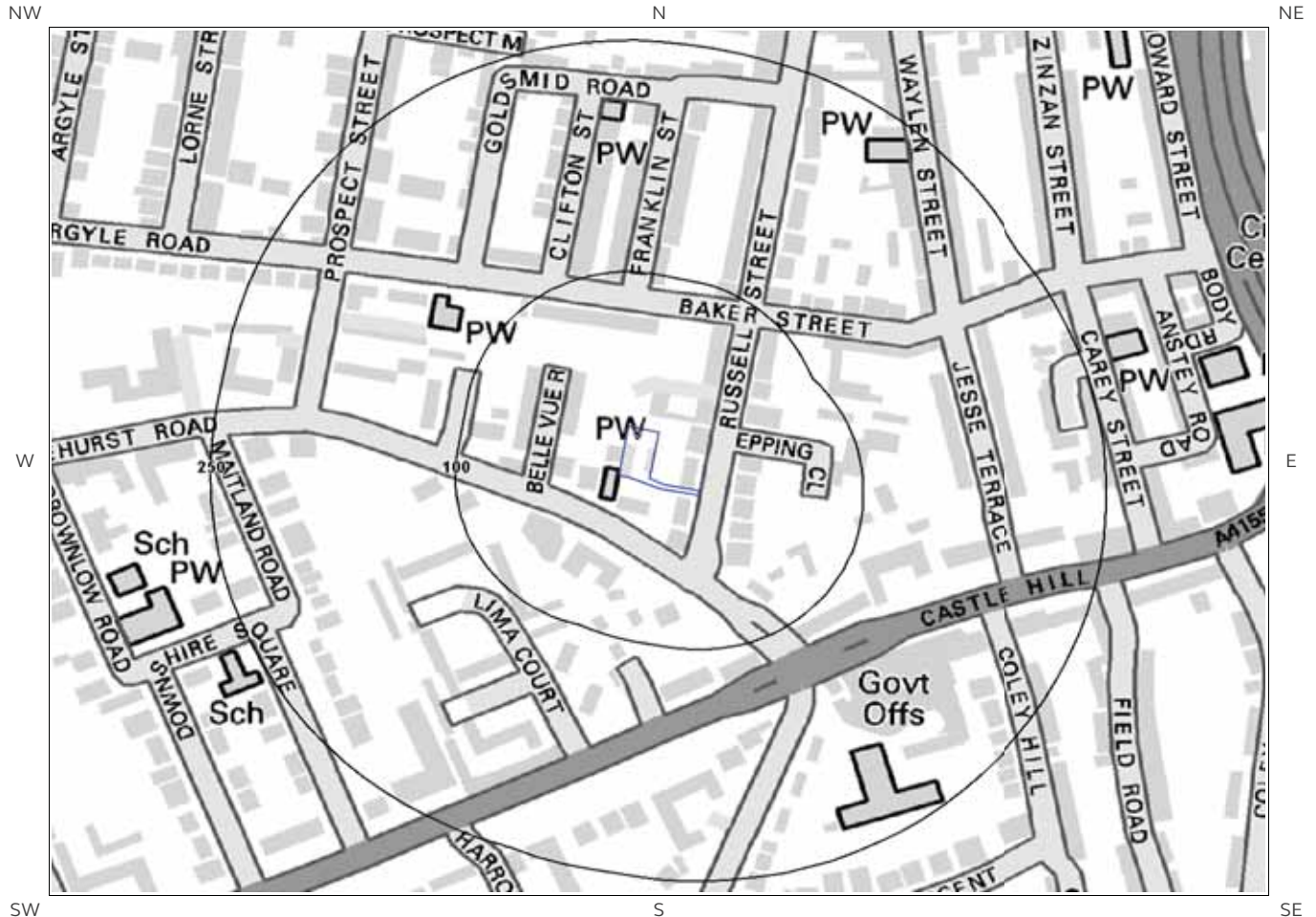
13

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geosight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
58.0	S	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
58.0	S	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
79.0	SE	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
79.0	SE	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
106.0	N	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
135.0	NE	Sediment	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
148.0	NE	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
191.0	W	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
204.0	W	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
204.0	W	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
209.0	W	Sediment	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg

*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

7 Railways and Tunnels Map



Railways and Tunnels Legend



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	Underground or Partially Underground Railway / Subway System		Railway Track (OpenStreetMap)
	Railway Tunnel (OS Mapping)		High Speed 2
	Abandoned or Dismantled Railway (OpenStreetMap)		Crossrail
	Railway Track (OS Mapping)		Railway and/or Tunnel Feature from Historical Mapping
	Site Outline		
	Search Buffers (m)		

7 Railways and Tunnels

7.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

7.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

7.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

7.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? No

Have any active railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

7.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail.

Is the study site within 5km of the route of the High Speed 2 rail project? No

Is the study site within 500m of the route of the Crossrail rail project? No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail Report.

Contact Details

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Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries



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<https://www.gov.uk/government/organisations/public-health-england>
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Contact Details



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Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

“Beneficiary” means the person or entity for whose benefit the Client has obtained the Services.

“Client” means the party or parties entering into a Contract with Groundsure.

“Commercial” means any building or property which is not Residential.

“Confidential Information” means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by Groundsure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

“Support Services” means Support Services provided by Groundsure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

“Contract” means the contract between Groundsure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

“Third Party Data Provider” means any third party providing Third Party Content to Groundsure.

“Data Reports” means reports comprising factual data with no accompanying interpretation.

“Fees” has the meaning set out in clause 5.1.

“Groundsure” means Groundsure Limited, a company registered in England and Wales under number 03421028.

“Groundsure Materials” means all materials prepared by Groundsure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

“Intellectual Property” means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

“Mapping” means a map, map data or a combination of historical maps of various ages, time periods and scales.

“Order” means an electronic, written or other order form submitted by the Client requesting Services from Groundsure in respect of a specified Site.

“Ordnance Survey” means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

“Order Website” means the online platform through which Orders may be placed by the Client and accepted by Groundsure.

“Report” means a Risk Screening Report or Data Report for Commercial or Residential property.

“Residential” means any building or property used as or intended to be used as a single dwelling.

“Risk Screening Report” means a risk screening report comprising factual data with an accompanying interpretation by Groundsure.

“Services” means any Report, Mapping and/or Support Services which Groundsure has agreed to provide by accepting an Order pursuant to clause 2.6.

“Site” means the area of land in respect of which the Client has requested Groundsure to provide the Services.

“Third Party Content” means data, database information or other information which is provided to Groundsure by a Third Party Data Provider.

“User Guide” means the user guide, as amended from time to time, available upon request from Groundsure and on the website (www.Groundsure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 Groundsure agrees to provide the Services in accordance with the Contract.

2.2 Groundsure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of Groundsure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, Groundsure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and Groundsure will have no liability therefor. In addition you acknowledge and agree that Groundsure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 Groundsure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure.

Groundsure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by Groundsure. Groundsure's acceptance of an Order shall be binding only when made in writing and signed by Groundsure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to Groundsure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to Groundsure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as Groundsure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable Groundsure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the Groundsure Materials, or use the Groundsure Materials in a manner for which they were not intended. The Client may make the Groundsure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that Groundsure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1 The Client acknowledges that the Services provided by Groundsure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by Groundsure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,
(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
(iv) the first purchaser or first tenant of the Site, and
(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by Groundsure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1 Groundsure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by Groundsure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together “Fees”).

5.2 The Client shall pay all outstanding Fees to Groundsure in full without deduction, counterclaim or set off within 30 days of the date of Groundsure's invoice or such other period as may be agreed in writing between Groundsure and the Client (“Payment Date”). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of Groundsure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and
(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the Groundsure Materials.

6.2 All Intellectual Property in the Groundsure Materials are and shall remain owned by Groundsure or Groundsure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure

acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the Groundsure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to Groundsure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the Groundsure Materials in order to advise the Beneficiary in a professional capacity. However, Groundsure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify Groundsure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of Groundsure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by Groundsure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 Groundsure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the Groundsure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the Groundsure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of Groundsure's internet ordering service.

7.5 Groundsure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 Groundsure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of Groundsure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against Groundsure in relation to the Services or other matters arising pursuant to the Contract.

8 Groundsure's right to suspend or terminate

8.1 If Groundsure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, Groundsure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 Groundsure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to Groundsure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon Groundsure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event
(b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) Groundsure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in Groundsure's possession or control; and

(ii) the Client shall pay to Groundsure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay Groundsure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of Groundsure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to Groundsure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through Groundsure.

12.3 Groundsure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of Groundsure.

12.4 No failure on the part of Groundsure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 Groundsure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

- (i) the Client or Beneficiary's failure to provide facilities, access or information;
- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
- (viii) changes in law; or
- (ix) any other reason beyond Groundsure's reasonable control.

In the event that Groundsure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then Groundsure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 Groundsure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at Groundsure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law



EmapSite

Masdar House, ,
Eversley, RG27 0RP

Groundsure
Reference:

EMS-298265_403207

Your Reference:

EMS_298265_403207

Report Date

14 Apr 2015

Report Delivery
Method:

Email - pdf

Groundsure Enviroinsight

Address: Russell St Reading, RG1 7XH,

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Enviroinsight** as requested.

If you would like further assistance regarding this report then please contact the emapsite customer services team on 0118 9736883 quoting the above report reference number.

Yours faithfully,

emapsite customer services team

Enc.
Groundsure Enviroinsight



Groundsure Enviroinsight

Address: Russell St Reading, RG1 7XH,

Date: 14 Apr 2015

Reference: EMS-298265_403207

Client: EmapSite

NW

N

NE

W

E



SW

S

SE

Aerial Photograph Capture date: 08-Jul-2013

Grid Reference: 470707,173081

Site Size: 0.08ha

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
1.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
1.1.1 Records of historic IPC Authorisations	0	0	0	0
1.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer)	0	0	0	0
1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters)	0	0	0	0
1.1.5 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
1.1.6 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
1.1.7 Records of Part A(2) and Part B Activities and Enforcements	0	0	1	3
1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	5	0
1.1.9 Records of Licensed Discharge Consents	0	0	0	3
1.1.10 Records of Planning Hazardous Substance Consents and Enforcements	0	0	0	0
1.2 Records of COMAH and NIHHS sites	0	0	0	0
1.3 Environment Agency Recorded Pollution Incidents				
1.3.1 National Incidents Recording System, List 2	0	0	0	2
1.3.2 National Incidents Recording System, List 1	0	0	0	0
1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 2: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-5000
2.1 Landfill Sites						
2.1.1 Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
2.1.2 Environment Agency Historic Landfill Sites	0	0	0	0	1	2
2.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
2.1.4 Groundsure Local Authority Landfill Sites Data	0	0	0	0	0	0
2.2 Landfill and Other Waste Sites Findings						

Section 2: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-5000
2.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
2.2.2 Environment Agency Licensed Waste Sites	0	0	0	0	4	3

Section 3: Current Land Use	On-site	0-50m	51-250	251-500
3.1 Current Industrial Sites Data	0	0	14	Not searched
3.2 Records of Petrol and Fuel Sites	0	1	0	3
3.3 Underground High Pressure Oil and Gas Pipelines	0	0	0	0

Section 4: Geology	
4.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
4.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
4.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 5: Hydrogeology and Hydrology	0-500m					
5.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes					
5.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes					
	On-site	0-50m	51-250	251-500	501-1000	1000-2000
5.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	2	30
5.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	2	8
5.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	1	22
5.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
5.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
5.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	1	0	Not searched	Not searched
	On-site	0-50m	51-250	251-500	501-1000	1000-1500
5.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	Yes	Yes
5.10 Detailed River Network entries within 500m of the site	0	0	0	0	Not searched	Not searched
5.11 Surface water features within 250m of the study site	No	No	No	Not searched	Not searched	Not searched

Section 6: Flooding

6.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	No
6.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site?	No
6.3 Are there any Flood Defences within 250m of the study site?	No
6.4 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
6.5 Are there any areas used for Flood Storage within 250m of the study site?	No
6.6 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Limited potential
6.7 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	High

Section 7: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
7.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
7.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
7.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
7.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
7.5 Records of Ramsar sites	0	0	0	0	0	0
7.6 Records of Ancient Woodlands	0	0	0	0	0	0
7.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
7.8 Records of World Heritage Sites	0	0	0	0	0	0
7.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
7.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
7.11 Records of National Parks	0	0	0	0	0	0
7.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
7.13 Records of Nitrate Vulnerable Zones	1	0	0	0	2	1
7.14 Records of Green Belt Data	0	0	0	0	0	0

Section 8: Natural Hazards

8.1 What is the maximum risk of natural ground subsidence?	Moderate
8.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Moderate
8.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
8.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Low
8.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Negligible
8.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Very Low
8.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Very Low

Section 9: Mining

9.1 Are there any coal mining areas within 75m of the study site?	No
9.2 What is the risk of subsidence relating to shallow mining within 150m of the study site?	Low
9.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

2. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

3. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure underground oil and gas pipelines.

4. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

5. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

6. Flooding

Provides information on surface water flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

7. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

8. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence.

9. Mining

Provides information on areas of coal and shallow mining.

10. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

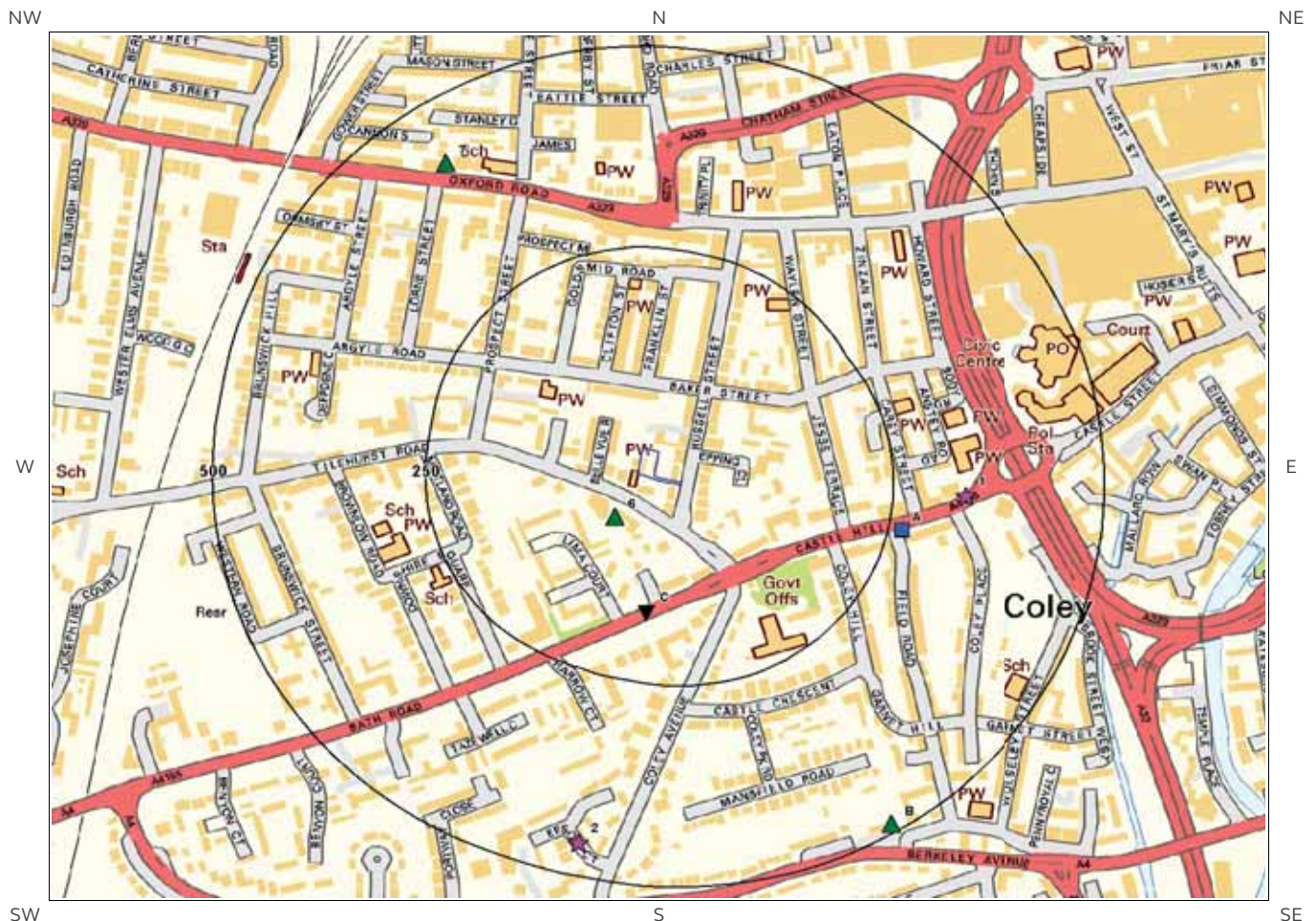
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Environmental Permits, Incidents and Registers Map



Environmental Permits,
Incidents and Registers Legend

Mapping
sourced from

Ordnance Survey

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- | | | | | | |
|--|--------------------|--|-------------------------------|--|--|
| | Site Outline | | Recorded Pollution Incident | | RAS 3 & 4 Authorisations |
| | Search Buffers (m) | | Dangerous Substances (List 1) | | Part A(1) Authorised Processes and Historic IPC Authorisations |
| | | | Dangerous Substances (List 2) | | Part A(2) and Part B Authorised Processes |
| | | | Water Industry Referrals | | COMAH / NIHHS Sites |
| | | | Licensed Discharge Consents | | Sites Determined as Contaminated Land |
| | | | Red List Discharge Consents | | Hazardous Substance Consents and Enforcements |

1. Environmental Permits, Incidents and Registers

1.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

1.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

1.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

1.1.5 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

1.1.6 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

1.1.7 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

4

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance	Direction	NGR	Details
6	61.0	SW	470664 173016	Address: BP Oil UK Ltd, Tilehurst Express Service Station (BP Connect), Tilehurst Road, Reading, Berks, RG1 7TW Process: PG1/14 (06) Unloading of Petrol into Storage at Petrol Stations Status: Current Permit Permit Type: Part B Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
7	422.0	NW	470465 173455	Address: Krisco Services Limited, Texaco Service Station, Oxford Road Service Station, 150 Oxford Road, Reading, RG1 7PJ Process: PG1/14 (06) Unloading of Petrol into Storage at Petrol Stations Status: Current Permit Permit Type: Part B Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
8B	491.0	SE	470988 172634	Address: ROC UK Ltd, Berkeley Service Station (Esso), 10 Berkeley Avenue, Reading, Berks, RG1 6JT Process: PG1/14 (06) Unloading of Petrol into Storage at Petrol Stations Status: Current Permit Permit Type: Part B Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
9B	491.0	SE	470988 172634	Address: Save Serv Station (Reading), Berkeley Avenue, Reading, RG1 6JE Process: Petrol Vapour Recovery Process Status: Historical Permit Permit Type: Part B Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified

1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations:

5

The following RAS Licence (3 or 4) records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance	Direction	NGR	Address	Operator	Type	Permission Number	Dates	Status
15C	163.0	S	4707 00 1729 00	British United Provident Association Ltd, Bupa Dunedin Hospital, 16 Bath Road, Reading, Berkshire, RG1 6NB	British United Provident Association Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	BU1873	Date of Approval:11/3/2003 Effective from:11/3/2003 Last date of update:2015-01-01	Revoked/cancelled
16C	163.0	S	4707 00 1729 00	Classic Hospitals Ltd, Bupa Dunedin Hospital, 16 Bath Road, Reading, Berkshire, RG1 6NB	Classic Hospitals Ltd	Disposal Of Radioactive Waste (was Rsa60 Section 6).	BZ4250	Date of Approval:10/8/2005 Effective from:10/8/2005 Last date of update:2015-01-01	Revoked/cancelled
17C	163.0	S	4707 00 1729 00	Classic Hospitals Ltd, Bupa Dunedin Hospital, 16 Bath Road, Reading, Berkshire, RG1 6NB	Classic Hospitals Ltd	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	BZ4241	Date of Approval:10/8/2005 Effective from:10/8/2005 Last date of update:2015-01-01	Superseded By Variation
18C	163.0	S	4707 00 1729 00	Classic Hospitals Ltd, Bupa Dunedin Hospital, 16 Bath Road, Reading, Berkshire, RG1 6NB	Classic Hospitals Ltd	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	BZ4241	Date of Approval:19/9/2007 Effective from:19/9/2007 Last date of update:2015-01-01	Revoked/cancelled
19C	163.0	S	4707 00 1729 00	British United Provident Association Ltd, Bupa Dunedin Hospital, 16 Bath Road, Reading, Berkshire, RG1 6NB	British United Provident Association Ltd	Keeping And Use Of Radioactive Materials (was Rsa60 Section 1).	BU1890	Date of Approval:11/3/2003 Effective from:11/3/2003 Last date of update:2015-01-01	Revoked/cancelled

1.1.9 Records of Licensed Discharge Consents within 500m of the study site:

3

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance	Direction	NGR	Details
3A	265.0	E	471000 173002	Address: Reading, Vastern Road, Reading, Vastern Road Effluent Type: Sewage Discharges - Pumping Station - Water Company Permit Number: TEMP.1779 Permit Version: 1 Receiving Water: Holy Brook Status: Lapsed Under Schedule 23 Environment Act 1995 Issue date: 2/11/1989 Effective Date: 2/11/1989 Revocation Date: 31/3/1997
4A	265.0	E	471000 173001	Address: Reading, Bennet Road, Reading, Bennet Road Effluent Type: Sewage Discharges - Pumping Station - Water Company Permit Number: TEMP.1767 Permit Version: 2 Receiving Water: Holly Brook Status: Temporary Consents (water Act 1989, Section 113) Issue date: 3/9/2010 Effective Date: 3/9/2010 Revocation Date: -
5A	265.0	E	471000 173001	Address: Reading, Bennet Road, Reading, Bennet Road Effluent Type: Sewage Discharges - Pumping Station - Water Company Permit Number: TEMP.1767 Permit Version: 1 Receiving Water: Holly Brook Status: Temporary Consents (water Act 1989, Section 113) Issue date: 2/11/1989 Effective Date: 2/11/1989 Revocation Date: 2/9/2010

1.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

1.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

0

Database searched and no data found.

1.3 Environment Agency Recorded Pollution Incidents

1.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

2

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance	Direction	NGR	Details	
1	334.0	E	471075 173044	Incident Date: 29/08/2003 Incident Identification: 185987 Pollutant: Oils and Fuel:Other Pollutant Pollutant Description: Petrol:Other	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
2	459.0	S	470620 172613	Incident Date: 16/08/2001 Incident Identification: 24733 Pollutant: Specific Waste Materials Pollutant Description: Clinical Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

1.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

Database searched and no data found.

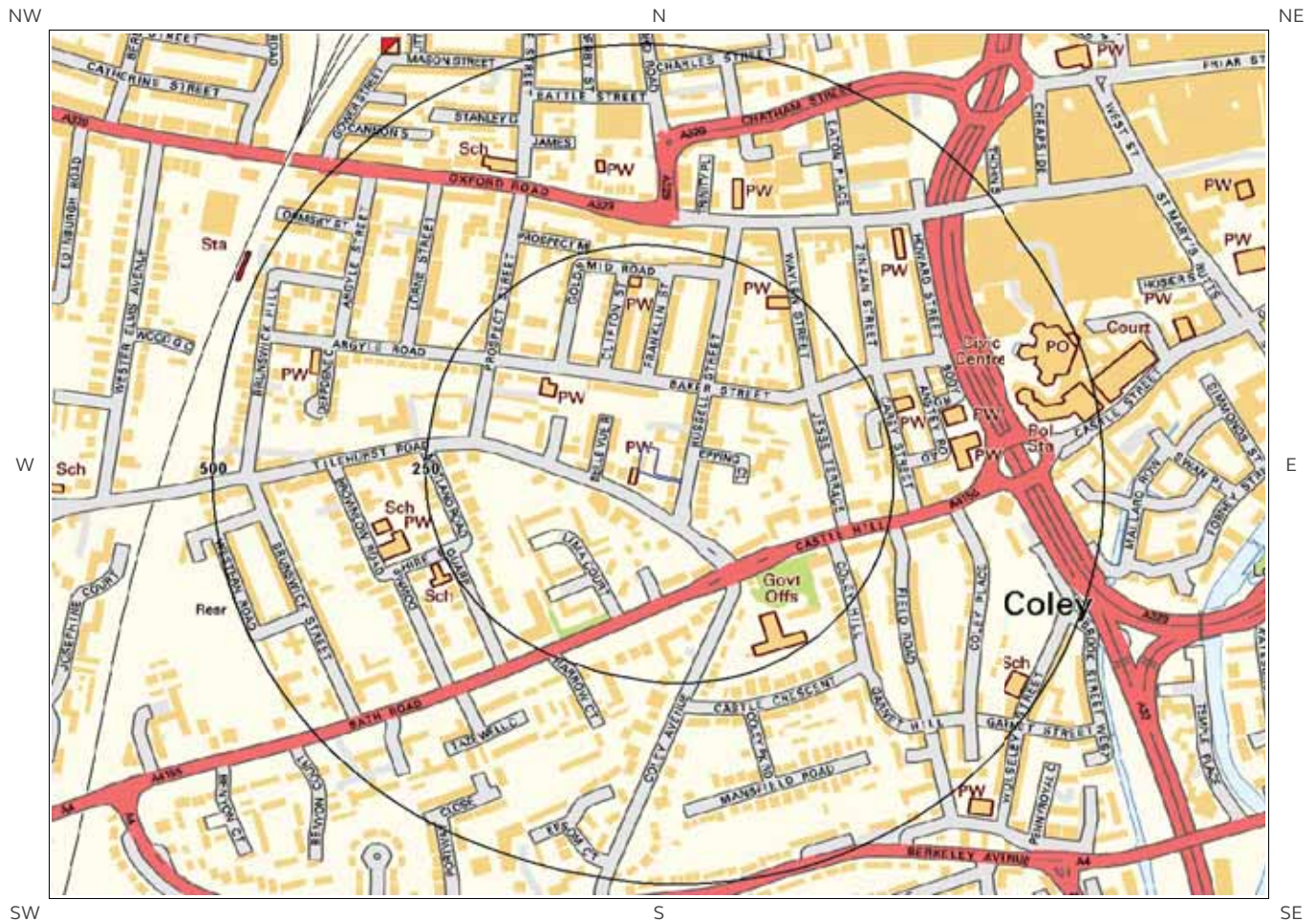
1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

0

Database searched and no data found.

2. Landfill and Other Waste Sites Map



Landfill and Other Waste Sites
Legend

Mapping
sourced from

**Ordnance
Survey®**

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- | | | |
|--|---|--|
|  Site Outline |  E.A. Active Landfill |  Historic and Planned Waste Sites |
|  E.A. Historic Landfill |  E.A. Licensed Waste Site | |
|  Local Authority Landfill |  BGS / DoE Survey Landfill | |

2. Landfill and Other Waste Sites

2.1 Landfill Sites

2.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

2.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

3

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
Not shown	869.0	NW	470200 173900	Site Address: Cow Lane, Reading, Berkshire Waste Licence: - Site Reference: TP0340, RDG4 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -
Not shown	1159.0	SE	471400 171900	Site Address: Waterloo Meadows, Reading, Berkshire Waste Licence: - Site Reference: TP0154, RDG8 Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -
Not shown	1279.0	N	470600 174500	Site Address: Richfield Avenue, Reading, Berkshire Waste Licence: - Site Reference: RDG11, TP0122 Waste Type: Commercial, Household Liquid sludge, Environmental Permitting Regulations (Waste) Reference: - Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -

2.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

2.1.4 Records of Local Authority landfill sites within 1500m of the study site:

0

Database searched and no data found.

2.2 Other Waste Sites

2.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

Database searched and no data found.

2.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

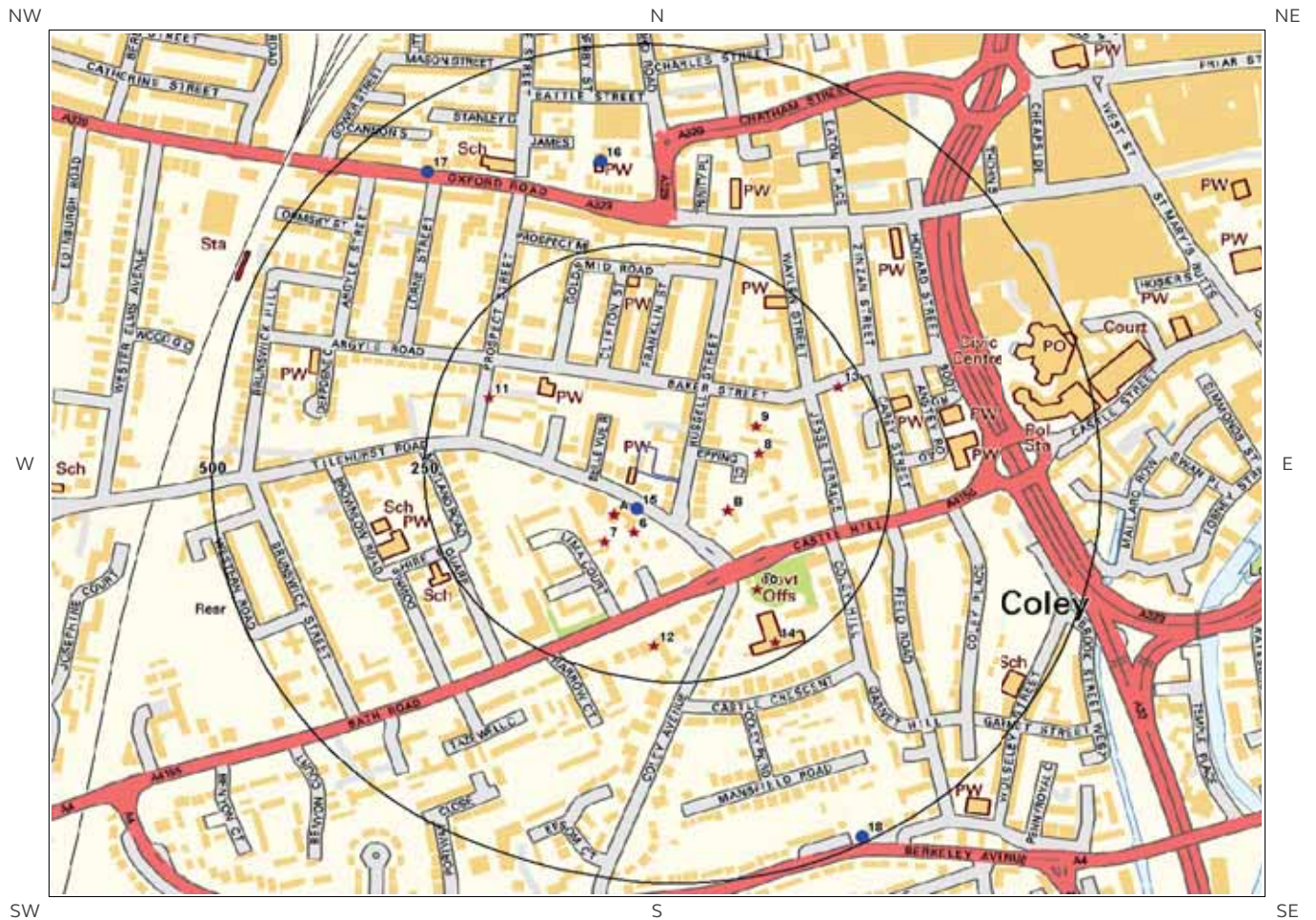
7

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details
4	579.0	NW	470400 173600	Site Address: E.G.W Carter, 54, Gower Street, Reading, Berkshire, RG1 7PE Type: Metal Recycling Site (mixed MRS's) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CAR001 EPR reference: EA/EPR/LP3699EF/S004 Operator: E G W Carter Waste Management licence No: 86001 Annual Tonnage: 9322.0 Issue Date: 19/03/1996 Effective Date: - Modified: - Surrendered Date: 23/07/1999 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: E G W Carter Correspondence Address: -, -
Not shown	856.0	NW	470200 173800	Site Address: Elliot Metal Company Ltd, 3, Loverock Road, Battle Farm Indus Est, Reading, RG3 1NL Type: Metal Recycling Site (mixed MRS's) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIM001 EPR reference: - Operator: Simsmetal Uk Limited Waste Management licence No: 86002 Annual Tonnage: 4999.0 Issue Date: 06/04/1993 Effective Date: 27/04/2002 Modified: 26/04/2002 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Simsmetal U K Limited Correspondence Address: -, 4, The Uplands, Nailsea, Somerset, BS48 4RR
Not shown	856.0	NW	470200 173800	Site Address: Elliot Metal Company Ltd, 3, Loverock Road, Battle Farm Indus Est, Reading, Berkshire, RG3 1NL Type: Metal Recycling Site (mixed MRS's) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIM001 EPR reference: EA/EPR/LP3199EB/V006 Operator: Sims Group U K Ltd Waste Management licence No: 86002 Annual Tonnage: 74999.0 Issue Date: 06/04/1993 Effective Date: 27/04/2002 Modified: 27/08/2014 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Sims Group U K Ltd Correspondence Address: -, -

ID	Distance (m)	Direction	NGR	Details
Not shown	856.0	NW	470200 173800	Site Address: Elliot Metal Company Ltd, 3, Loverock Road, Battle Farm Indus Est, Reading, Berkshire, RG3 1NL Type: Metal Recycling Site (mixed MRS's) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SIM001 EPR reference: EA/EPR/LP3199EB/V005 Operator: Sims Group Uk Limited Waste Management licence No: 86002 Annual Tonnage: 74999.0 Issue Date: 06/04/1993 Effective Date: 27/04/2002 Modified: 20/04/2010 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Sims Group U K Ltd Correspondence Address: -, -
Not shown	1082.0	N	470497 174166	Site Address: 128, Cardiff Road, Reading, Berkshire, RG1 8PQ Type: Materials Recycling Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MCO003 EPR reference: EP3893VZ/A001 Operator: M Collard Waste Management Services Ltd Waste Management licence No: 101199 Annual Tonnage: 0.0 Issue Date: 11/02/2010 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: M Collard Waste Management Services Ltd Correspondence Address: -, -
Not shown	1089.0	N	470500 174174	Site Address: 128, Cardiff Road, Reading, Berkshire, RG1 8PQ Type: HCI Waste TS + treatment Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: MCO003 EPR reference: EA/EPR/EP3893VZ/V002 Operator: M Collard Waste Management Services Ltd Waste Management licence No: 101199 Annual Tonnage: 74999.0 Issue Date: 11/02/2010 Effective Date: - Modified: 09/07/2010 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: M Collard Waste Management Services Ltd Correspondence Address: -, -
Not shown	1394.0	NW	469718 174096	Site Address: Part A, Unit B, 75, Loverock Road, Tilehurst, Reading, Berkshire, RG30 1DZ Type: HCI Waste TS + treatment Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: OAK056 EPR reference: EA/EPR/EP3993VE/A001 Operator: Oakford U K Ltd Waste Management licence No: 101222 Annual Tonnage: 74999.0 Issue Date: 18/11/2009 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Loverock Road Waste Transfer Station Correspondence Address: -, -

3. Current Land Use Map



Current Land Use Legend



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Site Outline



Current Industrial Sites



Search Buffers (m)



Petrol & Fuel Sites



Underground High Pressure Oil & Fuel Pipelines

3. Current Land Uses

3.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site:

14

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1A	60.0	SW	Tilehurst Sf Connect	470665 173017	Tilehurst Road, Reading, Berkshire, RG1 7TW	Petrol and Fuel Stations	Road and Rail
2A	60.0	SW	BP	470664 173016	2, Tilehurst Road, Reading, RG1 7TW	Petrol and Fuel Stations	Road and Rail
3B	68.0	SE	Tamarisk Auto	470798 173021	81, Russell Street, Reading, RG1 7XG	Vehicle Repair, Testing and Servicing	Repair and Servicing
4B	68.0	SE	Reading Tyres Ltd	470798 173021	81, Russell Street, Reading, RG1 7XG	Vehicle Parts and Accessories	Motoring
5B	68.0	SE	Ride in Bike Tyres	470798 173021	81, Russell Street, Reading, RG1 7XG	Vehicle Components	Industrial Products
6	73.0	S	Tilehurst Sf Connect		Tilehurst Road, Reading, RG1 7TW	Vehicle Cleaning Services	Personal, Consumer and Other Services
7	96.0	SW	Electricity Sub Station		RG1	Electrical Features	Infrastructure and Facilities
8	99.0	E	Courier Expert	470835 173092	1, Epping Close, Reading, RG1 7YD	Distribution and Haulage	Transport, Storage and Delivery
9	112.0	NE	Works		RG1	Unspecified Works Or Factories	Industrial Features
10	163.0	SE	Electricity Sub Station		RG1	Electrical Features	Infrastructure and Facilities
11	189.0	W	Electricity Sub Station		RG1	Electrical Features	Infrastructure and Facilities
12	207.0	S	Electricity Sub Station		RG1	Electrical Features	Infrastructure and Facilities
13	220.0	NE	Electricity Sub Station		RG1	Electrical Features	Infrastructure and Facilities
14	231.0	SE	B R O	470854 172857	9, Coley Avenue, Reading, RG1 6AF	Container and Storage	Transport, Storage and Delivery

3.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site:

4

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
15	45.0	S	470691 173024	BP	Tilehurst Sf Connect, Tilehurst Road, Tilehurst Road, Reading, Berkshire, RG1 7TW	No	Open
16	357.0	N	470649 173457	Obsolete	Parsons Garage, 211-221, Oxford Road, Oxford Road, Reading, Berkshire, RG1 7PX	Not Applicable	Obsolete
17	424.0	NW	470445 173444	Texaco	Krisco Reading Service Station, 150, Oxford Road, Oxford Road, Reading, Berkshire, RG1 7PJ	No	Open
18	492.0	SE	470957 172616	Esso	Berkeley Otr Service Station, 10, Berkeley Avenue, Berkeley Avenue, Reading, Berkshire, RG1 6JE	No	Open

3.3 Underground High Pressure Oil and Gas Pipelines

Records of high pressure underground pipelines within 500m of the study site:

0

Database searched and no data found.

4. Geology

4.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

4.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
LHGR	LYNCH HILL GRAVEL MEMBER	SAND AND GRAVEL [UNLITHIFIED DEPOSITS CODING SCHEME]

4.3 Bedrock and Solid Geology

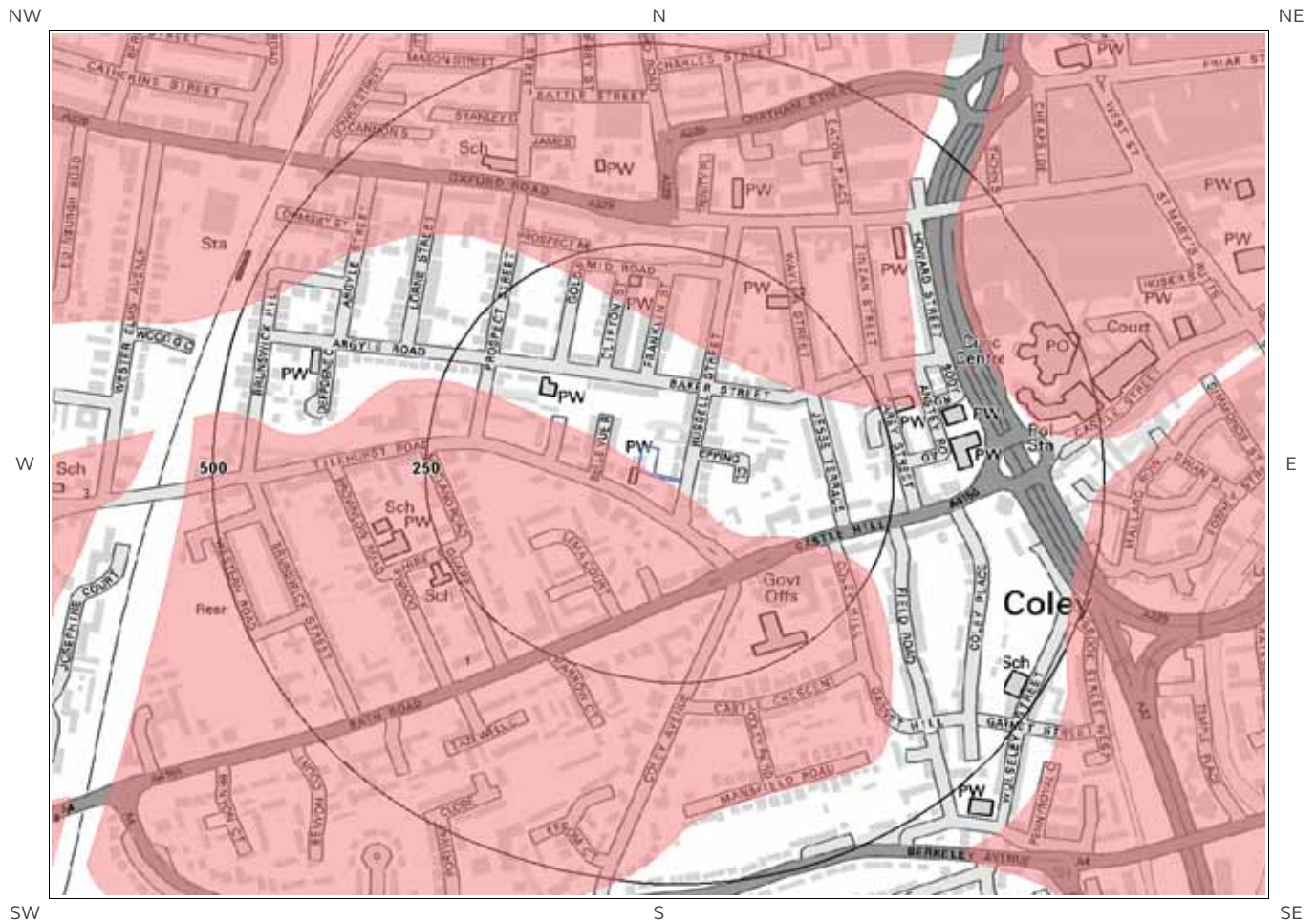
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
LMBE-CLSISA	LAMBETH GROUP	CLAY, SILT AND SAND

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

5. Hydrogeology and Hydrology

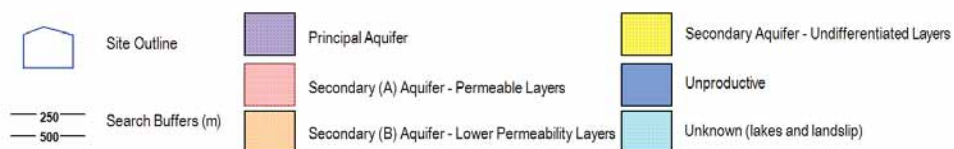
5a. Aquifer Within Superficial Geology



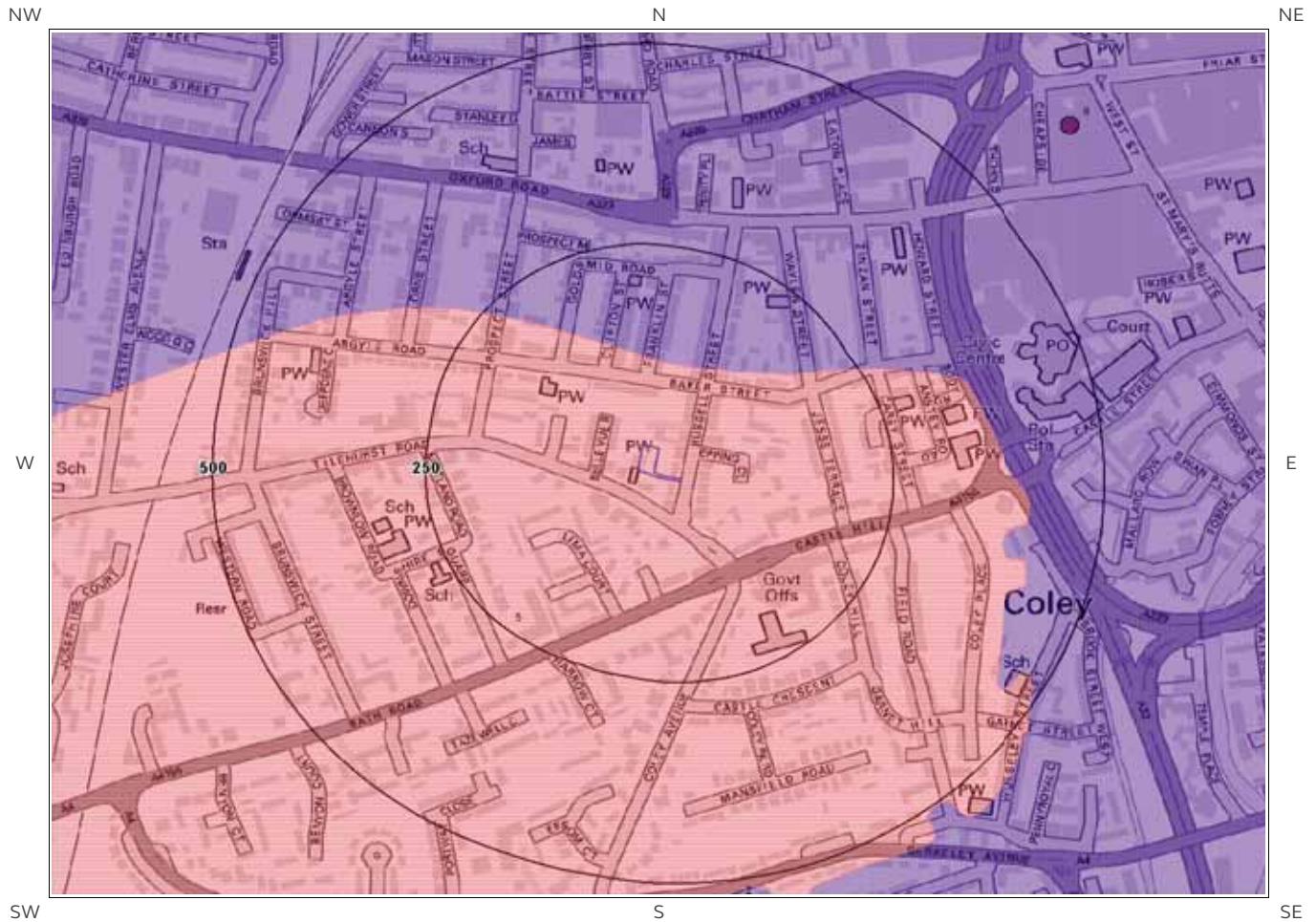
Aquifer Within Superficial Geology



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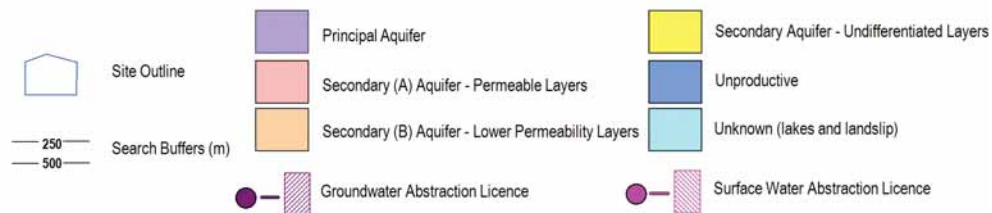
5b. Aquifer Within Bedrock Geology and Abstraction Licenses



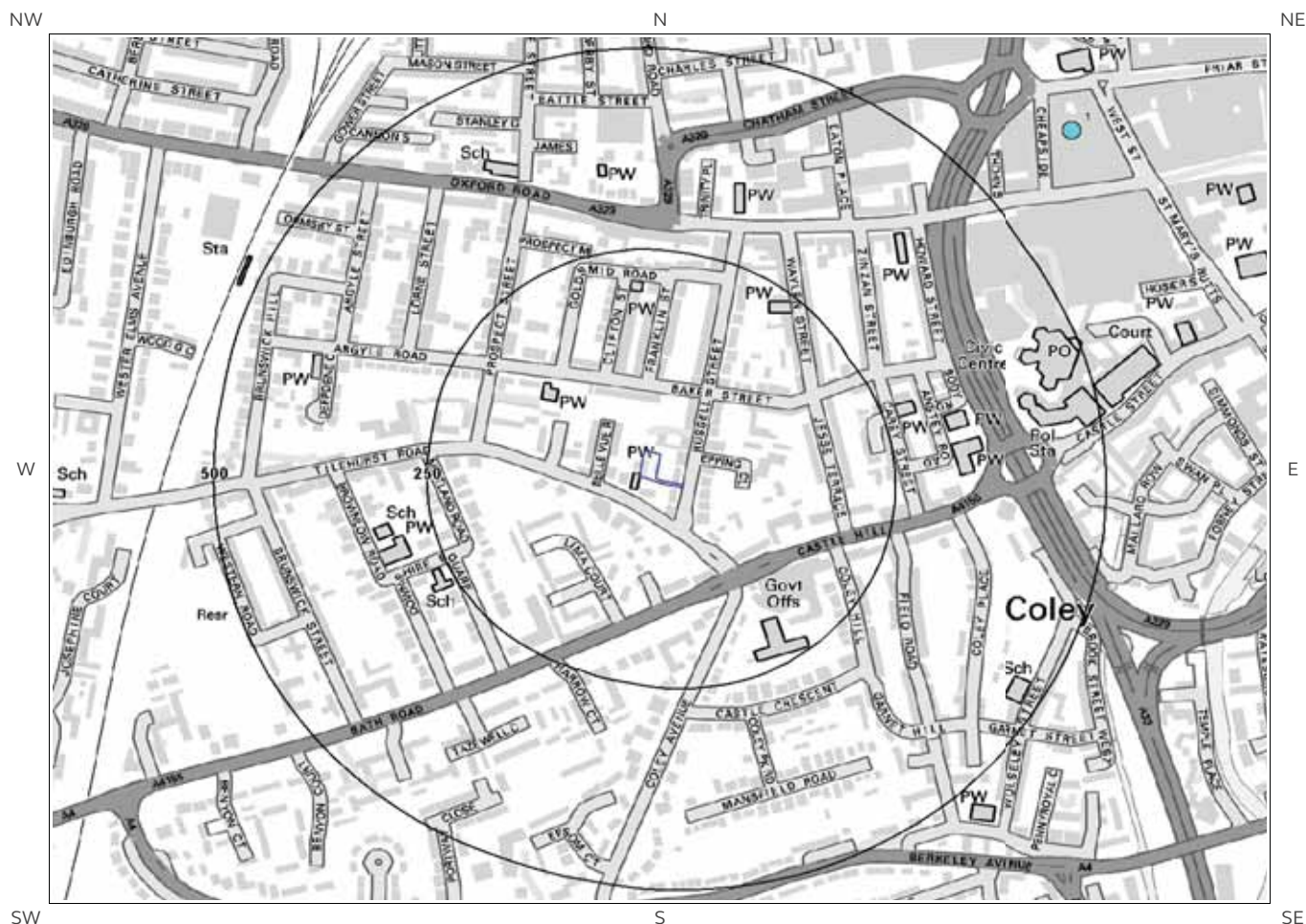
Aquifer Within Bedrock Geology and Abstraction Licenses



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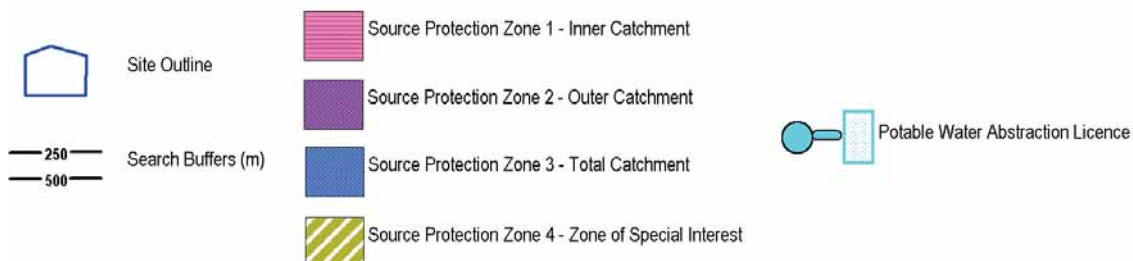
5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



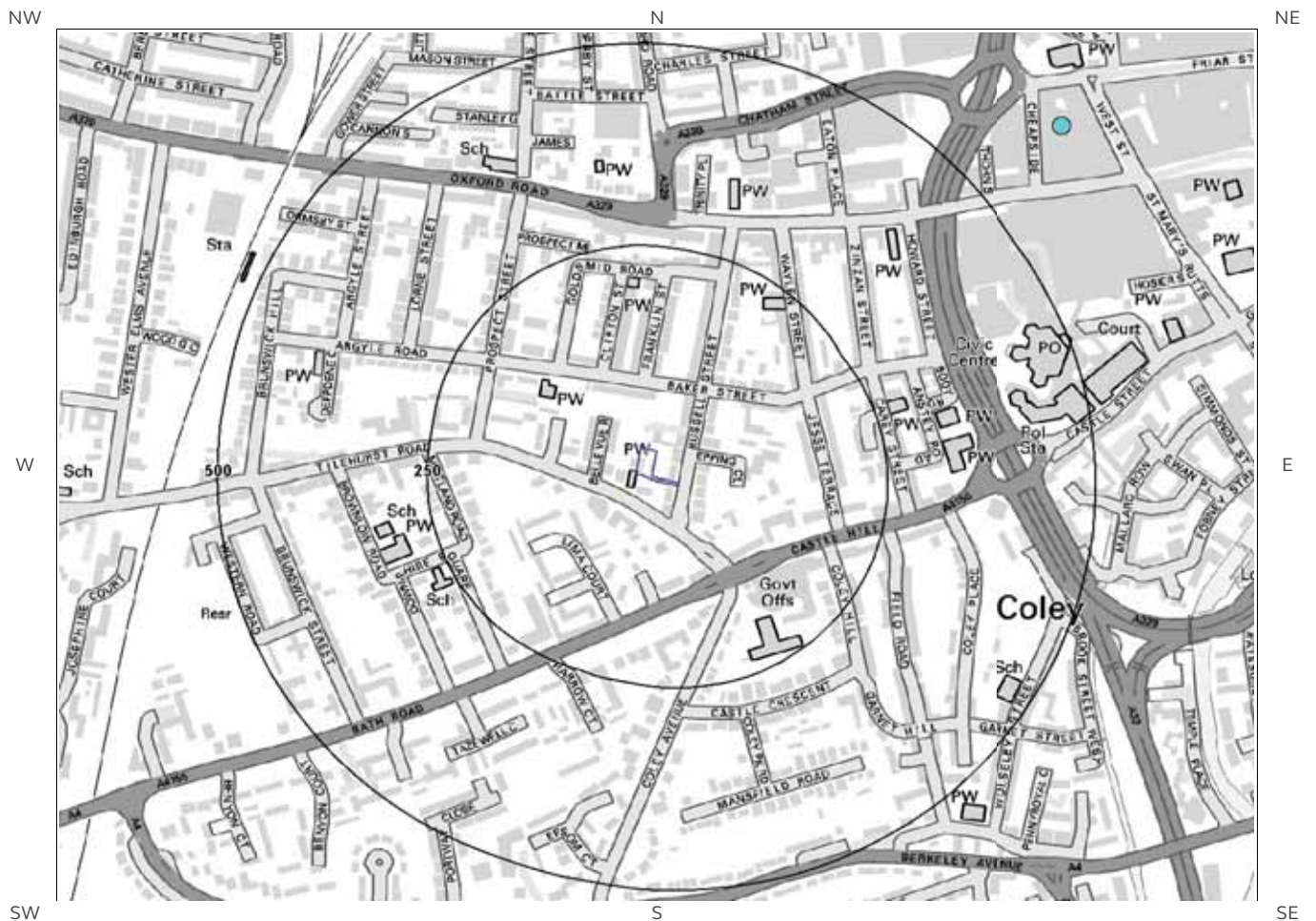
Map Legend
Source Protection Zones and Potable Water Abstraction Licenses



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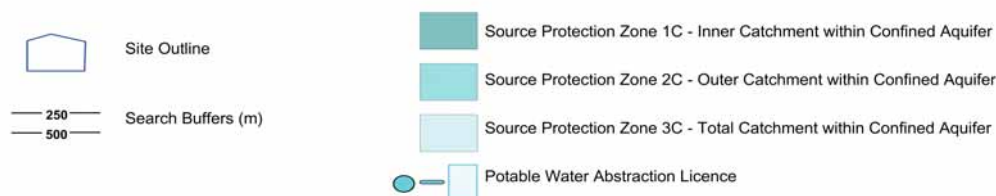
5d. Hydrology Source Protection Zones within confined aquifer



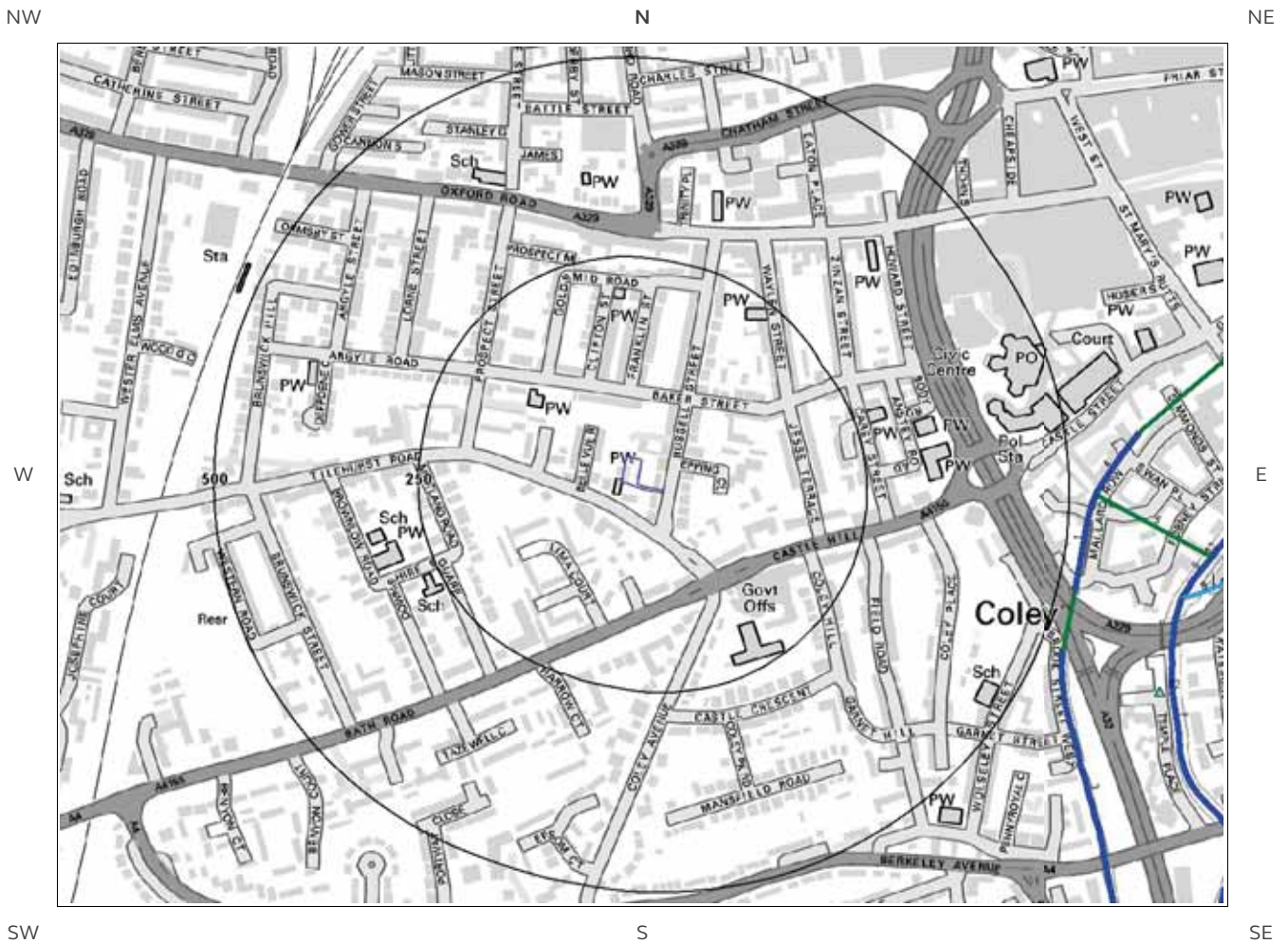
Hydrology Source Protection Zones



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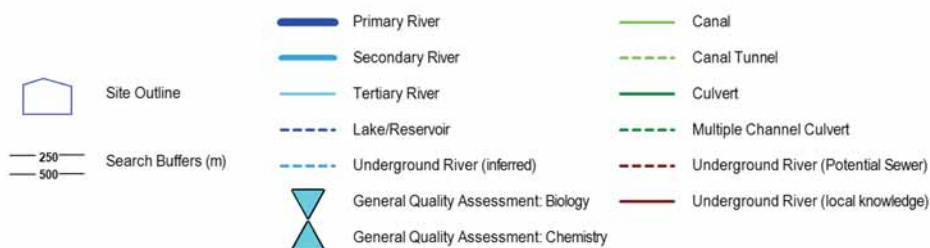
5 e. Hydrology – Detailed River Network and River Quality



Hydrology–Detailed River Network and River Quality



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5. Hydrogeology and Hydrology

5.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (5a):

ID	Distance (m)	Direction	Designation	Description
1	0.0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	135.0	NE	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

5.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	Designation	Description
5	0.0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
1	106.0	N	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

5.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site?

Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	NGR	Details
8	629.0	NE	471200 173500	Licence No: 28/39/23/0042 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Cheapside, Reading, Berkshire Data Type: Point Annual Volume (m³): 14933 Max Daily Volume (m³): 40.91 Original Application No: - Original Start Date: 11/7/1966 Expiry Date: - Issue No: 101 Version Start Date: 1/4/2008 Version End Date:
Not shown	902.0	N	470600 174000	Licence No: 28/39/23/0128 Details: Process Water Direct Source: Thames Groundwater Point: Cardiff Road, Reading Point B Data Type: Point Annual Volume (m³): 6682 Max Daily Volume (m³): 27.28 Original Application No: WR.A/4547 Original Start Date: 22/1/1975 Expiry Date: - Issue No: 100 Version Start Date: 1/4/2008 Version End Date:
Not shown	1017.0	N	470900 174100	Licence No: 28/39/23/0167 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Meadow Road, Reading, Berkshire Data Type: Point Annual Volume (m³): 90920 Max Daily Volume (m³): 727.4 Original Application No: - Original Start Date: 23/1/1990 Expiry Date: - Issue No: 101 Version Start Date: 30/6/2006 Version End Date:
Not shown	1017.0	N	470900 174100	Licence No: 28/39/23/0167 Details: Non-Evaporative Cooling Direct Source: Thames Groundwater Point: Meadow Road, Reading, Berkshire Data Type: Point Annual Volume (m³): 90920 Max Daily Volume (m³): 727.4 Original Application No: - Original Start Date: 23/1/1990 Expiry Date: - Issue No: 101 Version Start Date: 30/6/2006 Version End Date:
Not shown	1017.0	N	470900 174100	Licence No: 28/39/23/0041 Details: Non-Evaporative Cooling Direct Source: Thames Groundwater Point: Cardiff Road, Reading, Berkshire Data Type: Point Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: WR.A/1988 Original Start Date: 11/7/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/7/1966 Version End Date:
Not shown	1017.0	N	470900 174100	Licence No: 28/39/23/0041 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Cardiff Road, Reading, Berkshire Data Type: Point Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: WR.A/1988 Original Start Date: 11/7/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/7/1966 Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	1040.0	N	470400 174100	Licence No: 28/39/23/0128 Details: Process Water Direct Source: Thames Groundwater Point: Cardiff Road, Reading Point A Data Type: Point Annual Volume (m³): 6682 Max Daily Volume (m³): 27.28 Original Application No: WR.A/4547 Original Start Date: 22/1/1975 Expiry Date: - Issue No: 100 Version Start Date: 1/4/2008 Version End Date:
Not shown	1200.0	NW	469800 173900	Licence No: 28/39/23/0181 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Battle Hospital, Oxford Road, Reading Data Type: Point Annual Volume (m³): 136875 Max Daily Volume (m³): 400 Original Application No: WRA/5942 Original Start Date: 17/1/1992 Expiry Date: - Issue No: 100 Version Start Date: 7/1/1999 Version End Date:
Not shown	1338.0	NW	470100 174300	Licence No: 28/39/23/0070 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Little John's Farm, Reading (e) Data Type: Point Annual Volume (m³): 9819 Max Daily Volume (m³): 26.82 Original Application No: WR.A/3088 Original Start Date: 9/1/1967 Expiry Date: - Issue No: 100 Version Start Date: 9/1/1967 Version End Date:
Not shown	1612.0	N	470100 174600	Licence No: 28/39/23/0070 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Little John's Farm, Reading (d) Data Type: Point Annual Volume (m³): 9819 Max Daily Volume (m³): 26.82 Original Application No: WR.A/3088 Original Start Date: 9/1/1967 Expiry Date: - Issue No: 100 Version Start Date: 9/1/1967 Version End Date:
Not shown	1624.0	NW	469500 174200	Licence No: 28/39/23/0070 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Little John's Farm, Reading (a) Data Type: Point Annual Volume (m³): 9819 Max Daily Volume (m³): 26.82 Original Application No: WR.A/3088 Original Start Date: 9/1/1967 Expiry Date: - Issue No: 100 Version Start Date: 9/1/1967 Version End Date:
Not shown	1636.0	NW	469700 174400	Licence No: 28/39/23/0070 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Little John's Farm, Reading (c) Data Type: Point Annual Volume (m³): 9819 Max Daily Volume (m³): 26.82 Original Application No: WR.A/3088 Original Start Date: 9/1/1967 Expiry Date: - Issue No: 100 Version Start Date: 9/1/1967 Version End Date:
Not shown	1636.0	NW	469700 174400	Licence No: 28/39/23/0070 Details: General Farming & Domestic Direct Source: Thames Groundwater Point: Little John's Farm, Reading (b) Data Type: Point Annual Volume (m³): 9819 Max Daily Volume (m³): 26.82 Original Application No: WR.A/3088 Original Start Date: 9/1/1967 Expiry Date: - Issue No: 100 Version Start Date: 9/1/1967 Version End Date:
Not shown	1679.0	E	472400 172800	Licence No: 28/39/22/0521 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Royal Berkshire Hospital Data Type: Point Annual Volume (m³): 127750 Max Daily Volume (m³): 350 Original Application No: WRA/5950 Original Start Date: 17/1/1992 Expiry Date: - Issue No: 100 Version Start Date: 17/1/1992 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1752.0	SW	469600 171700	Licence No: 28/39/22/0266 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Thames Groundwater Point: Railtrack Property, Southcote, Reading Data Type: Point	Annual Volume (m³): 250035 Max Daily Volume (m³): 909.22 Original Application No: - Original Start Date: 12/12/1966 Expiry Date: - Issue No: 101 Version Start Date: 3/2/2003 Version End Date:
Not shown	1759.0	NE	471900 174400	Licence No: 28/39/23/0020 Details: Laundry Use Direct Source: Thames Groundwater Point: 72 George Street, Caversham, - Borehole 'a' Data Type: Point	Annual Volume (m³): 68190 Max Daily Volume (m³): 300.04 Original Application No: - Original Start Date: 9/5/1966 Expiry Date: - Issue No: 101 Version Start Date: 30/12/2004 Version End Date:
Not shown	1829.0	S	470680 171230	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'c' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/6/1998 Version End Date:
Not shown	1829.0	S	470680 171230	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh C' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: 1/1/2013 Version End Date:
Not shown	1833.0	S	470610 171230	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'g' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/6/1998 Version End Date:
Not shown	1833.0	S	470610 171230	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh G' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: 1/1/2013 Version End Date:
Not shown	1858.0	S	470770 171200	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'b' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/6/1998 Version End Date:
Not shown	1861.0	S	470850 171200	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'a' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/6/1998 Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	1878.0	S	470770 171180	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh B' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: 1/1/2013 Version End Date:
Not shown	1881.0	S	470840 171180	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh A' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: 1/1/2013 Version End Date:
Not shown	1892.0	S	470380 171200	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'f' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/6/1998 Version End Date:
Not shown	1892.0	S	470380 171200	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh F' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: 1/1/2013 Version End Date:
Not shown	1908.0	S	470300 171200	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'e' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/6/1998 Version End Date:
Not shown	1908.0	S	470300 171200	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh E' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: 1/1/2013 Version End Date:
Not shown	1912.0	S	470970 171160	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'd' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/6/1998 Version End Date:
Not shown	1912.0	S	470970 171160	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh D' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: 1/1/2013 Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	1930.0	S	470660 171130	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh H' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: 1/1/2013 Version End Date:
Not shown	1930.0	S	470660 171130	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'h' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: 11/6/1998 Version End Date:

5.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? Yes

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	NGR	Details
Not shown	854.0	E	471590 173150	Licence No: 28/39/22/0594 Details: Lake & Pond Throughflow Direct Source: Thames Surface Water - Non Tidal Point: The Oracle Centre, Reading Data Type: Point Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: 16/2/2000 Expiry Date: - Issue No: 1 Version Start Date: 16/2/2000 Version End Date:
Not shown	854.0	E	471590 173150	Licence No: 28/39/22/0594 Details: Lake & Pond Throughflow Direct Source: Thames Surface Water - Non Tidal Point: St.giles Stream At The Oracle Centre, Reading Data Type: Point Annual Volume (m³): 737856 Max Daily Volume (m³): 2016 Application No: - Original Start Date: 16/2/2000 Expiry Date: - Issue No: 1 Version Start Date: 16/2/2000 Version End Date:
Not shown	1533.0	NE	471440 174450	Licence No: 28/39/23/0199/TR Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Thames Surface Water - Non Tidal Point: River Thames - Christchurch Meadows Data Type: Point Annual Volume (m³): 1752000 Max Daily Volume (m³): 4800 Application No: WRW/A/1218 Original Start Date: 10/9/2008 Expiry Date: 31/3/2016 Issue No: 1 Version Start Date: 10/9/2008 Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1533.0	NE	471440 174450	Licence No: 28/39/23/0196 Details: Lake & Pond Throughflow Direct Source: Thames Surface Water - Non Tidal Point: Thames At Christchurch Meadow Data Type: Point	Annual Volume (m³): 31536 Max Daily Volume (m³): 86.4 Application No: WRW/A/1115 Original Start Date: 12/5/2003 Expiry Date: 31/3/2016 Issue No: 1 Version Start Date: 1/4/2006 Version End Date:
Not shown	1533.0	NE	471440 174450	Licence No: 28/39/23/0196 Details: Transfer between sources Direct Source: Thames Surface Water - Non Tidal Point: Thames At Christchurch Meadow Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Application No: WRW/A/1115 Original Start Date: 12/5/2003 Expiry Date: 31/3/2016 Issue No: 1 Version Start Date: 12/5/2003 Version End Date:
Not shown	1908.0	S	470300 171200	Licence No: 28/39/22/0435 Details: Potable Water Supply - Direct Direct Source: Thames Surface Water - Non Tidal Point: Fobney Waterworks Intake Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Application No: S228 Original Start Date: 5/4/1977 Expiry Date: - Issue No: 100 Version Start Date: 5/4/1977 Version End Date:
Not shown	1908.0	S	470300 171200	Licence No: 28/39/22/0435 Details: Potable Water Supply - Direct Direct Source: Thames Surface Water - Non Tidal Point: Kennet And Avon Canal At Fobney Waterworks Intake Data Type: Point	Annual Volume (m³): 26621933 Max Daily Volume (m³): 72737.52 Application No: S228 Original Start Date: 5/4/1977 Expiry Date: - Issue No: 100 Version Start Date: 5/4/1977 Version End Date:
Not shown	1945.0	S	470420 171140	Licence No: 28/39/22/0527 Details: Fish Farm/Cress Pond Throughflow Direct Source: Thames Surface Water - Non Tidal Point: Fobney Fish Farm Intakes Data Type: Line	Annual Volume (m³): - Max Daily Volume (m³): - Application No: WRA/5618 Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 11/8/1993 Version End Date:
Not shown	1945.0	S	470420 171140	Licence No: 28/39/22/0527 Details: Fish Farm/Cress Pond Throughflow Direct Source: Thames Surface Water - Non Tidal Point: Kennet And Avon Canal At Fobney Fish Farm Intakes Data Type: Line	Annual Volume (m³): 2382154 Max Daily Volume (m³): 12730 Application No: WRA/5618 Original Start Date: 11/8/1993 Expiry Date: - Issue No: 100 Version Start Date: 11/8/1993 Version End Date:
Not shown	1948.0	S	470460 171130	Licence No: 28/39/22/0527 Details: Fish Farm/Cress Pond Throughflow Direct Source: Thames Surface Water - Non Tidal Point: Kennet And Avon Canal At Fobney Fish Farm Intakes Data Type: Line	Annual Volume (m³): 1800000 Max Daily Volume (m³): 5000 Application No: - Original Start Date: 11/8/1993 Expiry Date: 31/3/2011 Issue No: 101 Version Start Date: 10/10/2006 Version End Date:

5.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site?

Yes

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (5c):

ID	Distance (m)	Direction	NGR	Details	
1	629.0	NE	471200 173500	Licence No: 28/39/23/0042 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Cheapside, Reading, Berkshire Data Type: Point	Annual Volume (m³): 14933 Max Daily Volume (m³): 40.91 Original Application No: - Original Start Date: 11/7/1966 Expiry Date: - Issue No: 101 Version Start Date: Version End Date:
Not shown	1017.0	N	470900 174100	Licence No: 28/39/23/0041 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Cardiff Road, Reading, Berkshire Data Type: Point	Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: WR.A/1988 Original Start Date: 11/7/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	1017.0	N	470900 174100	Licence No: 28/39/23/0167 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Meadow Road, Reading, Berkshire Data Type: Point	Annual Volume (m³): 90920 Max Daily Volume (m³): 727.4 Original Application No: - Original Start Date: 23/1/1990 Expiry Date: - Issue No: 101 Version Start Date: Version End Date:
Not shown	1200.0	NW	469800 173900	Licence No: 28/39/23/0181 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Battle Hospital, Oxford Road, Reading Data Type: Point	Annual Volume (m³): 136875 Max Daily Volume (m³): 400 Original Application No: WRA/5942 Original Start Date: 17/1/1992 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	1679.0	E	472400 172800	Licence No: 28/39/22/0521 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Thames Groundwater Point: Royal Berkshire Hospital Data Type: Point	Annual Volume (m³): 127750 Max Daily Volume (m³): 350 Original Application No: WRA/5950 Original Start Date: 17/1/1992 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	1829.0	S	470680 171230	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'c' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:

ID	Distance (m)	Direction	NGR	Details	
Not shown	1829.0	S	470680 171230	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh C' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: Version End Date:
Not shown	1833.0	S	470610 171230	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'g' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	1833.0	S	470610 171230	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh G' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: Version End Date:
Not shown	1858.0	S	470770 171200	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'b' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	1861.0	S	470850 171200	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'a' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	1878.0	S	470770 171180	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh B' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: Version End Date:
Not shown	1881.0	S	470840 171180	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh A' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: Version End Date:
Not shown	1892.0	S	470380 171200	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'f' Data Type: Point	Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	1892.0	S	470380 171200	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh F' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: Version End Date:
Not shown	1908.0	S	470300 171200	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh E' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: Version End Date:
Not shown	1908.0	S	470300 171200	Licence No: 28/39/22/0435 Details: Potable Water Supply - Direct Direct Source: Thames Surface Water - Non Tidal Point: Fobney Waterworks Intake Data Type: Point Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: S228 Original Start Date: 5/4/1977 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	1908.0	S	470300 171200	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'e' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	1908.0	S	470300 171200	Licence No: 28/39/22/0435 Details: Potable Water Supply - Direct Direct Source: Thames Surface Water - Non Tidal Point: Kennet And Avon Canal At Fobney Waterworks Intake Data Type: Point Annual Volume (m³): 26621933 Max Daily Volume (m³): 72737.52 Original Application No: S228 Original Start Date: 5/4/1977 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	1912.0	S	470970 171160	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh D' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: Version End Date:
Not shown	1912.0	S	470970 171160	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'd' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:
Not shown	1930.0	S	470660 171130	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station 'bh H' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: NPS/WR/008557 Original Start Date: 5/9/1966 Expiry Date: 31/3/2023 Issue No: 101 Version Start Date: Version End Date:

ID	Distance (m)	Direction	NGR	Details
Not shown	1930.0	S	470660 171130	Licence No: 28/39/22/0132 Details: Potable Water Supply - Direct Direct Source: Thames Groundwater Point: Fobney Pumping Station Bh 'h' Data Type: Point Annual Volume (m³): 1500000 Max Daily Volume (m³): 30000 Original Application No: RG952 Original Start Date: 5/9/1966 Expiry Date: - Issue No: 100 Version Start Date: Version End Date:

5.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site?

No

Database searched and no data found.

5.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site?

No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

5.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.
89	N	Major Aquifer/High Leaching Potential	H1	Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater.

5.9 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site? Yes

5.9.1 Biological Quality:

Database searched and no data found.

5.9.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAHI). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (5d):

ID	Distance (m)	Direction	NGR	River Quality Grade	Chemical Quality Grade				
					2005	2006	2007	2008	2009
32	660.0	E	471351 172807	River Name: Kennet Reach: Foudry Brook - Holy Brook End/Start of Stretch: Sample Point NGR	B	A	A	A	A
Not shown	1334.0	E	472020 173440	River Name: Kennet Reach: Holy Brook - Thames End/Start of Stretch: Start of Stretch NGR	B	A	A	A	A
Not shown	1334.0	E	472020 173440	River Name: Kennet Reach: Foudry Brook - Holy Brook End/Start of Stretch: End of Stretch NGR	B	A	A	A	A

5.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site?

No

Database searched and no data found.

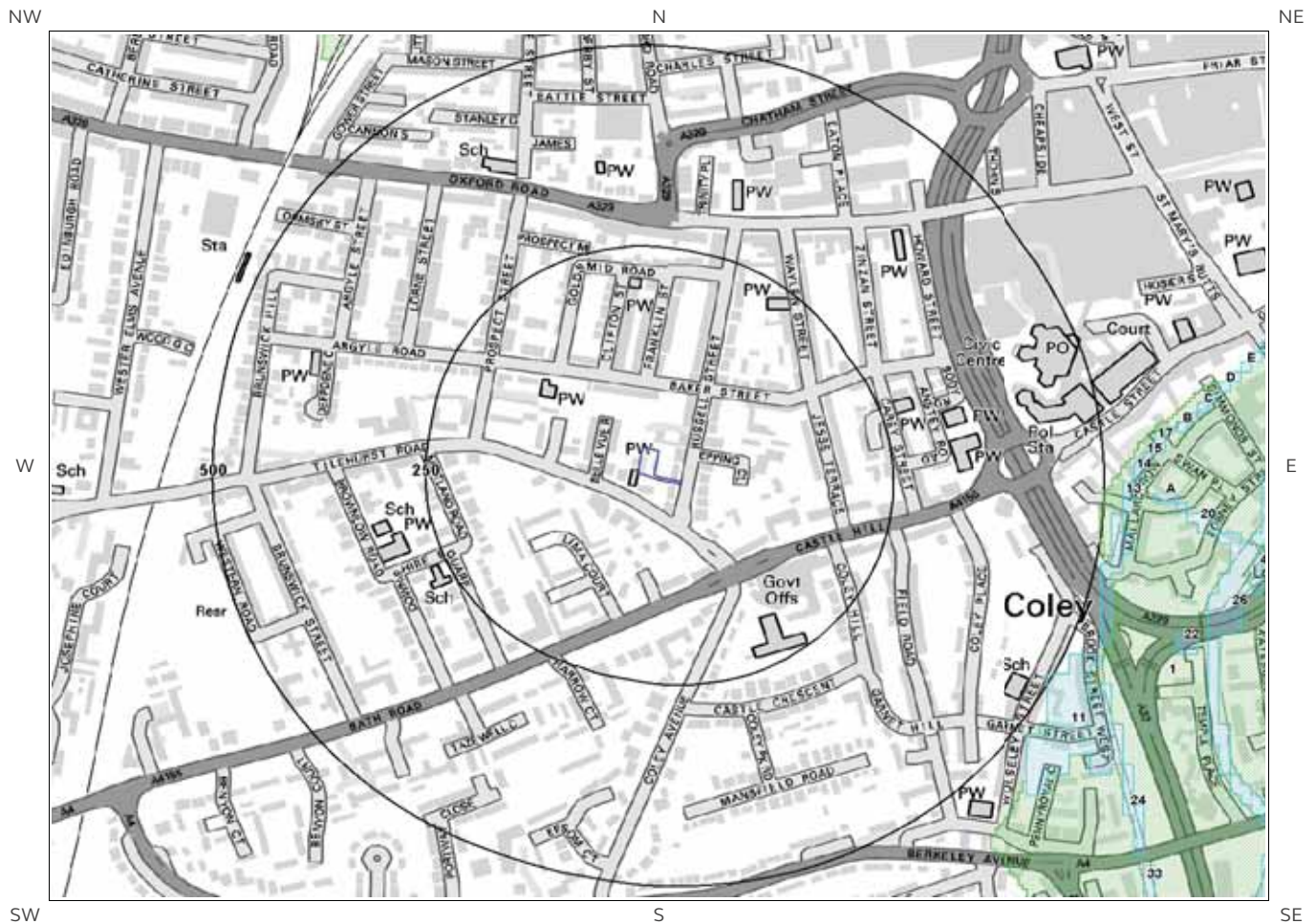
5.11 Surface Water Features

Are there any surface water features within 250m of the study site?

No

Database searched and no data found.

6. Environment Agency Flood Map for planning (from rivers and the sea)

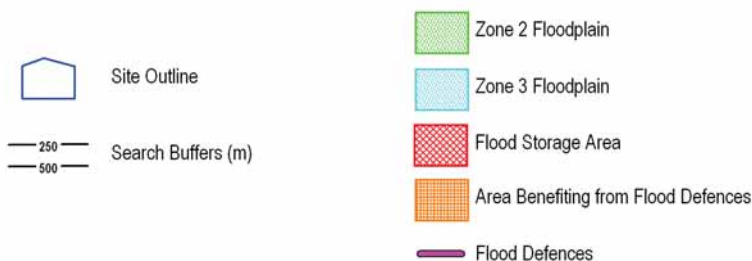


Environment Agency Flood Map for planning (from rivers and the sea)

Mapping sourced from



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6. Flooding

6.1 Zone 2 Flooding

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning:

Is the site within 250m of an Environment Agency Zone 2 floodplain? No

Database searched and no data found.

6.2 Zone 3 Flooding

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning.

Is the site within 250m of an Environment Agency Zone 3 floodplain? No

Database searched and no data found.

6.3 Flood Defences

Are there any Flood Defences within 250m of the study site? No

Database searched and no data found.

6.4 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

6.5 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

6.6 Groundwater Flooding Susceptibility Areas

6.6.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site?

Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Superficial Deposits Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

6.6.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Limited potential

Where limited potential for groundwater flooding to occur is indicated, this means that although given the geological conditions there may be a groundwater flooding hazard, unless other relevant information, e.g. records of previous flooding, suggests groundwater flooding has occurred before in this area, you need take no further action in relation to groundwater flooding hazard.

6.7 Groundwater Flooding Confidence Areas

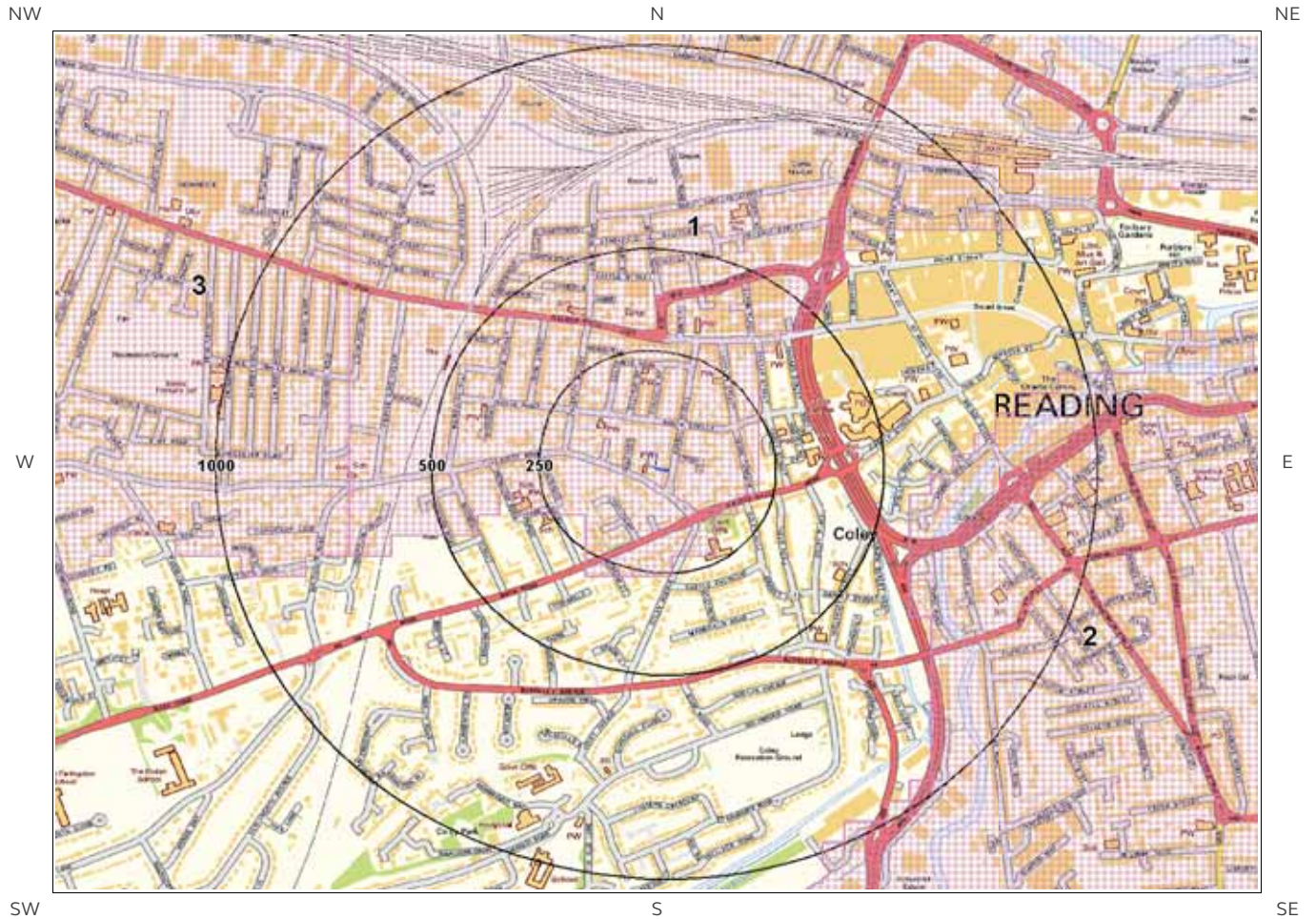
What is the British Geological Survey confidence rating in this result?

High

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

7. Designated Environmentally Sensitive Sites Map



Designated Environmentally Sensitive Sites Map



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7. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

7.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

0

Database searched and no data found.

7.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

7.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

7.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

7.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

7.6 Records of Ancient Woodland within 2000m of the study site:

0

Database searched and no data found.

7.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

0

Database searched and no data found.

7.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

7.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

7.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

7.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

7.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

7.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

4

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
1	0.0	On Site	Existing	DEFRA
2	562.0	E	Existing	DEFRA
3	691.0	W	Existing	DEFRA
Not shown	1804.0	SW	Existing	DEFRA

7.14 Records of Green Belt land within 2000m of the study site:

0

Database searched and no data found.

8. Natural Hazards Findings

8.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a Groundsure GeoInsight, available from our website. The following information has been found:

8.1.1 Shrink Swell

What is the maximum Shrink-Swell** hazard rating identified on the study site?

Moderate

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Ground conditions predominantly high plasticity. Do not plant or remove trees or shrubs near to buildings without expert advice about their effect and management. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a probable increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a probable increase in insurance risk during droughts or where vegetation with high moisture demands is present.
--

8.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site?

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

* This indicates an automatically generated 50m buffer and site.

8.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site?

Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Significant soluble rocks are present. Low possibility of subsidence occurring naturally, but may be possible in adverse conditions such as high surface or subsurface water flow. Consider implications for stability when changes to drainage or new construction are planned. For new build site investigation should consider potential for dissolution problems on the site and its surroundings. Care should be taken with local drainage into the bedrock. Some possibility groundwater pollution. For existing property possible increase in insurance risk due to soluble rocks.

8.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site?

Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

8.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site?

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

8.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site?

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

* This indicates an automatically generated 50m buffer and site.

9. Mining

9.1 Coal Mining

Are there any coal mining areas within 75m of the study site? No

Database searched and no data found.

9.2 Shallow Mining

What is the subsidence hazard relating to shallow mining on-site*? Low

*Please note this data is searched with a 150m buffer.

9.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No

Guidance: No Guidance Required.

Contact Details

EmapSite
Telephone: 0118 9736883
sales@emapsite.com

emapsite™

British Geological Survey Enquiries

Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email: enquiries@bgs.ac.uk
Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries



Environment Agency

National Customer Contact Centre, PO Box 544
Rotherham, S60 1BY
Tel: 08708 506 506
Web: www.environment-agency.gov.uk
Email: enquiries@environment-agency.gov.uk



Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
<https://www.gov.uk/government/organisations/public-health-england>
Email: enquiries@phe.gov.uk
Main switchboard: 020 7654 8000



The Coal Authority

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Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk



Ordnance Survey

Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505



Local Authority

Authority: Reading Borough Council
Phone: 0118 937 3737
Web: <http://www.reading.gov.uk/>
Address: Civic Centre, Reading, RG1 7AE

Gemapping PLC

Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
Tel: 01252 845444



Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England who retain the Copyright and Intellectual Property Rights for the data.

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This report has been prepared in accordance with the Groundsure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

“Beneficiary” means the person or entity for whose benefit the Client has obtained the Services.

“Client” means the party or parties entering into a Contract with Groundsure.

“Commercial” means any building or property which is not Residential.

“Confidential Information” means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by Groundsure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

“Support Services” means Support Services provided by Groundsure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

“Contract” means the contract between Groundsure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

“Third Party Data Provider” means any third party providing Third Party Content to Groundsure.

“Data Reports” means reports comprising factual data with no accompanying interpretation.

“Fees” has the meaning set out in clause 5.1.

“Groundsure” means Groundsure Limited, a company registered in England and Wales under number 03421028.

“Groundsure Materials” means all materials prepared by Groundsure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

“Intellectual Property” means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

“Mapping” means a map, map data or a combination of historical maps of various ages, time periods and scales.

“Order” means an electronic, written or other order form submitted by the Client requesting Services from Groundsure in respect of a specified Site.

“Ordnance Survey” means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

“Order Website” means the online platform through which Orders may be placed by the Client and accepted by Groundsure.

“Report” means a Risk Screening Report or Data Report for Commercial or Residential property.

“Residential” means any building or property used as or intended to be used as a single dwelling.

“Risk Screening Report” means a risk screening report comprising factual data with an accompanying interpretation by Groundsure.

“Services” means any Report, Mapping and/or Support Services which Groundsure has agreed to provide by accepting an Order pursuant to clause 2.6.

“Site” means the area of land in respect of which the Client has requested Groundsure to provide the Services.

“Third Party Content” means data, database information or other information which is provided to Groundsure by a Third Party Data Provider.

“User Guide” means the user guide, as amended from time to time, available upon request from Groundsure and on the website (www.Groundsure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 Groundsure agrees to provide the Services in accordance with the Contract.

2.2 Groundsure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of Groundsure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client’s order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, Groundsure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and Groundsure will have no liability therefor. In addition you acknowledge and agree that Groundsure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 Groundsure’s quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by Groundsure. Groundsure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by Groundsure. Groundsure’s acceptance of an Order shall be binding only when made in writing and signed by Groundsure’s authorised representative or when accepted through the Order Website.

3 The Client’s obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to Groundsure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary’s needs.

3.3 The Client shall supply to Groundsure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as Groundsure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client’s approval or decision is required to enable Groundsure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the Groundsure Materials, or use the Groundsure Materials in a manner for which they were not intended. The Client may make the Groundsure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that Groundsure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1 The Client acknowledges that the Services provided by Groundsure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by Groundsure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

- (i) the Beneficiary,
- (ii) the Beneficiary’s professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
- (iv) the first purchaser or first tenant of the Site, and
- (v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by Groundsure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1 Groundsure shall charge and the Client shall pay fees at the rate and

frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by Groundsure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to Groundsure in full without deduction, counterclaim or set off within 30 days of the date of Groundsure's invoice or such other period as may be agreed in writing between Groundsure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of Groundsure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

- (i) full payment of all relevant Fees and
- (ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the Groundsure Materials.

6.2 All Intellectual Property in the Groundsure Materials are and shall remain owned by Groundsure or Groundsure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the Groundsure Materials shall:

- (i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to Groundsure or any third party from the Services;
- (ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;
- (iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);
- (iv) not combine the Services with or incorporate such Services into any other information data or service;
- (v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);
- (vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and
- (vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the Groundsure Materials in order to advise the Beneficiary in a professional capacity. However, Groundsure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify Groundsure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of Groundsure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

- (i) any breach of contract, including any deliberate breach of the Contract by Groundsure or its employees, agents or

subcontractors;

- (ii) any use made of the Reports, Services, Materials or any part of them; and
- (iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 Groundsure shall not be liable for

- (i) loss of profits;
- (ii) loss of business;
- (iii) depletion of goodwill and/or similar losses;
- (iv) loss of anticipated savings;
- (v) loss of goods;
- (vi) loss of contract;
- (vii) loss of use;
- (viii) loss or corruption of data or information;
- (ix) business interruption;
- (x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;
- (xi) loss or damage that arise as a result of the use of all or part of the Groundsure Materials in breach of the Contract;
- (xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the Groundsure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;
- (xiii) loss or damage to a computer, software, modem, telephone or other property; and
- (xiv) loss or damage caused by a delay or loss of use of Groundsure's internet ordering service.

7.5 Groundsure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 Groundsure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of Groundsure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against Groundsure in relation to the Services or other matters arising pursuant to the Contract.

8 Groundsure's right to suspend or terminate

8.1 If Groundsure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, Groundsure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 Groundsure shall be entitled to terminate the Contract immediately on written notice in the event that:

- (i) the Client fails to pay any sum due to Groundsure within 30 days of the Payment Date; or
- (ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or
- (iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or
- (iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon Groundsure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

- (a) supplied to the Client's specification(s) and in any event
- (b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) Groundsure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in Groundsure's possession or control; and

(ii) the Client shall pay to Groundsure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay Groundsure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of Groundsure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to Groundsure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through Groundsure.

12.3 Groundsure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of Groundsure.

12.4 No failure on the part of Groundsure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 Groundsure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

- (i) the Client or Beneficiary's failure to provide facilities, access or information;
- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
- (viii) changes in law; or
- (ix) any other reason beyond Groundsure's reasonable control.

In the event that Groundsure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then Groundsure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 Groundsure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at Groundsure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law.

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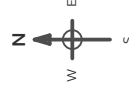
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Report Ref: EMS-298265_403205
Grid Ref: 470707, 173081

Map Name: County Series

Map date: 1897-1900

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1877
Revised 1897
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1877
Revised 1898
Edition N/A
Copyright N/A
Levelled N/A



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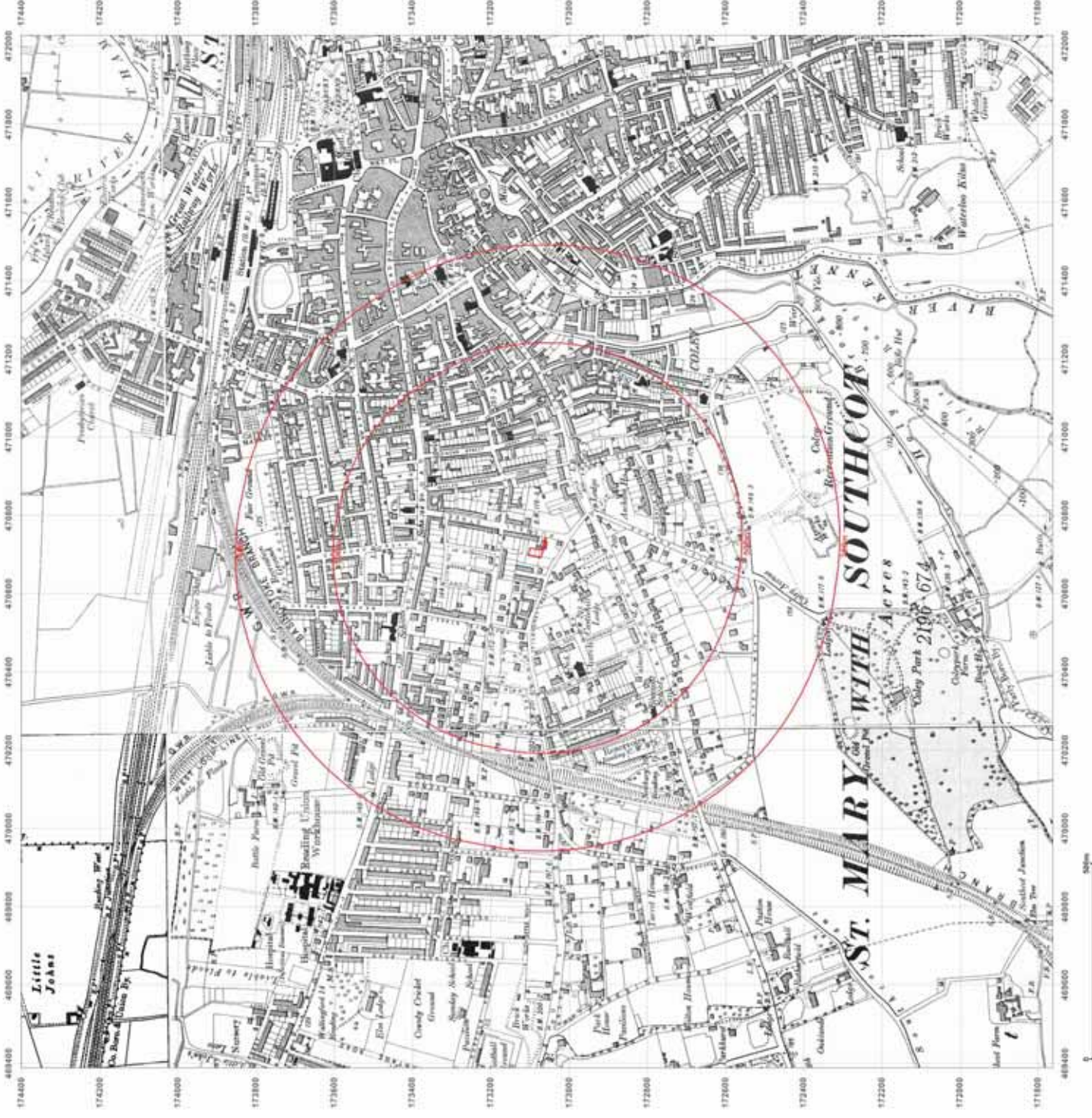


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Client Ref: EMS_298265_403205
Report Ref: EMS_298265_403205
Grid Ref: 470707, 173081

Map Name: County Series

Map date: 1910-1913

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1877
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1877
 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1877
 Revised 1910
 Edition N/A
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Surveyed 1877
 Revised 1910
 Edition 1913
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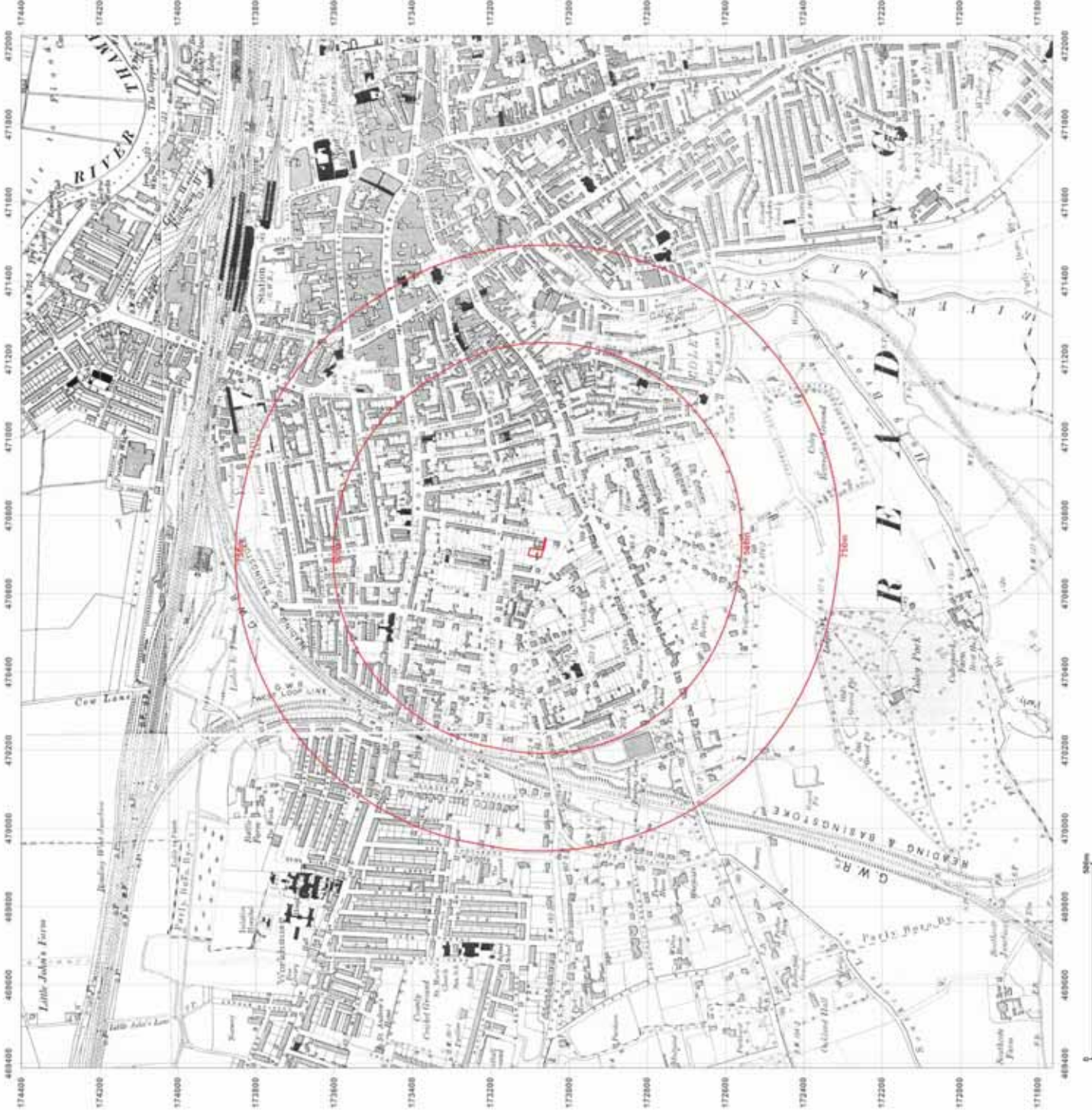


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Client Ref: EMS_298265_403205
Report Ref: EMS-298265_403205
Grid Ref: 470707, 173081

Map Name: County Series

Map date: 1932-1933

Scale: 1:10,560

Printed at: 1:10,560



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Surveyed 1877
 Revised 1933
 Edition N/A
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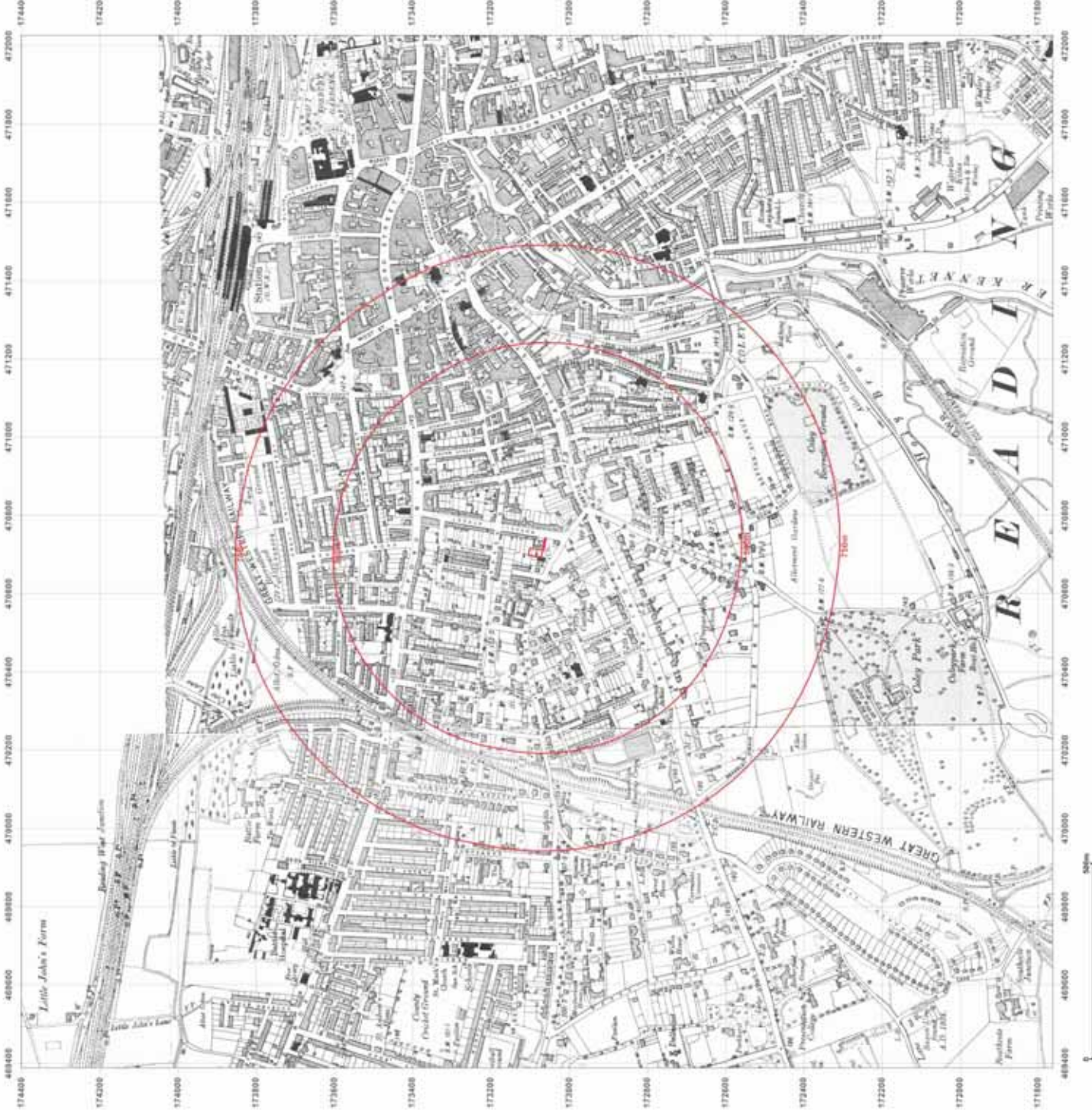


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Client Ref: EMS_298265_403205
Report Ref: EMS-298265_403205
Grid Ref: 470707, 173081

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



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 Revised N/A
 Edition N/A
 Copyright N/A
 Levelled N/A

Surveyed 1877
 Revised 1938
 Edition N/A
 Copyright N/A
 Levelled N/A

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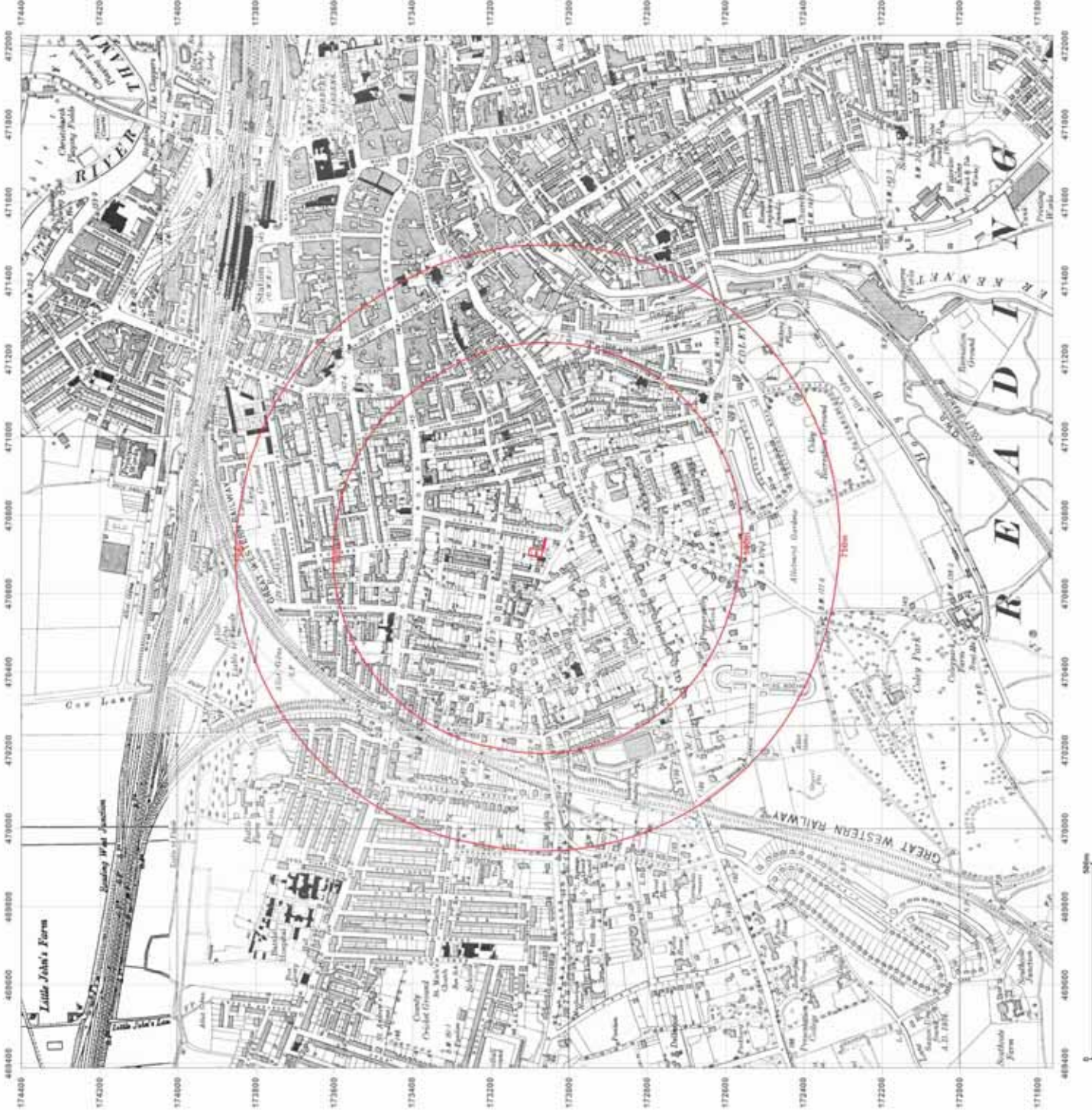


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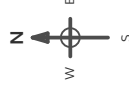
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Grid Ref: 470707, 173081

Map Name: Provisional

Map date: 1960-1962

Scale: 1:10,560

Printed at: 1:10,560



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Surveyed 1877
Revised 1956
Edition N/A
Copyright 1962
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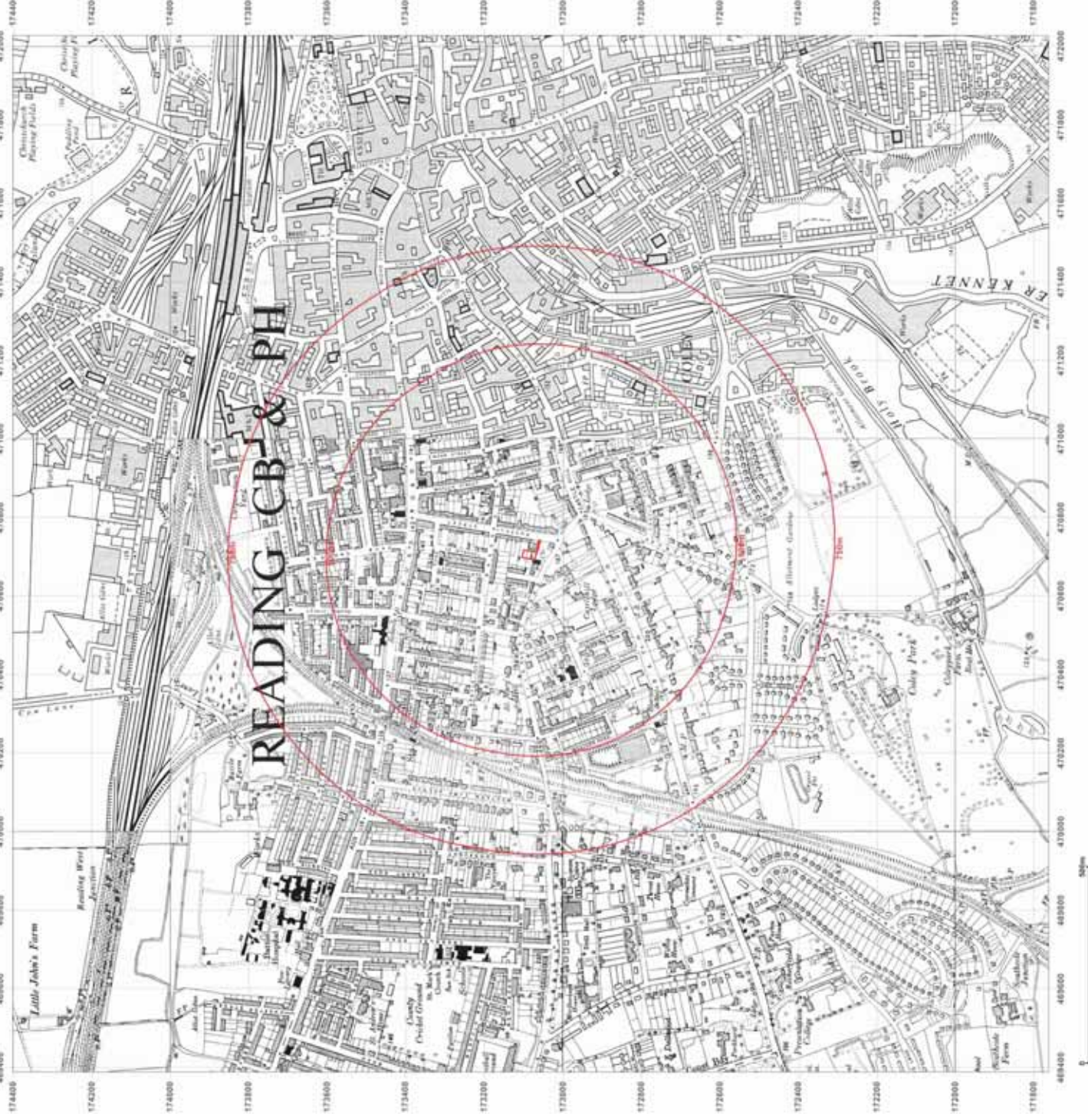


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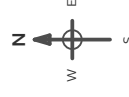
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Grid Ref: 470707, 173081

Map Name: National Grid

Map date: 1971-1974

Scale: 1:10,000

Printed at: 1:10,000



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Surveyed 1971
 Revised 1971
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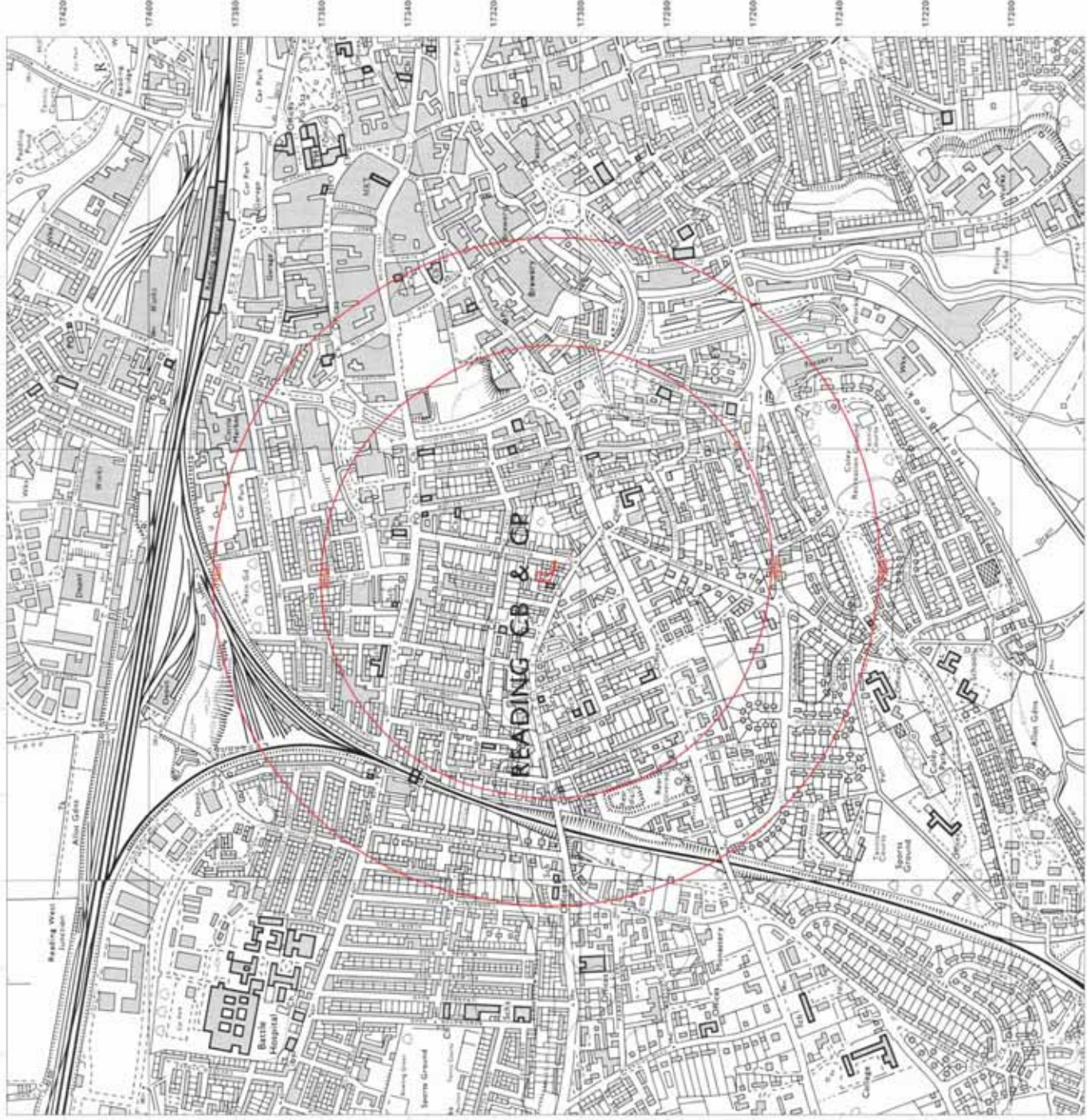


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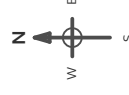
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Report Ref: EMS-298265_403205
Grid Ref: 470707, 173081

Map Name: National Grid

Map date: 1977-1982

Scale: 1:10,000

Printed at: 1:10,000



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Edition N/A
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Surveyed 1977
Revised 1977
Edition N/A
Copyright N/A
Levelled N/A



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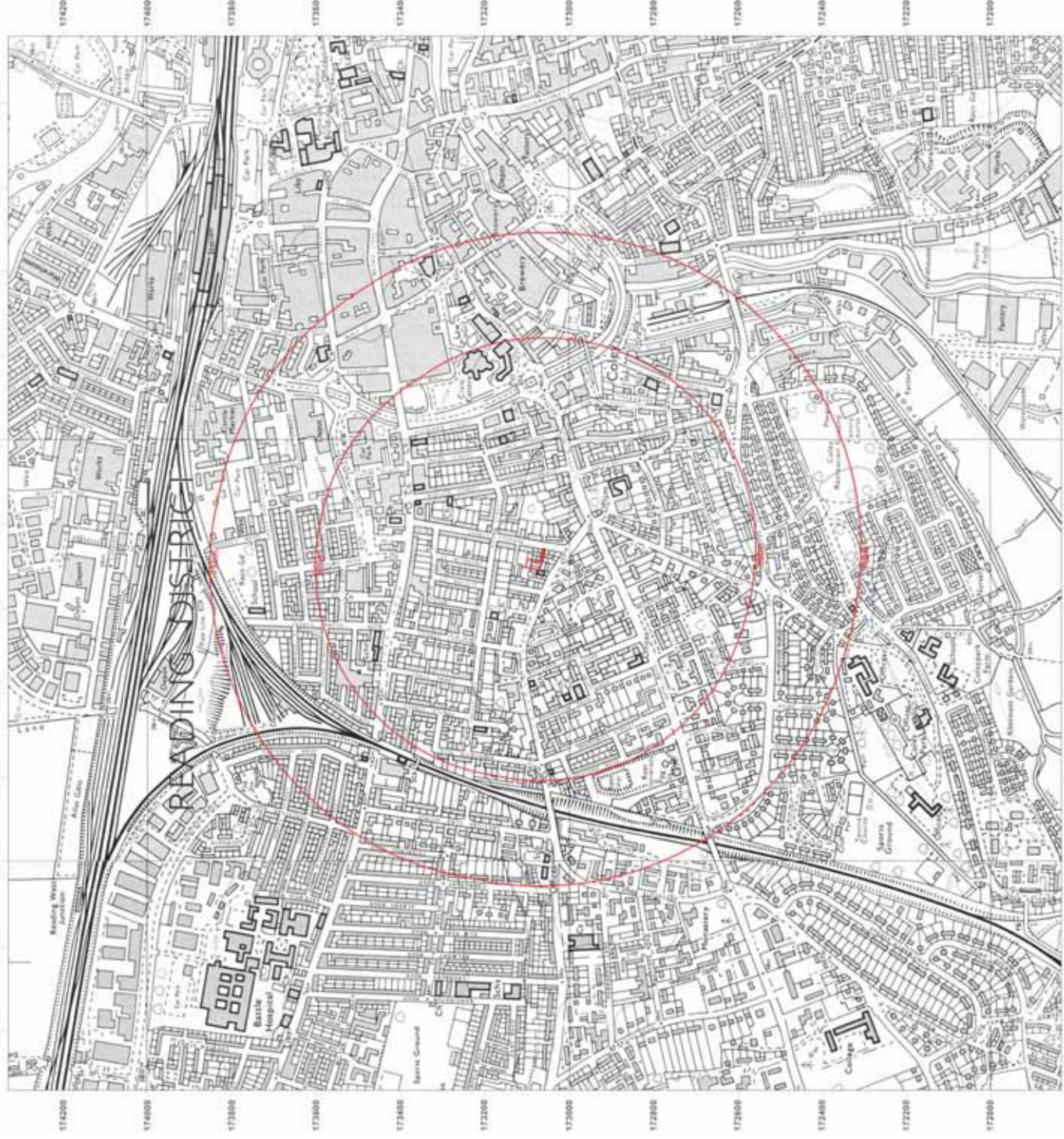


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Client Ref: EMS_298265_403205
Report Ref: EMS-298265_403205
Grid Ref: 470707, 173081

Map Name: National Grid

Map date: 1989-1991

Scale: 1:10,000

Printed at: 1:10,000



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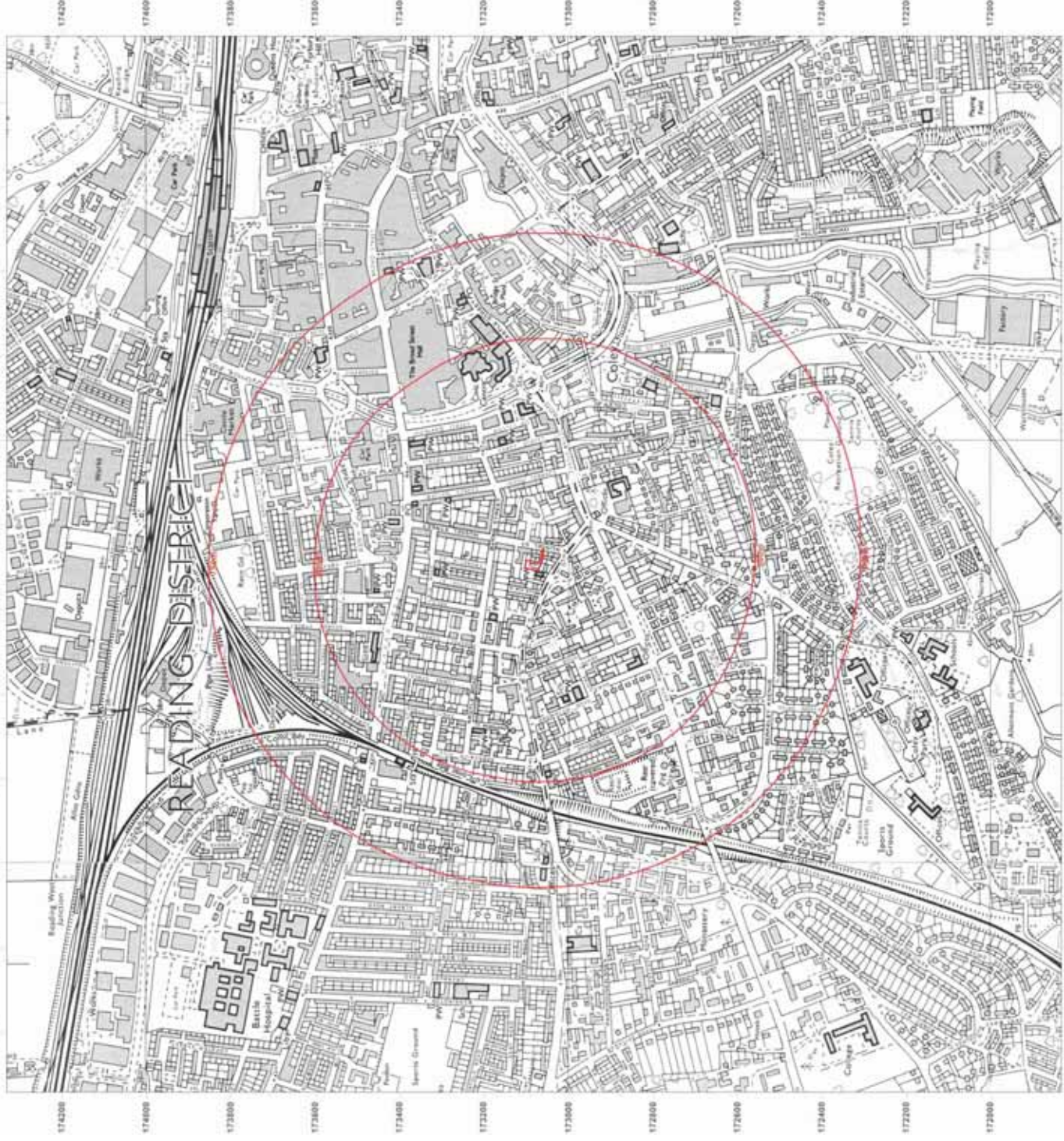


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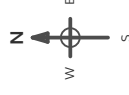
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Grid Ref: 470707, 173081

Map Name: National Grid

Map date: 1994

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1987
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Edition N/A
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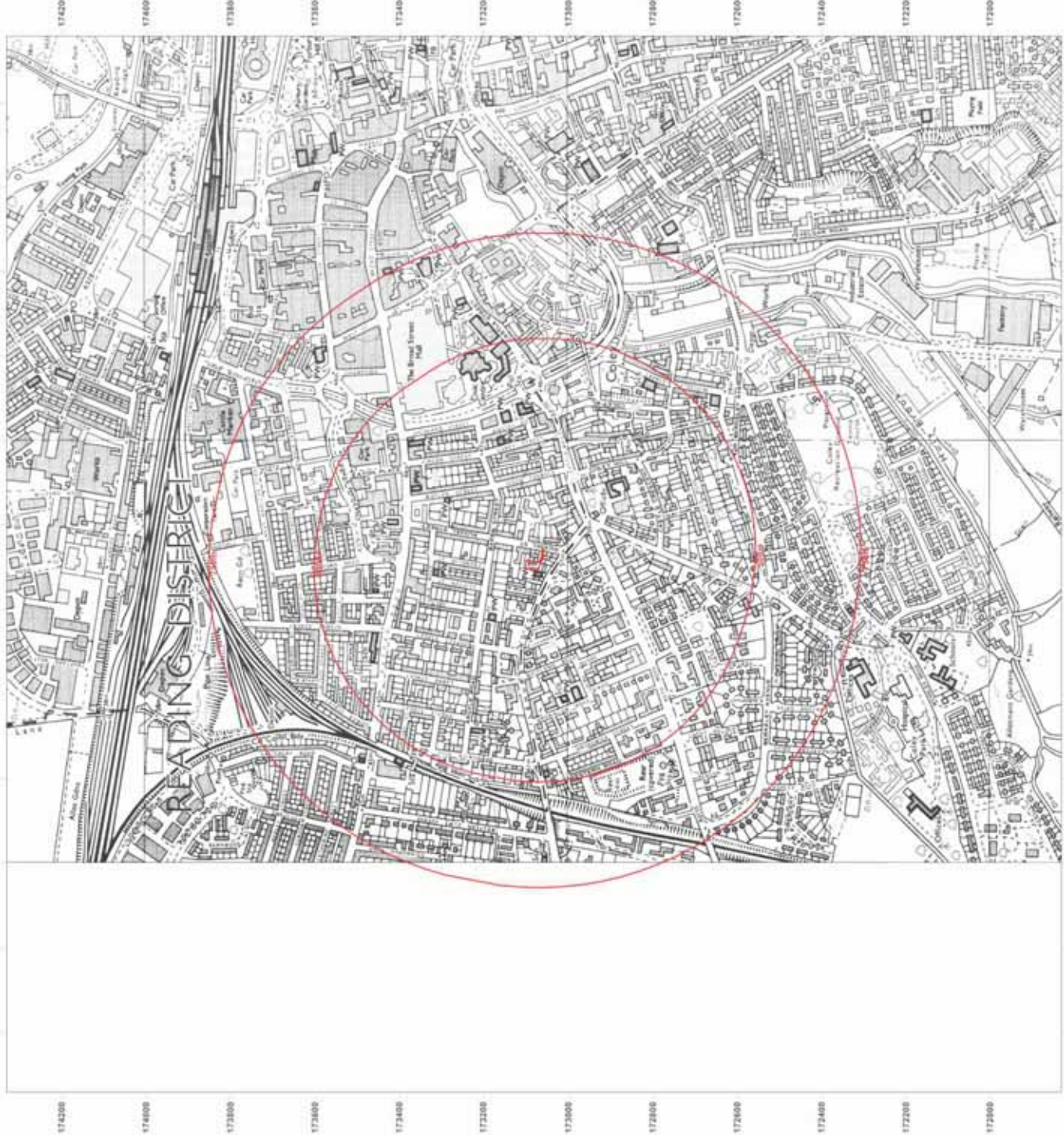


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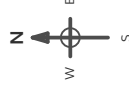
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Map Name: 1:10,000 Raster

Map date: 2002

Scale: 1:10,000

Printed at: 1:10,000



2002



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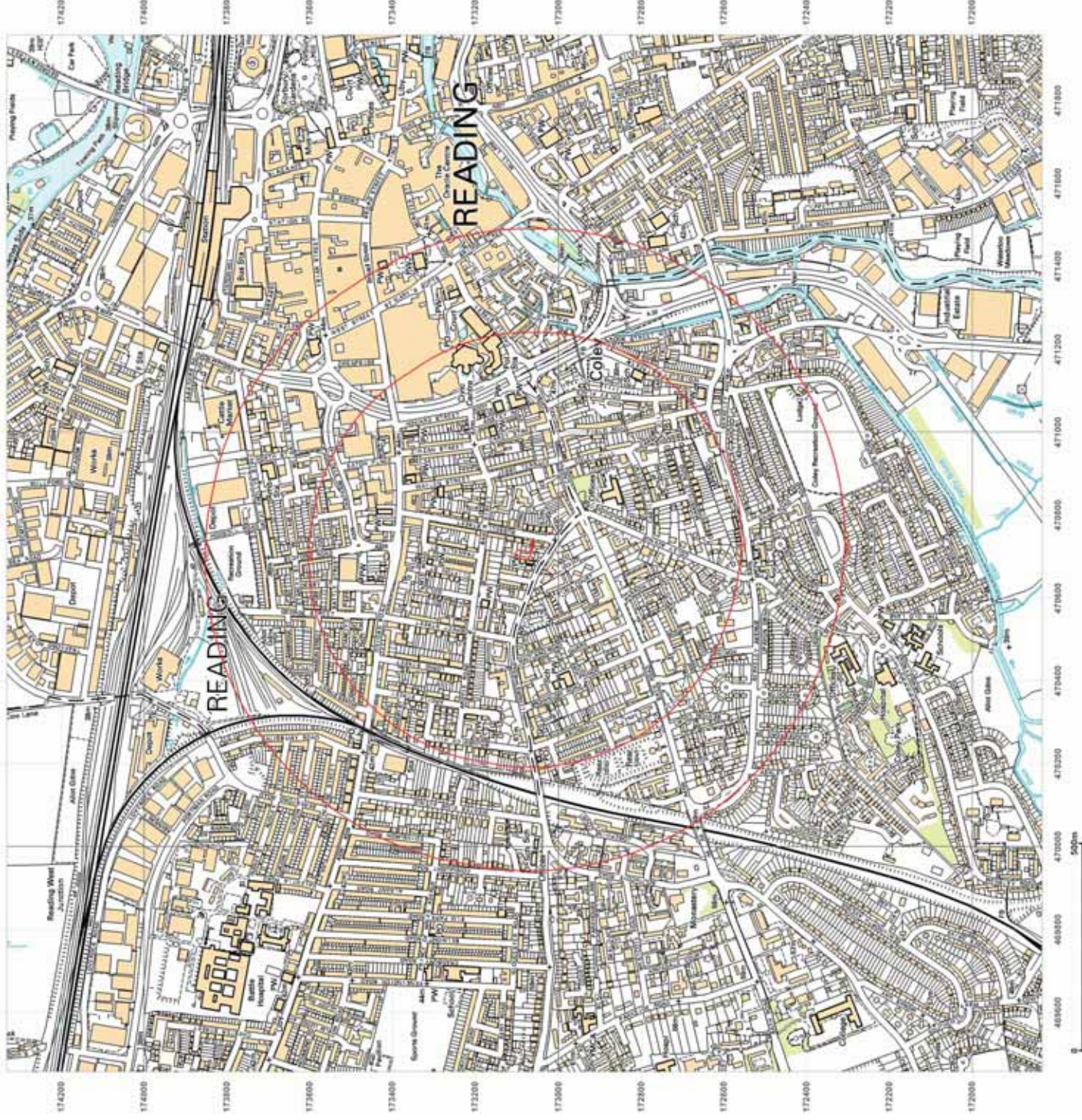


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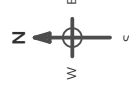
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Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010



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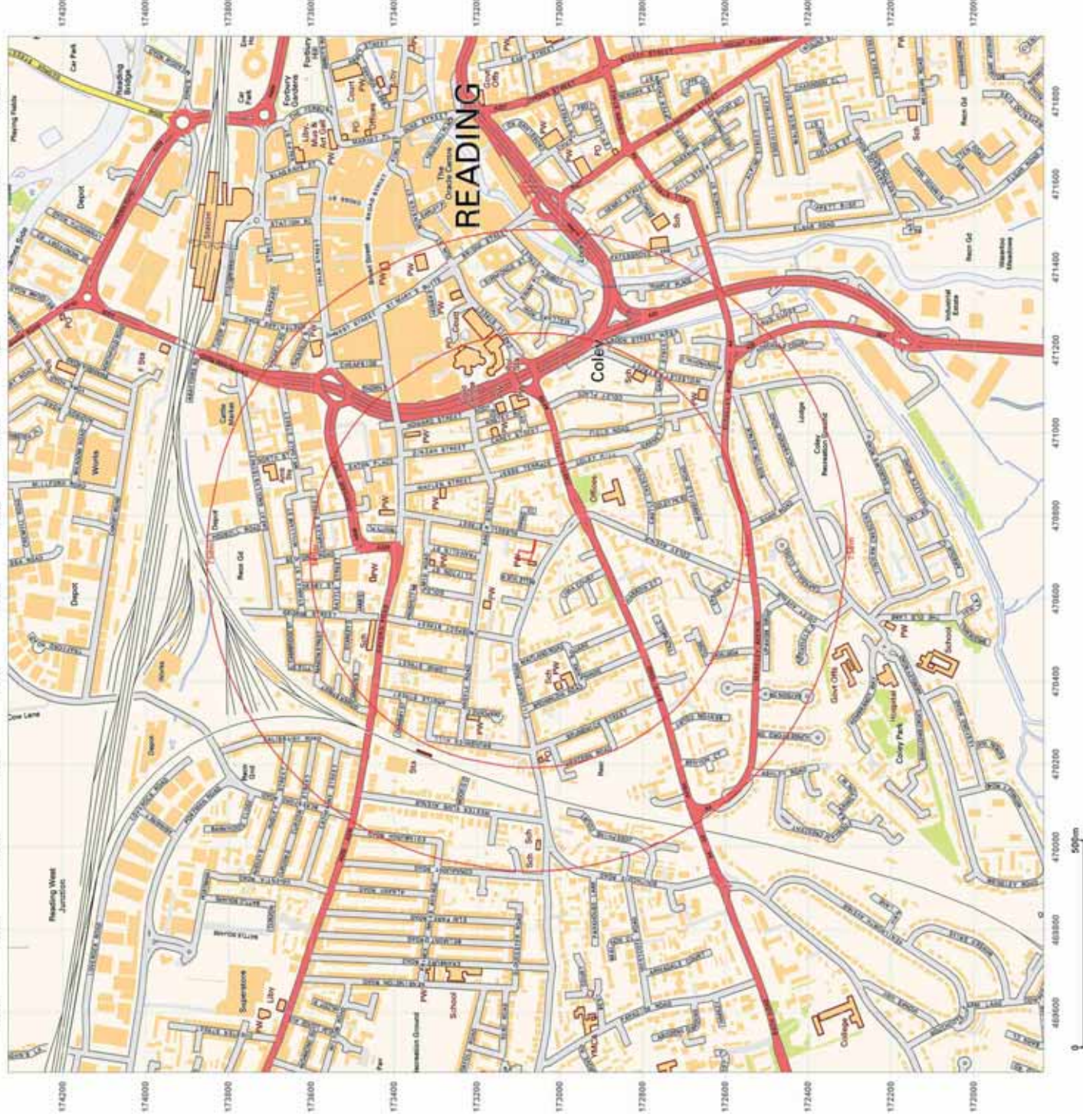


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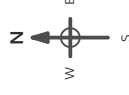
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Map Name: National Grid

Map date: 2014

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Printed at: 1:10,000



2014



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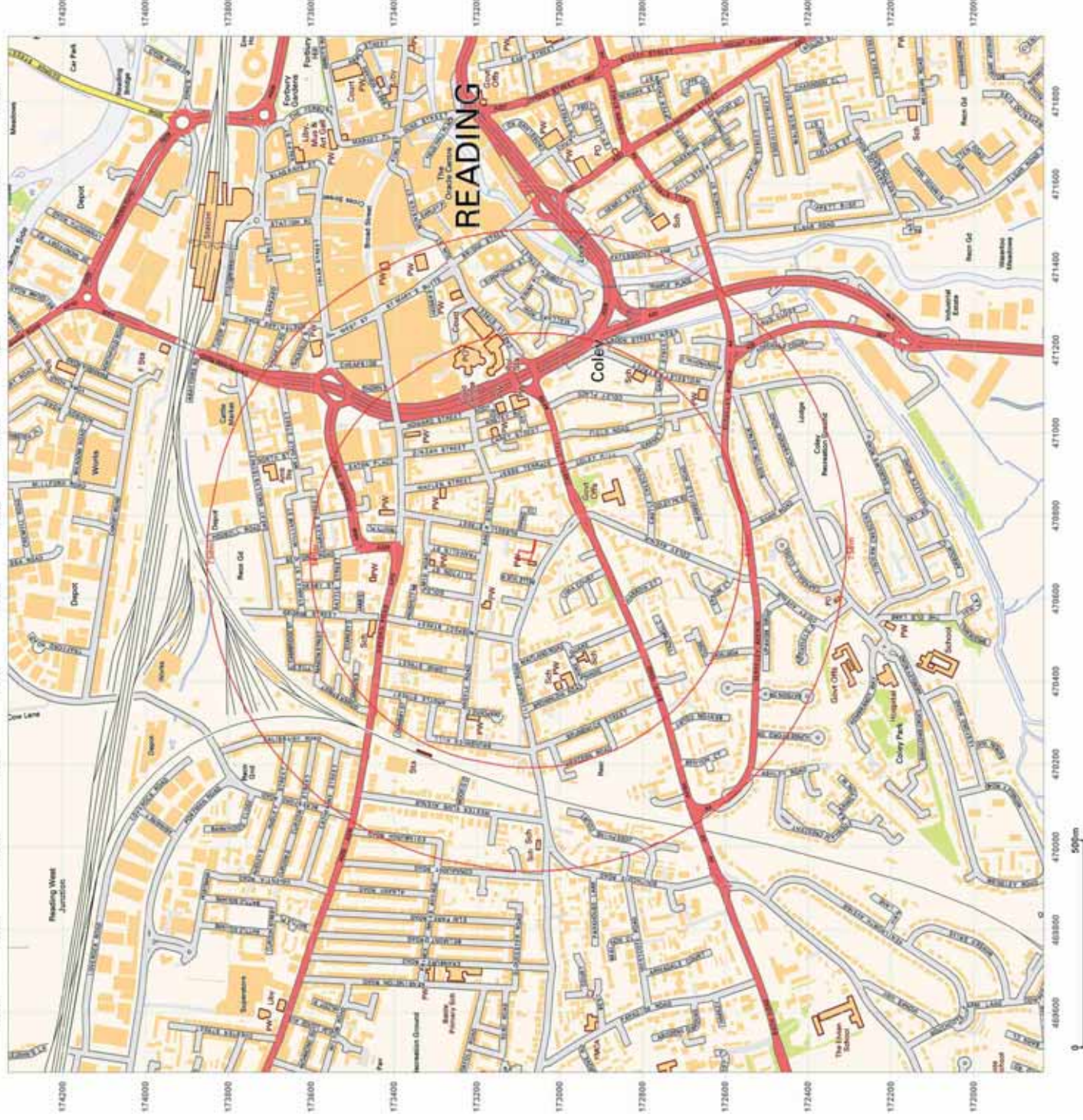


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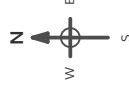
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Grid Ref: 470707, 173081

Map Name: County Series

Map date: 1879

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1879
Revised 1879
Edition N/A
Copyright N/A
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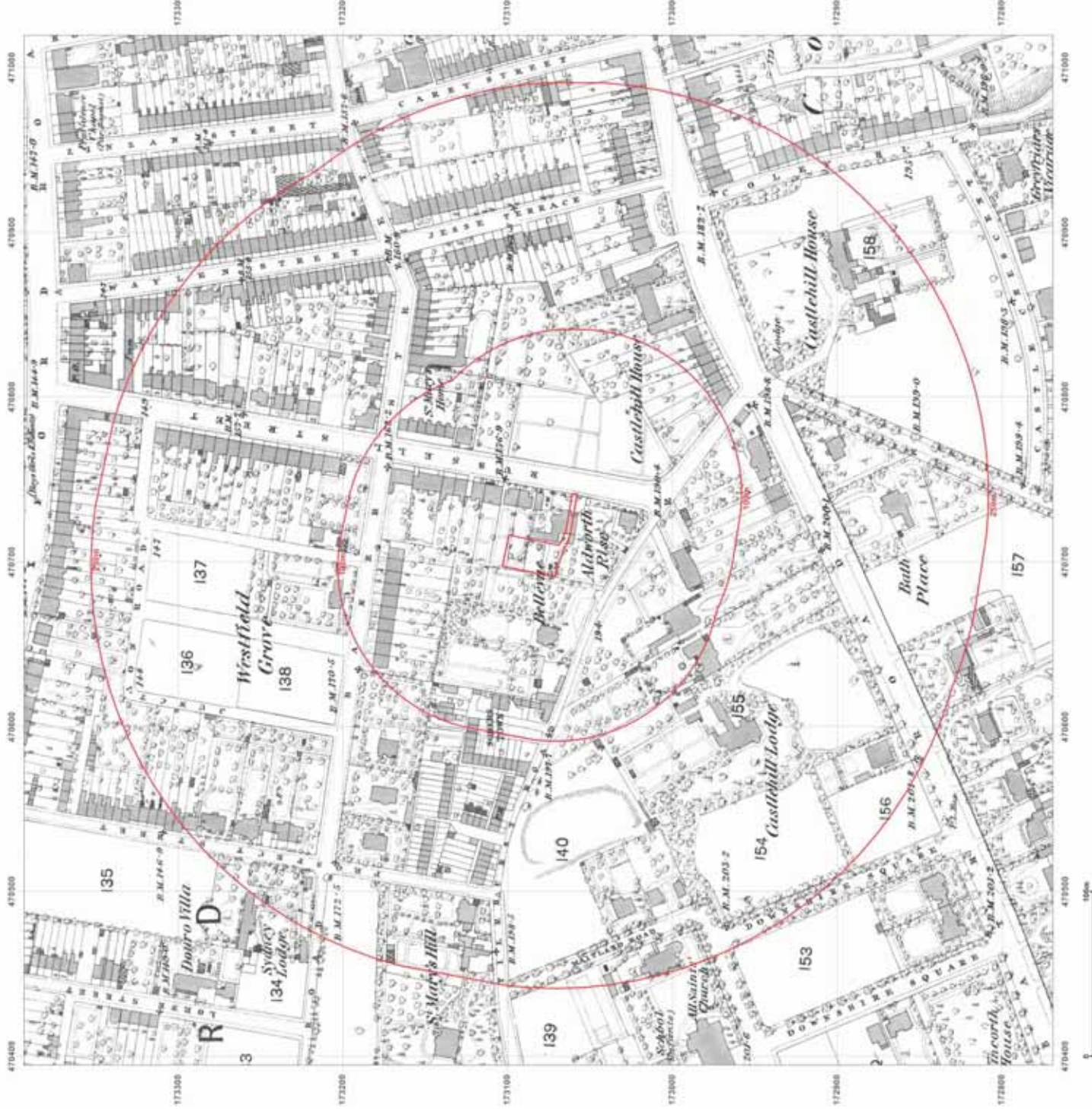


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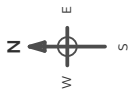
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Map Name: County Series Town Plan

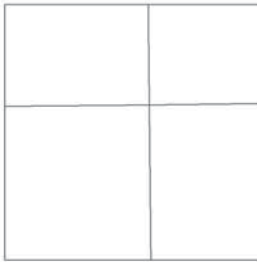
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Revised N/A
Edition N/A
Copyright N/A
Levelled N/A



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Site Details:

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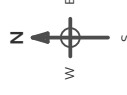
Client Ref: EMS_298265_403205
Report Ref: EMS-298265_403205
Grid Ref: 470707, 173081

Map Name: County Series

Map date: 1900

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1900
Revised 1900
Edition N/A
Copyright N/A
Levelled N/A



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Site Details:

Russell St Reading, RG1 7XH

Client Ref: EMS_298265_403205
Report Ref: EMS-298265_403205
Grid Ref: 470707, 173081

Map Name: County Series

Map date: 1912

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1912
Revised 1912
Edition N/A
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Site Details:

Russell St Reading, RG1 7XH

Client Ref: EMS_298265_403205
Report Ref: EMS-298265_403205
Grid Ref: 470707, 173081

Map Name: County Series

Map date: 1931

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1931
Revised 1931
Edition N/A
Copyright N/A
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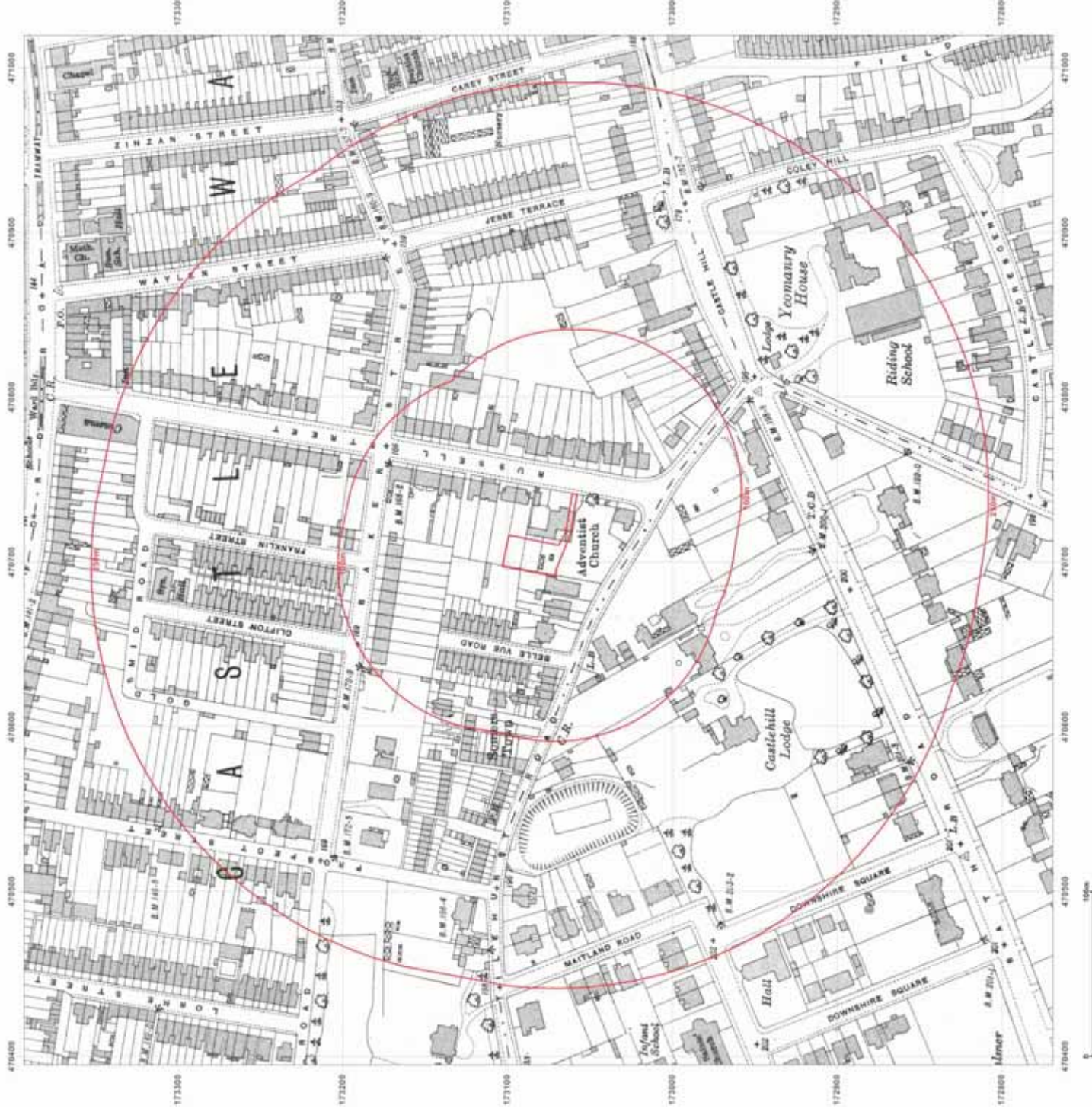


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Site Details:

Russell St Reading, RG1 7XH

Client Ref: EMS_298265_403205
Report Ref: EMS_298265_403205
Grid Ref: 470707, 173081

Map Name: National Grid

Map date: 1957-1958

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1958
Revised 1958
Edition 1961
Copyright 1961
Levelled 1951

Surveyed 1957
Revised 1957
Edition 1958
Copyright N/A
Levelled 1951



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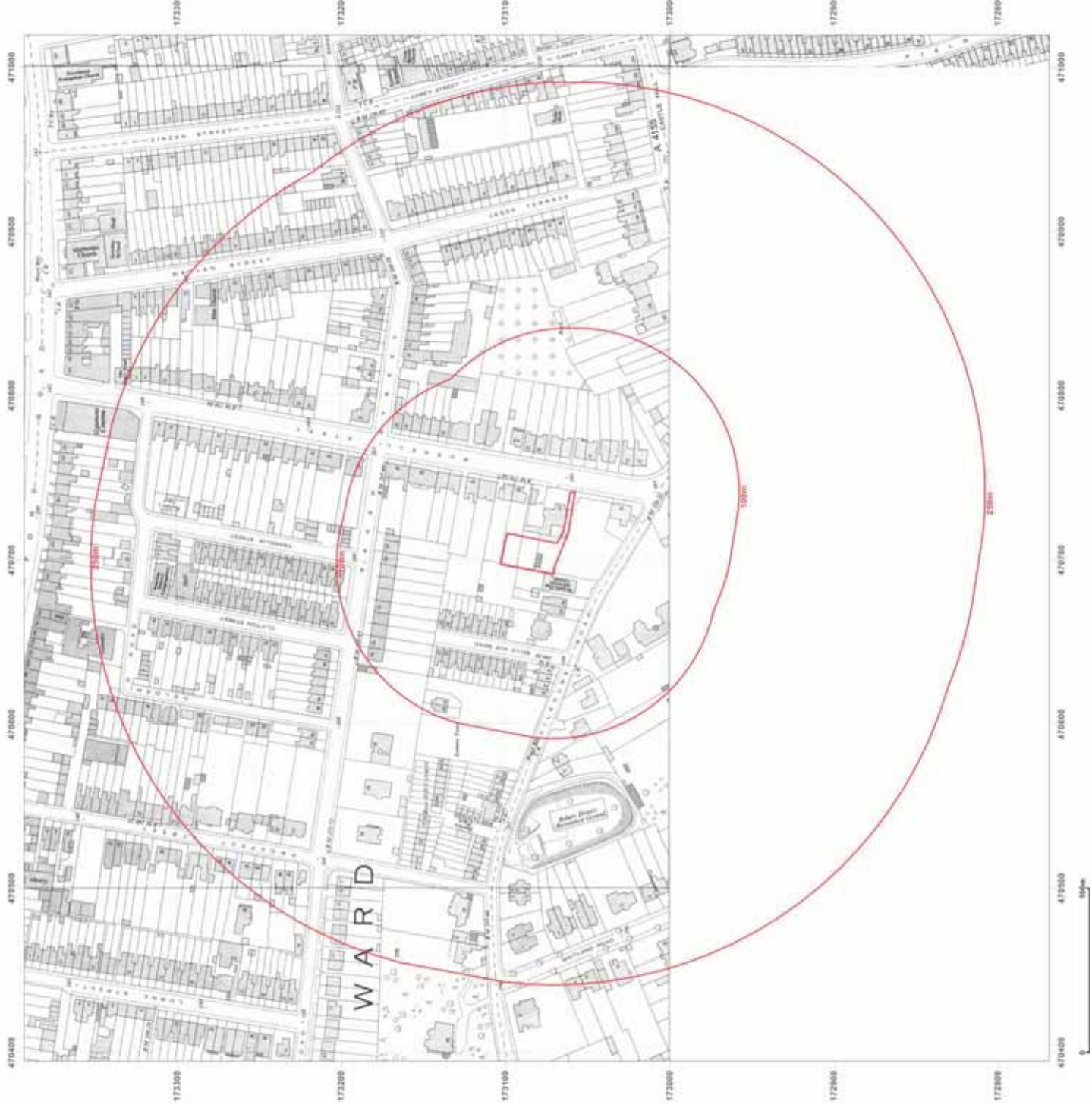


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Site Details:

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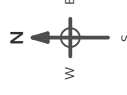
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Report Ref: EMS-298265_403205
Grid Ref: 470707, 173081

Map Name: National Grid

Map date: 1959-1960

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958 Revised 1958 Edition N/A Copyright N/A Levelled N/A	Surveyed 1958 Revised 1958 Edition N/A Copyright N/A Levelled 1951
Surveyed 1959 Revised 1959 Edition N/A Copyright 1960 Levelled 1951	Surveyed 1959 Revised 1959 Edition N/A Copyright 1960 Levelled 1951



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Site Details:

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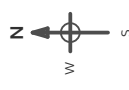
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Report Ref: EMS-298265_403205
Grid Ref: 470707, 173081

Map Name: National Grid

Map date: 1968

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1968
Revised 1968
Edition N/A
Copyright 1971
Levelled 1951



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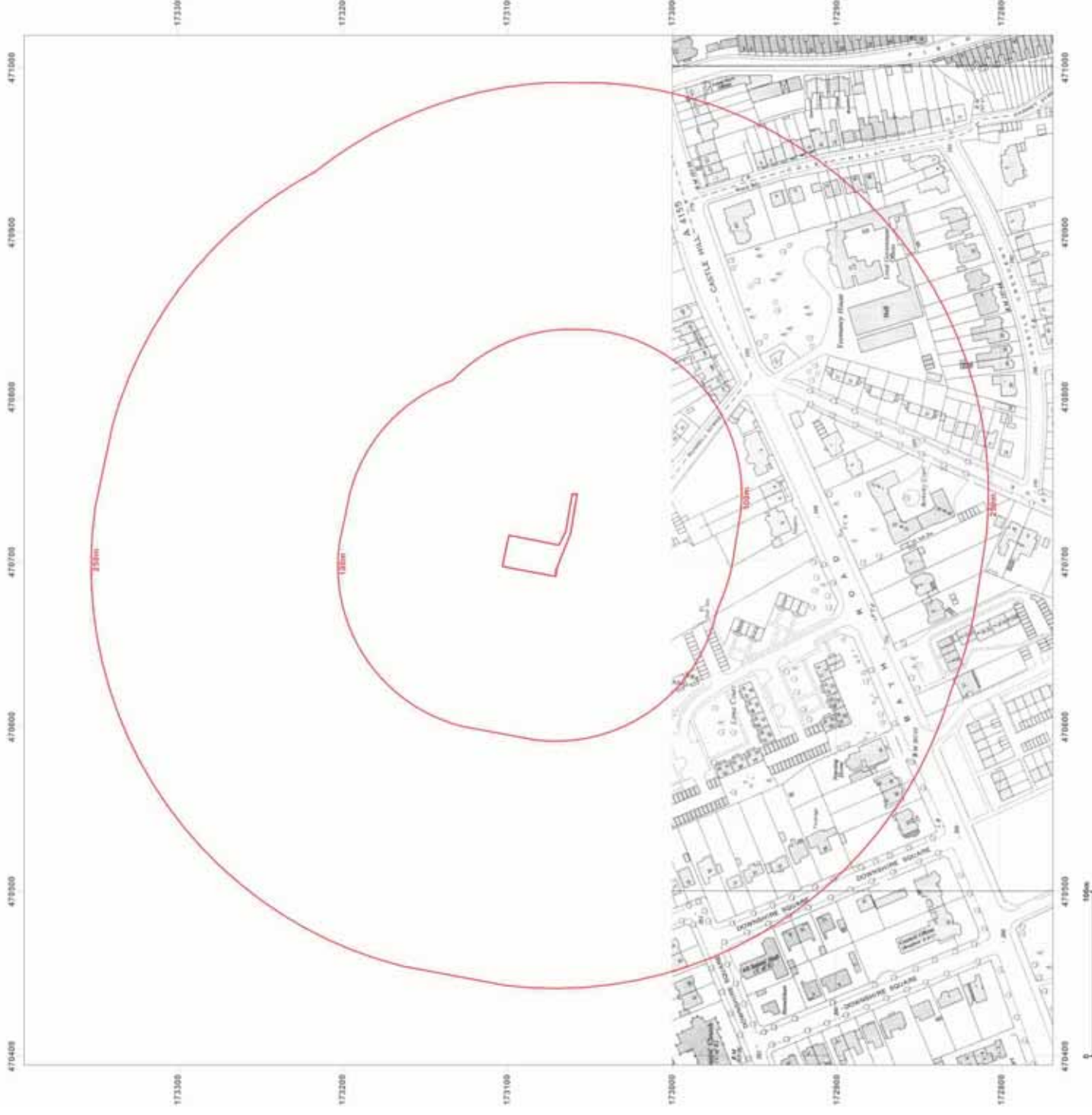


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Site Details:

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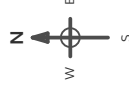
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Report Ref: EMS-298265_403205
Grid Ref: 470707, 173081

Map Name: National Grid

Map date: 1969-1971

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1958 Revised 1971 Edition N/A Copyright 1971 Levelled 1951	Surveyed 1958 Revised 1971 Edition N/A Copyright 1971 Levelled 1951
Surveyed 1968 Revised 1968 Edition N/A Copyright 1969 Levelled 1951	Surveyed 1959 Revised 1968 Edition N/A Copyright 1969 Levelled 1951



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Site Details:

Russell St Reading, RG1 7XH

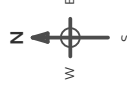
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Report Ref: EMS-298265_403205
Grid Ref: 470707, 173081

Map Name: National Grid

Map date: 1976-1978

Scale: 1:1,250

Printed at: 1:2,000



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Edition N/A
Copyright 1978
Levelled N/A

Surveyed 1959 Revised 1975 Edition N/A Copyright 1976 Levelled 1972



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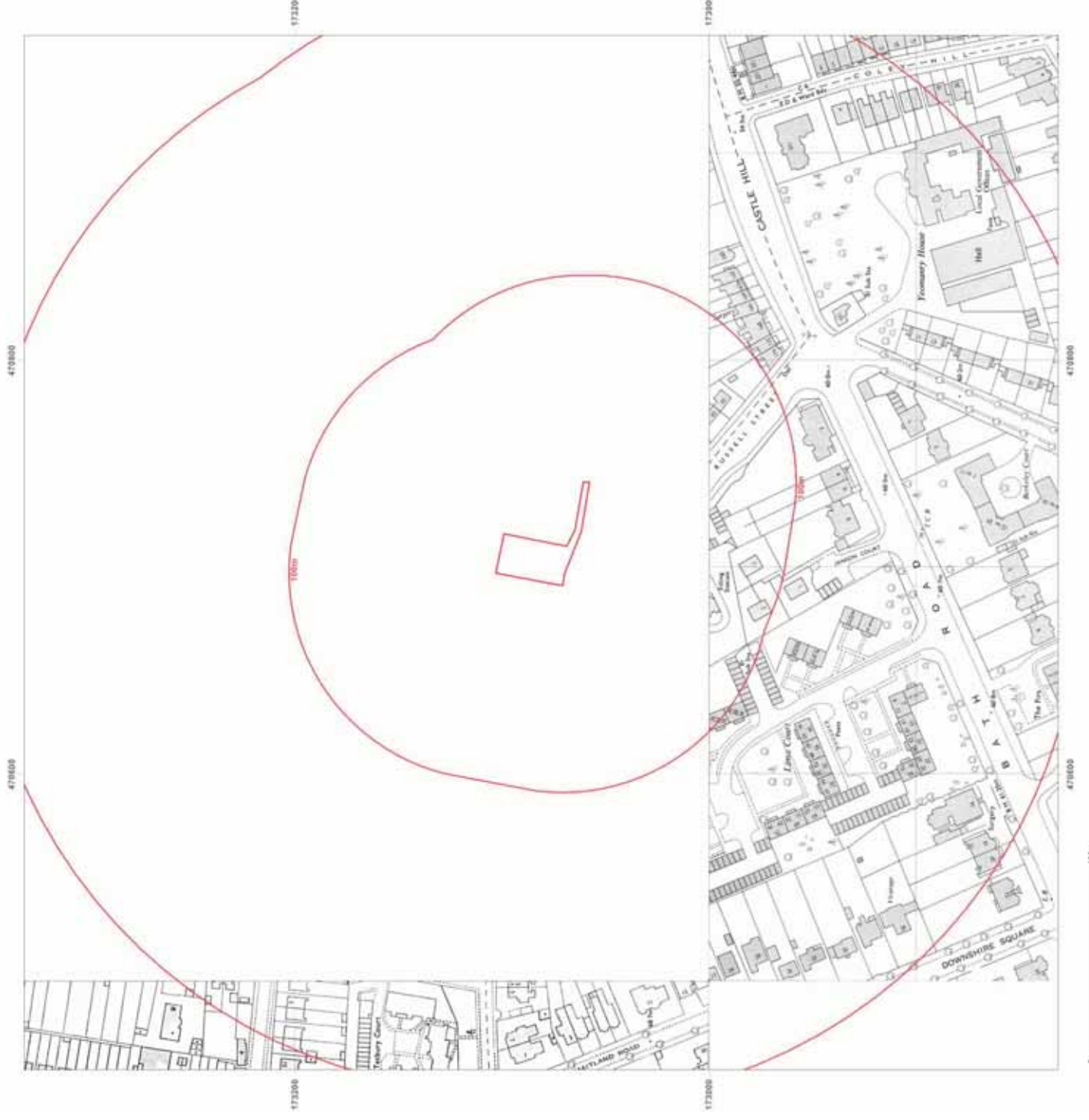


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Site Details:

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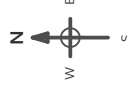
Client Ref: EMS_298265_403205
Report Ref: EMS-298265_403205
Grid Ref: 470707, 173081

Map Name: National Grid

Map date: 1986-1988

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1972
Revised 1986
Edition N/A
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Surveyed 1972
Revised 1988
Edition N/A
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Site Details:

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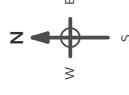
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Report Ref: EMS-298265_403205
Grid Ref: 470707, 173081

Map Name: National Grid

Map date: 1993

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1993 Revised N/A Edition N/A Copyright 1993 Levelled N/A	Surveyed 1993 Revised N/A Edition N/A Copyright 1993 Levelled N/A
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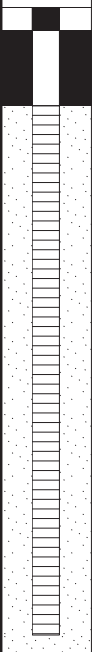




Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site 52 Russell Street, Reading RG1 7HX				WS1
Job No CRM.1201.001	Dates Start 30-04-15 Finish 30-04-15	Ground Level (m)	Co-Ordinates	

Client Nimbus Property Development Ltd.	Sheet 1 of 1
--	-----------------

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description	
		Depth (m)	No/Type	Results					
					0.18			Concrete.	0
					0.65			Red brown grey sandy gravel. Gravel is fine to coarse, angular to subangular bricks and flint.	
		0.75	ES		0.75			Red brown dark grey clayey sandy gravel with black staining. Gravel is fine to cobbles, angular to subangular bricks, flint and ash.	
		1.00 - 1.45	SPTLS S 7		1.00			Brown mottled white clayey gravelly sand with rare rootlets and black staining. Gravel is fine to coarse, subangular and rounded to subrounded flint and chalk.	1
		1.50	ES		1.40			Soft, low strength brown mottled orange and yellow sandy gravelly clay with occasional black staining. Gravel is fine to coarse, subangular to subrounded flint, occasional ash and chalk.	
		2.00 - 2.45	SPTLS S 6		1.70			Loose, brown clayey gravelly sand with occasional black staining. Gravel is fine to medium, subangular to subrounded flint and occasional ash.	
		2.00	D		1.90			Loose, yellow brown sand gravel. Gravel is fine to coarse, subangular to subrounded flint, rare bricks and concrete.	2
					2.00			Loose, brown mottled orange and slightly sandy clayey gravel with occasional black staining. Gravel is fine to coarse, subangular and rounded to subrounded flint, occasional ash, bricks and chalk.	
		3.00 - 3.45	SPTLS S 7		3.85			Loose, brown occasionally mottled red and white gravelly silty sand with occasional dark grey staining. Gravel is fine to coarse, angular to subangular and subrounded flint, occasional ash, bricks and chalk.	3
		4.00 - 4.45	SPTLS S 6		4.50			Loose, yellow brown gravelly SAND. Sand is fine to medium. Gravel is fine to coarse, angular to subangular flint.	4
		4.50	D		4.90			Loose, greenish brown occasionally slightly silty SAND. Sand is fine to medium.	
		5.00 - 5.45	SPTLS S 23		5.45			Stiff, high strength grey green mottled red brown and yellow locally slightly sandy silty CLAY.	5
								Borehole completed at 5.45m.	
					{8.00}				6

General Remarks

EQUIPMENT: Archway Dart Window Sampling rig.
METHOD: Waterflush rotary cored 0.00-0.18m. Dynamic sampled 0.18-4.00m.
CASING: No casing used.
REMARKS: Groundwater encountered at 4.50mbgl. Borehole collapsed from 5.00-4.40mbgl.
BACKFILL: On completion, a slotted standpipe (50mm) was installed to 4.15m, granular response zone (4.15-0.65m), bentonite seal 0.65-0.15m, concrete and stopcock cover 0.15-0.00m.

Groundwater	Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
	30/04/15	4.50		

All dimensions in metres Scale 1:50	Logged By N.M
--	------------------



Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site 52 Russell Street, Reading RG1 7HX				WS2
Job No CRM.1201.001	Dates Start 30-04-15 Finish 30-04-15	Ground Level (m)	Co-Ordinates	

Client Nimbus Property Development Ltd.	Sheet 1 of 1
--	-----------------

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description	
		Depth (m)	No/Type	Results					
		0.40	ES		0.25			Grass over brown dark grey slightly silty gravelly sand with frequent rootlets and rare roots. Gravel is fine to coarse, angular to subangular concrete, flint, occasional bricks and chalk.	0
		0.70	ES		0.65			Brown dark grey slightly silty sandy gravel with occasional rootlets and black staining. Gravel is fine to coarse, angular to subangular flint, concrete, ash, occasional bricks and chalk.	
		1.00 - 1.45	SPTLS S 7		0.90			Friable (firm) yellow brown mottled red brown sandy gravelly clay with occasional rootlets and black staining. Gravel is fine to medium, angular to subangular flint, ash, and occasional bricks.	1
		1.00	D		1.35			Loose, yellow brown slightly gravelly sand. Gravel is medium to coarse, subangular to subrounded flint.	
		1.70	ES		1.65			Loose, yellow brown slightly silty sandy gravel. Gravel is fine to coarse, subangular to subrounded flint.	2
		2.00 - 2.45	SPTLS S 8		2.50			Loose, yellow brown occasionally mottled red brown and white slightly clayey sandy gravel with occasional black and dark grey staining. Gravel is fine to coarse, angular to subangular and subrounded flint, occasional bricks and chalk.	
		2.50 - 3.00	B		3.00			Loose, yellow brown occasionally mottled red brown gravelly sand with rare shells. Sand is fine to medium. Gravel is fine to coarse, subangular and subrounded flint and occasional brick.	3
		3.00 - 3.45	SPTLS S 8		3.75			Loose, yellow brown occasionally brown grey mottled red brown gravelly sand with occasional black staining. Sand is fine to medium. Gravel is fine to coarse, subangular and subrounded flint, occasional ash and bricks.	4
		4.00 - 4.45	SPTLS S 12		4.45			Loose to medium dense, yellow brown mottled grey green and orange slightly silty gravelly SAND. Sand is fine to medium. Gravel is fine to coarse, subangular and subrounded flint.	
		4.00	D					Borehole completed at 4.45m.	5
									6
									7
									8
					{8.00}				

General Remarks

EQUIPMENT: Archway Dart Window Sampling rig.
METHOD: Dynamic sampled 0.00-4.00m.
CASING: No casing used.
REMARKS: Groundwater not encountered. Borehole collapsed from 5.00-4.20mbgl before installation.
BACKFILL: On completion, the borehole was backfilled with arisings.

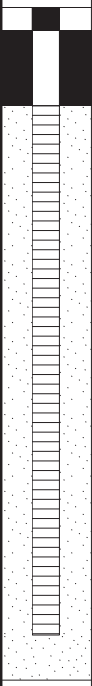
Groundwater	Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
All dimensions in metres Scale 1:50				
				Logged By N.M



Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site 52 Russell Street, Reading RG1 7HX				WS3
Job No CRM.1201.001	Dates Start 30-04-15 Finish 30-04-15	Ground Level (m)	Co-Ordinates	

Client Nimbus Property Development Ltd.	Sheet 1 of 1
--	-----------------

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description	
		Depth (m)	No/Type	Results					
		0.80 1.00 - 1.45 1.00	ES SPTLS S 4 D		0.18			Concrete.	0
					0.60			Red brown yellow brown sandy gravel. Gravel is fine to cobbles, angular to subangular bricks, flint and occasional concrete.	
					1.00			Grey brown gravelly silty sand with frequent black staining and rare rootlets. Gravel is fine to coarse, angular to subangular and subrounded flint, ash, occasional concrete and bricks. Sand is fine to medium.	1
		1.90 2.00 - 2.45	ES SPTLS S 7		1.80			Very loose grey brown gravelly silty sand with rare black staining. Gravel is fine to coarse, angular to subangular flint, occasional bricks and ash. Sand is fine to medium.	
					2.00			Very loose yellow brown silty sandy gravel with occasional black staining. Gravel is fine to medium, angular to subangular and subrounded flint and rare ash.	2
					2.50			Loose grey brown silty sandy gravel with rare black staining. Gravel is fine to coarse, angular to subangular and subrounded flint and occasional ash.	
		3.00 - 3.45 3.00 - 3.50	SPTLS S 7 B		2.90			Loose yellow brown silty gravelly sand with occasional black staining. Gravel is fine to coarse, angular to subangular flint, rare ash and bricks.	3
					3.50			Loose yellow brown slightly gravelly silty SAND with occasional black staining. Gravel is fine to coarse, subangular and rounded to subrounded flint. Sand is fine to medium.	
					3.70			Loose yellow brown clayey gravelly SAND with occasional black staining. Gravel is fine to coarse, subangular to subrounded flint. Sand is fine to medium.	4
		4.00 - 4.45 4.00	SPTLS S 14 D		4.25			Loose to medium dense grey yellow mottled orange occasionally slightly clayey SAND. Sand is fine to medium.	
					4.45			Firm, medium strength grey green locally slightly sandy silty CLAY.	
								Borehole completed at 4.45m.	5
									6
									7
									8
					{8.00}				

General Remarks

EQUIPMENT: Archway Dart Window Sampling rig.
METHOD: Waterflush rotary cored 0.00-0.18m. Dynamic sampled 0.18-4.00m.
CASING: No casing used.
REMARKS: Groundwater not encountered.
BACKFILL: On completion, a slotted standpipe (50mm) was installed to 4.15m, granular response zone (4.15-0.65m), bentonite seal 0.65-0.15m, concrete and stopcock cover 0.15-0.00m.

Groundwater	Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
All dimensions in metres Scale 1:50				Logged By N.M



Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site 52 Russell Street, Reading RG1 7HX						HP1		
Job No CRM.1201.001		Dates Start 30-04-15 Finish 30-04-15		Ground Level (m)				Co-Ordinates
Client Nimbus Property Development Ltd.						Sheet 1 of 1		
Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description	
	Depth (m)	No/Type	Results					
	0.10	ES		0.15			Dark grey slightly silty gravelly sand with occasional rootlets and black staining. Gravel is fine to coarse, angular to subangular flint, concrete, ash and occasional bricks. Sand is fine to medium. Trial Pit completed at 0.15m.	0
								1
								2
								3
				{4.00}				4
General Remarks Dimensions: 0.26x0.25x0.15 Hand pit excavated manually. Hand pit sides remained stable and vertical. Groundwater was not encountered. On completion, the trial pit was backfilled with material arisings.								
All dimensions in metres Scale 1:25						Logged By N.M		

1.1 ENZYGO TP LOG CRM.1201.001 RUSSELL ST. READING.GPJ GINT STD AGS 3.1 ENZYGO.GPJ 11/5/15

APPENDIX C – CHEMICAL TESTING



Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY

Telephone: (01424) 718618

Facsimile: (01424) 729911

info@elab-uk.co.uk

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 15-01859

Issue: 1

Date of Issue: 19/05/2015

Contact: Richard Hamilton

Customer Details: Enzygo - Cromhall
The Granary
Woodend Lane
Cromhall
Gloucestershire

Quotation No: Q14-00007

Order No: CRM.1299

Customer Reference: CRM.1201.001

Date Received: 05/05/2015

Date Approved: 19/05/2015

Details: Russell Street, Reading / CRM.1201.001

Approved by:

John Wilson, Operations Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683)



Sample Summary

Report No.: 15-01859

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
26429	HP1 0.10	30/04/2015	05/05/2015	Silty loam	
26430	WS1 0.75	30/04/2015	05/05/2015	Silty clayey loam	
26431	WS1 1.50	30/04/2015	05/05/2015	Sandy silty loam	
26432	WS2 0.40	30/04/2015	05/05/2015	Sandy silty loam	
26433	WS3 0.80	30/04/2015	05/05/2015	Sandy silty loam	
26434	WS3 1.90	30/04/2015	05/05/2015	Sandy silty loam	
26435	WS2 0.70	30/04/2015	05/05/2015		
26436	WS2 1.70	30/04/2015	05/05/2015		

Results Summary

Report No.: 15-01859

ELAB Reference				26429	26430	26431	26432	26433	26434
Customer Reference									
Sample ID									
Sample Type				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location				HP1	WS1	WS1	WS2	WS3	WS3
Sample Depth (m)				0.10	0.75	1.50	0.40	0.80	1.90
Sampling Date				30/04/2015	30/04/2015	30/04/2015	30/04/2015	30/04/2015	30/04/2015
Determinand	Codes	Units	LOD						
Metals									
Arsenic	M	mg/kg	1	8.7	10.6	7.0	11.9	17.5	3.8
Cadmium	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chromium	M	mg/kg	5	10.6	13.2	11.8	14.6	10.2	< 5.0
Copper	M	mg/kg	5	19.3	15.5	10.6	22.7	34.5	< 5.0
Lead	M	mg/kg	5	527	76.5	30.0	252	540	13.4
Mercury	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	M	mg/kg	5	10.6	15.2	12.0	13.6	19.8	5.2
Selenium	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc	M	mg/kg	45	117	49.8	< 45.0	93.1	126	< 45.0
Inorganics									
Hexavalent Chromium	N	mg/kg	0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Total Cyanide	M	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Miscellaneous									
Moisture Content	N	%	0.1	16.1	14.6	15.6	10.6	19.8	8.0
pH	M	units	0.1	7.7	8.0	7.9	7.8	7.6	7.8
Stones Content	N	%	0.1	37.7	37.1	37.6	45.7	42.8	69.0
Total Organic Carbon	N	%	0.01	1.1	0.39	0.19	0.87	1.2	0.09

Results Summary

Report No.: 15-01859

ELAB Reference	26429	26430	26431	26432	26433	26434
Customer Reference						
Sample ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location	HP1	WS1	WS1	WS2	WS3	WS3
Sample Depth (m)	0.10	0.75	1.50	0.40	0.80	1.90
Sampling Date	30/04/2015	30/04/2015	30/04/2015	30/04/2015	30/04/2015	30/04/2015

Determinand	Codes	Units	LOD						
Organics									
>C8-C10 BCB	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C10-C12 BCB	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C12-C16 BCB	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C16-C21 BCB	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
>C21-C35 BCB	N	mg/kg	1	3.6	< 1.0	< 1.0	3.3	< 1.0	< 1.0
>C35-C40 BCB	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total (>C8-C40) BCB	N	mg/kg	1	3.6	< 1.0	< 1.0	3.3	< 1.0	< 1.0
Phenols									
Phenol	M	mg/kg	1	< 1	< 1	< 1	< 1	< 1	< 1
M,P-Cresol	N	mg/kg	1	< 1	< 1	< 1	< 1	< 1	< 1
O-Cresol	N	mg/kg	1	< 1	< 1	< 1	< 1	< 1	< 1
3,4-Dimethylphenol	N	mg/kg	1	< 1	< 1	< 1	< 1	< 1	< 1
2,3-Dimethylphenol	M	mg/kg	1	< 1	< 1	< 1	< 1	< 1	< 1
Trimethylphenol	M	mg/kg	1	< 1	< 1	< 1	< 1	< 1	< 1
Total Monohydric Phenols	N	mg/kg	5	< 5	< 5	< 5	< 5	< 5	< 5
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthylene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Acenaphthene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluorene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Phenanthrene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Anthracene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Fluoranthene	M	mg/kg	0.5	0.5	< 0.5	< 0.5	0.8	0.6	< 0.5
Pyrene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	0.6	0.5	< 0.5
Benzo (a) anthracene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Chrysene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	0.7	< 0.5	< 0.5
Benzo (b) fluoranthene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	1.1	< 0.5	< 0.5
Benzo (k) fluoranthene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	0.7	< 0.5	< 0.5
Benzo (a) pyrene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	< 0.5
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	< 0.5
Dibenzo(a,h)anthracene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzo(ghi)perylene	M	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total PAH(16)	M	mg/kg	2	4	< 2	< 2	7	5	< 2



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Tel: +44 (0)1424 718618, Email: info@elab-uk.co.uk, Web: www.elab-uk.co.uk

Results Summary

Report No.: 15-01859

Asbestos Qualitative Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Result
26429	0.10	HP1	Silty loam	No asbestos detected
26430	0.75	WS1	Silty clayey loam	No asbestos detected
26431	1.50	WS1	Sandy silty loam	No asbestos detected
26432	0.40	WS2	Sandy silty loam	No asbestos detected
26433	0.80	WS3	Sandy silty loam	No asbestos detected
26434	1.90	WS3	Sandy silty loam	No asbestos detected



Method Summary

Report No.: 15-01859

Parameter	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil				
Hexavalent chromium	As submitted sample	19/05/2015	110	Colorimetry
pH	Air dried sample	19/05/2015	113	Electromeric
Aqua regia extractable metals	Air dried sample	19/05/2015	118	ICPMS
Phenols in solids	As submitted sample	18/05/2015	121	HPLC
Polyaromatic hydrocarbons (GC-FID)	As submitted sample	18/05/2015	133	GC-FID
Total cyanide	As submitted sample	19/05/2015	204	Colorimetry
Total organic carbon/Total sulphur	Air dried sample	18/05/2015	210	IR
Basic carbon banding in soil	As submitted sample	18/05/2015	218	GC-FID
Asbestos identification	As submitted sample	19/05/2015	PMAN	Microscopy



Report Information

Report No.: 15-01859

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

PCB congener results may include any coeluting PCBs

Uncertainty of measurement for the determinands tested are available upon request

Deviation Codes

-
- | | |
|---|--|
| a | No date of sampling supplied |
| b | No time of sampling supplied (Waters Only) |
| c | Sample not received in appropriate containers |
| d | Sample not received in cooled condition |
| e | The container has been incorrectly filled |
| f | Sample age exceeds stability time (sampling to receipt) |
| g | Sample age exceeds stability time (sampling to analysis) |

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month

All water samples will be retained for 7 days following the date of the test report

Charges may apply to extended sample storage

Human Health Assessment Reference Values

Determinant	Units	GAC Value Residential					
		With Plant Uptake			Without Plant Uptake		
Arsenic	mg/kg	37			40		
Cadmium	mg/kg	11			85		
Chromium	mg/kg	910			910		
Chromium VI	mg/kg	6			6		
Lead	mg/kg	200			310		
Mercury	mg/kg	40			56		
Nickel	mg/kg	180			180		
Selenium	mg/kg	250			430		
Copper	mg/kg	2400			7100		
Zinc	mg/kg	3700			40000		
Cyanide	mg/kg	791			800		
SOM	%	1	2.5	6	1	2.5	6
Phenol	mg/kg	120	200	380	440	690	1200
Napthalene	mg/kg	2.3	5.6	13	2.3	5.6	13
Acenaphtylene	mg/kg	170	420	920	2900	4600	6000
Acenaphthene	mg/kg	210	510	1100	3000	4700	6000
Flourene	mg/kg	170	400	860	2800	3800	4500
Phenanthrene	mg/kg	95	220	440	1300	1500	1500
Anthracene	mg/kg	2400	5400	11000	31000	35000	37000
Fluoranthene	mg/kg	280	560	890	1500	1600	1600
Pyrene	mg/kg	620	1200	2000	3700	3800	3800
Benzo(a)Anthracene	mg/kg	7.2	11	13	11	14	15
Chrysene	mg/kg	15	22	27	30	31	32
Benzo(b)Flouranthene	mg/kg	2.6	3.3	3.7	3.9	4.0	4.0
Benzo(k)Flouranthene	mg/kg	77	93	100	110	110	110
Benzo(a)Pyrene	mg/kg	2.2	2.7	3.0	3.2	3.2	3.2
Indeno(123-cd)Pyrene	mg/kg	27	36	41	45	46	46
Dibenzo(a,h)Anthracene	mg/kg	0.24	0.28	0.3	0.31	0.32	0.32
Benzo(ghi)Perylene	mg/kg	320	340	350	360	360	360
TPH C ₅ -C ₆ Aliphatic	mg/kg	42	78	160	42	78	160
TPH C ₆ -C ₈ Aliphatic	mg/kg	100	230	530	100	230	530
TPH C ₈ -C ₁₀ Aliphatic	mg/kg	27	65	150	27	65	150
TPH C ₁₀ -C ₁₂ Aliphatic	mg/kg	130	330	760	130	330	770
TPH C ₁₂ -C ₁₆ Aliphatic	mg/kg	1100	2400	4300	1100	2400	4400
TPH C ₁₆ -C ₃₅ Aliphatic	mg/kg	65000	92000	110000	65000	92000	110000
TPH C ₃₅ -C ₄₄ Aliphatic	mg/kg	65000	92000	110000	65000	92000	110000
TPH C ₅ -C ₇ Aromatic	mg/kg	70	140	300	370	690	1400
TPH C ₇ -C ₈ Aromatic	mg/kg	130	290	660	860	1800	3900
TPH C ₈ -C ₁₀ Aromatic	mg/kg	34	83	190	47	110	270
TPH C ₁₀ -C ₁₂ Aromatic	mg/kg	74	180	380	250	590	1200
TPH C ₁₂ -C ₁₆ Aromatic	mg/kg	140	330	660	1800	2300	2500
TPH C ₁₆ -C ₂₁ Aromatic	mg/kg	260	540	930	1900	1900	1900
TPH C ₂₁ -C ₃₅ Aromatic	mg/kg	1100	1500	1700	1900	1900	1900
TPH C ₃₅ -C ₄₄ Aromatic	mg/kg	1100	1500	1700	1900	1900	1900
Benzene	mg/kg	0.087	0.17	0.37	0.38	0.70	1.4
Toluene	mg/kg	130	290	660	880	1900	3900
Ethylbenzene	mg/kg	47	110	260	83	190	440
Xylene	mg/kg	56	130	310	79	180	430

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Determinant	Units	GAC Value					
		Residential POS			Commercial		
Arsenic	mg/kg	79			640		
Cadmium	mg/kg	120			190		
Chromium	mg/kg	1500			8600		
Chromium VI	mg/kg	7.7			33		
Lead	mg/kg	630			2330		
Mercury	mg/kg	120			1100		
Nickel	mg/kg	230			980		
Selenium	mg/kg	1100			12000		
Copper	mg/kg	12000			68000		
Zinc	mg/kg	81000			730000		
Cyanide	mg/kg	N/A			16200		
SOM	%	1	2.5	6	1	2.5	6
Phenol	mg/kg	440	690	1300	440	690	1300
Napthalene	mg/kg	4900	4900	4900	190	460	1100
Acenaphtylene	mg/kg	15000	15000	15000	83000	97000	100000
Acenaphthene	mg/kg	15000	15000	15000	84000	97000	100000
Flourene	mg/kg	9900	9900	9900	63000	68000	71000
Phenanthrene	mg/kg	3100	3100	3100	22000	22000	23000
Anthracene	mg/kg	74000	74000	74000	520000	540000	540000
Fluoranthene	mg/kg	3100	3100	3100	23000	23000	23000
Pyrene	mg/kg	7400	7400	7400	54000	54000	54000
Benzo(a)Anthracene	mg/kg	29	29	29	170	170	180
Chrysene	mg/kg	57	57	57	350	350	350
Benzo(b)Flouranthene	mg/kg	7.1	7.2	7.2	44	44	45
Benzo(k)Flouranthene	mg/kg	190	190	190	1200	1200	1200
Benzo(a)Pyrene	mg/kg	5.7	5.7	5.7	35	35	36
Indeno(123-cd)Pyrene	mg/kg	82	82	82	500	510	510
Dibenzo(a,h)Anthracene	mg/kg	0.57	0.57	0.58	3.5	3.6	3.6
Benzo(ghi)Perylene	mg/kg	640	640	640	3900	4000	4000
TPH C ₅ -C ₆ Aliphatic	mg/kg	570000	590000	600000	3200	5900	12000
TPH C ₆ -C ₈ Aliphatic	mg/kg	600000	610000	620000	7800	17000	40000
TPH C ₈ -C ₁₀ Aliphatic	mg/kg	13000	13000	13000	2000	4800	11000
TPH C ₁₀ -C ₁₂ Aliphatic	mg/kg	13000	13000	13000	9700	23000	47000
TPH C ₁₂ -C ₁₆ Aliphatic	mg/kg	13000	13000	13000	59000	82000	90000
TPH C ₁₆ -C ₃₅ Aliphatic	mg/kg	250000	250000	250000	1600000	1700000	1800000
TPH C ₃₅ -C ₄₄ Aliphatic	mg/kg	250000	250000	250000	1600000	1700000	1800000
TPH C ₅ -C ₇ Aromatic	mg/kg	56000	56000	56000	26000	46000	86000
TPH C ₇ -C ₈ Aromatic	mg/kg	56000	56000	56000	56000	110000	180000
TPH C ₈ -C ₁₀ Aromatic	mg/kg	5000	5000	5000	3500	8100	17000
TPH C ₁₀ -C ₁₂ Aromatic	mg/kg	5000	5000	5000	16000	28000	34000
TPH C ₁₂ -C ₁₆ Aromatic	mg/kg	5100	5100	5000	36000	37000	38000
TPH C ₁₆ -C ₂₁ Aromatic	mg/kg	3800	3800	3800	28000	28000	28000
TPH C ₂₁ -C ₃₅ Aromatic	mg/kg	3800	3800	3800	28000	28000	28000
TPH C ₃₅ -C ₄₄ Aromatic	mg/kg	3800	3800	3800	28000	28000	28000
Benzene	mg/kg	72	72	73	27	47	90
Toluene	mg/kg	56000	56000	56000	56000	110000	180000
Ethylebenzene	mg/kg	24000	24000	25000	5700	13000	27000
Xylene	mg/kg	41000	42000	43000	5900	14000	30000

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Determinant	Units	GAC Value					
		Park POS			Allotments		
Arsenic	mg/kg	170			43		
Cadmium	mg/kg	532			1.9		
Chromium	mg/kg	33000			18000		
Chromium VI	mg/kg	220			1.8		
Lead	mg/kg	1300			80		
Mercury	mg/kg	240			19		
Nickel	mg/kg	3400			230		
Selenium	mg/kg	1800			88		
Copper	mg/kg	44000			520		
Zinc	mg/kg	170000			620		
Cyanide	mg/kg						
SOM	%	1	2.5	6	1	2.5	6
Phenol	mg/kg	440	690	1300	23	42	83
Napthalene	mg/kg	1200	1900	3000	4.1	10	24
Acenaphtylene	mg/kg	29000	30000	30000	28	69	160
Acenaphthene	mg/kg	29000	30000	30000	34	85	200
Flourene	mg/kg	20000	20000	20000	27	67	160
Phenanthrene	mg/kg	6200	6200	6300	15	38	90
Anthracene	mg/kg	150000	150000	150000	380	950	2200
Fluoranthene	mg/kg	6300	6300	6400	52	130	290
Pyrene	mg/kg	15000	15000	15000	110	270	620
Benzo(a)Anthracene	mg/kg	49	56	62	2.9	6.5	13
Chrysene	mg/kg	93	110	120	4.1	9.4	19
Benzo(b)Flouranthene	mg/kg	13	15	16	0.99	2.1	3.9
Benzo(k)Flouranthene	mg/kg	370	410	440	37	75	130
Benzo(a)Pyrene	mg/kg	11	12	13	0.97	2.0	3.5
Indeno(123-cd)Pyrene	mg/kg	150	170	180	9.5	21	39
Dibenzo(a,h)Anthracene	mg/kg	1.1	1.3	1.4	0.14	0.27	0.43
Benzo(ghi)Perylene	mg/kg	1400	1500	1600	290	470	640
TPH C ₅ -C ₆ Aliphatic	mg/kg	95000	130000	180000	730	1700	3900
TPH C ₆ -C ₈ Aliphatic	mg/kg	150000	220000	320000	2300	5600	13000
TPH C ₈ -C ₁₀ Aliphatic	mg/kg	14000	18000	21000	320	770	1700
TPH C ₁₀ -C ₁₂ Aliphatic	mg/kg	21000	23000	24000	2200	4400	7300
TPH C ₁₂ -C ₁₆ Aliphatic	mg/kg	25000	25000	26000	11000	13000	13000
TPH C ₁₆ -C ₃₅ Aliphatic	mg/kg	450000	480000	490000	260000	270000	270000
TPH C ₃₅ -C ₄₄ Aliphatic	mg/kg	450000	480000	490000	260000	270000	270000
TPH C ₅ -C ₇ Aromatic	mg/kg	76000	84000	92000	13	27	57
TPH C ₇ -C ₈ Aromatic	mg/kg	87000	95000	100000	22	51	120
TPH C ₈ -C ₁₀ Aromatic	mg/kg	7200	8500	9300	8.6	21	51
TPH C ₁₀ -C ₁₂ Aromatic	mg/kg	9200	9700	10000	13	31	74
TPH C ₁₂ -C ₁₆ Aromatic	mg/kg	10000	10000	10000	23	57	130
TPH C ₁₆ -C ₂₁ Aromatic	mg/kg	7600	7700	7800	46	110	260
TPH C ₂₁ -C ₃₅ Aromatic	mg/kg	7800	7800	7900	370	820	1600
TPH C ₃₅ -C ₄₄ Aromatic	mg/kg	7800	7800	7900	370	820	1600
Benzene	mg/kg	90	100	110	0.017	0.034	0.075
Toluene	mg/kg	87000	95000	100000	22	51	120
Ethylbenzene	mg/kg	17000	22000	27000	16	39	91
Xylene	mg/kg	17000	23000	31000	28	67	160

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Controlled Waters Assessment Reference Values

Determinant	Unit	EQS Freshwater						Uk DWS	WHO
Hardness	mg/l	0-50	50-100	100-150	150-200	200-250	>250		
Arsenic	ug/l	50						10	10
Boron	ug/l	2000						1000	0.3
Cadmium	ug/l	5						5	3
Chromium	ug/l	2	10	10	20	20	20	50	50
Lead	ug/l	4	10	10	20	20	20	10	10
Mercury	ug/l	1						1	1
Selenium	ug/l							10	10
Copper	ug/l	0.5	3	3	3	8	12	20000	2000
Nickel	ug/l	8	20	20	40	40	40	20	70
Zinc	ug/l	8	15	15	50	50	50	5000	3000
Sulphate	mg/l	400						250	250
PAH	ug/l							0.1	
Anthracene	ug/l	0.02							
Napthalene	ug/l	10							
Benzo(a)Pyrene	ug/l	0.03							0.01
Fluoranthene	ug/l	0.02							
Benzene	ug/l	30						1	10
Toluene	ug/l	50							
Ethylebenzene	ug/l	20							
Xylene	ug/l	30							
C ₅ – C ₆ Aliphatic	ug/l								15000
C ₆ – C ₈ Aliphatic	ug/l								15000
C ₈ – C ₁₀ Aliphatic	ug/l								300
C ₁₀ – C ₁₂ Aliphatic	ug/l								300
C ₁₂ – C ₁₆ Aliphatic	ug/l								300
C ₁₆ – C ₃₆ Aliphatic	ug/l								N/A
C ₆ – C ₇ Aromatic	ug/l								10
C ₇ – C ₈ Aromatic	ug/l	50							10
C ₈ – C ₁₀ Aromatic	ug/l	20							300
C ₁₀ – C ₁₂ Aromatic	ug/l								1000
C ₁₂ – C ₁₆ Aromatic	ug/l								1000
C ₁₆ – C ₂₁ Aromatic	ug/l								90
C ₂₁ – C ₃₅ Aromatic	ug/l								90



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CONFIDENTIAL SOILS TEST REPORT

12 May 2015

FAO Mr Steve Rhodes

Enzygo Ltd
The Granary
Woodend Lane
Cromhall
Gloucestershire
GL12 8AA

Tel/Fax: +44 (0) 1454 269237

Dear Steve,

Thank you for consulting GSSL Ltd for your Geotechnical testing needs. GSSL Ltd is pleased to submit this **final interim** test report for laboratory testing.

Client Ref/Order No: CRM.1300

Test Report Number: GS-CRM.001

Contract Reference: CRM.1201.001 Russell Street Reading

Client ID, Visual Sample Descriptions: Page 2

Results: Page 3-8

Test(s) Requested;

Determination of Chemical properties of Soil
Determination of Particle Size Distribution by Dry sieving method

{BS 1377-2:1990 Cl. 9.3}

If you have any questions or require additional information, then please do not hesitate to contact us.

Yours Sincerely

Tony Dixon
Managing Director

Any opinions and interpretations expressed within this report are outside the scope of our UKAS Accreditation.

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Page 1 of 8



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Summary of laboratory soil descriptions

Contract Ref: CRM.1201.001 Russell Street Reading

Report Ref. No: GS-CRM.001

Client ID	Depth (m)	Description of Sample
WS2	2.50	Orangish brown slightly silty gravelly SAND
WS2	1.00	Orangish brown slightly gravelly SAND
WS2	4.00	Yellowish brown slightly gravelly slightly silty SAND
WS3	1.00	Dark brown gravelly sandy silty CLAY
WS3	4.00	Yellowish brown SAND
WS1	4.50	Orangish brown slightly gravelly SAND

Certification:-

Test results reported herein do not apply to samples other than those supplied. GSSL Ltd neither accepts responsibility for nor makes claim as to the final use & purpose of the materials(s).

Approved Signatory:

Date Reported: 12/05/15



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Chemical properties of Soil Water Soluble Sulphate & Ph Value. BS 1377:1990: Part 3 cl.3-9.

Contract Ref: CRM.1201.001 Russell Street Reading

Report Ref. No: GS-CRM.001

CLIENT ID	DEPTH (m)	Material passing 2mm BS Test Sieve (% dry mass of original sample)	Water Soluble Sulphate 2:1		pH Value
			Sulphate content as SO ₃ of 2:1 soil/water extract (g/l)	Sulphate content as SO ₄ of 2:1 soil/water extract (g/l)	
WS2	1.00	100	<0.1	0.1	8.0
WS2	2.50	100	0.1	0.2	8.2
WS3	1.00	100	0.1	0.2	8.3
WS3	4.00	100	<0.1	0.1	8.3
WS1	4.50	100	<0.1	0.1	8.3

Certification:-

Test results reported herein do not apply to samples other than those supplied. GSSL Ltd neither accepts responsibility for nor makes claim as to the final use & purpose of the materials(s).

Approved Signatory:

Date Reported: 12/05/15



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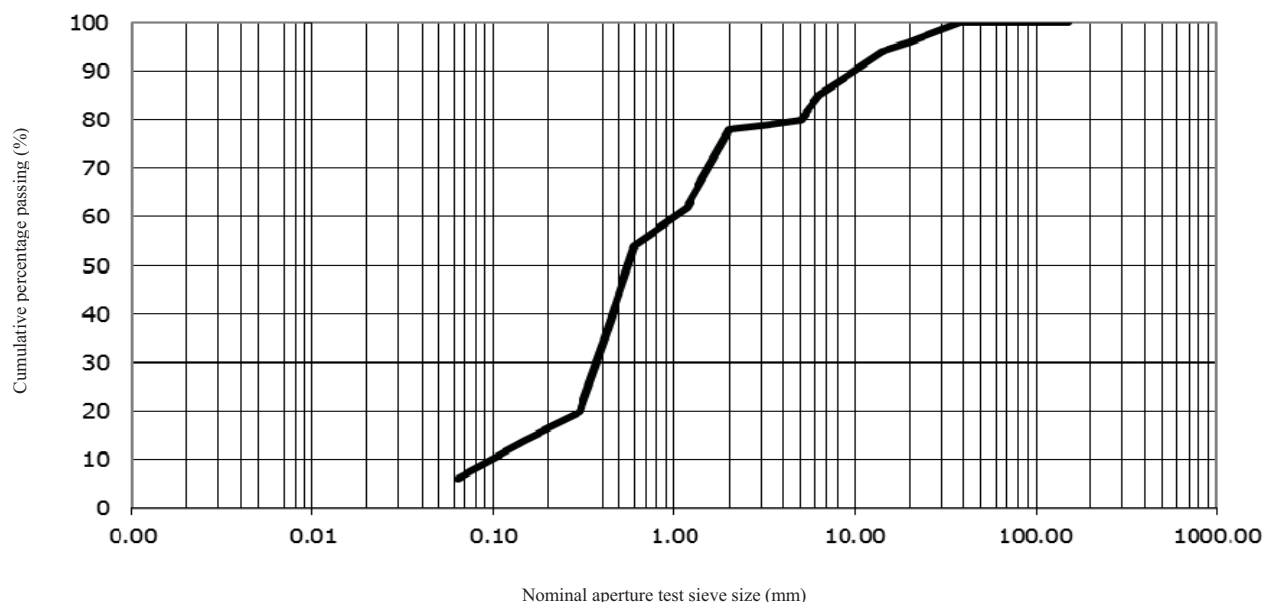
Determination of Particle Size Distribution (Dry Sieving)

Report Ref. No: GS-CRM.001

GSSL Sample ID: A1
Client ID: WS2 @ 2.50m
Client: Enzygo Ltd
Site: CRM.1201.001 Russell Street Reading
Date Sampled: N/A
Sampled from: -
Material Specification: N/A
Sample Description: Orangish brown slightly silty gravelly SAND
Sample Type: Disturbed
Sampled by: Client
Date Sampled: N/A
Remarks: -

BS Test Sieve (mm)	% Material Passing
125	100
90	100
75	100
63	100
50	100
40	100
37.5	100
28	98
20	96
14	94
10	90
6.3	85
5	80
3.35	79
2	78
1.18	62
0.6	54
0.425	37
0.3	20
0.15	14
0.063	6

Soil Fraction	Total Percentage
COBBLES	-
GRAVEL	22
SAND	72
SILT / CLAY	6



Sample Preparation: In accordance with BS 1377-1 & 2:1990

Certification:-

Test results reported herein do not apply to samples other than those supplied. GSSL Ltd neither accepts responsibility for nor makes claim as to the final use & purpose of the materials(s)

Approved Signatory:

Date Reported: 12/05/15

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Determination of Particle Size Distribution (Dry Sieving)

Report Ref. No: GS-CRM.001

GSSL Sample ID A2
Client ID WS2 @ 1.00m

Client: Enzygo Ltd
Site: CRM.1201.001 Russell Street Reading

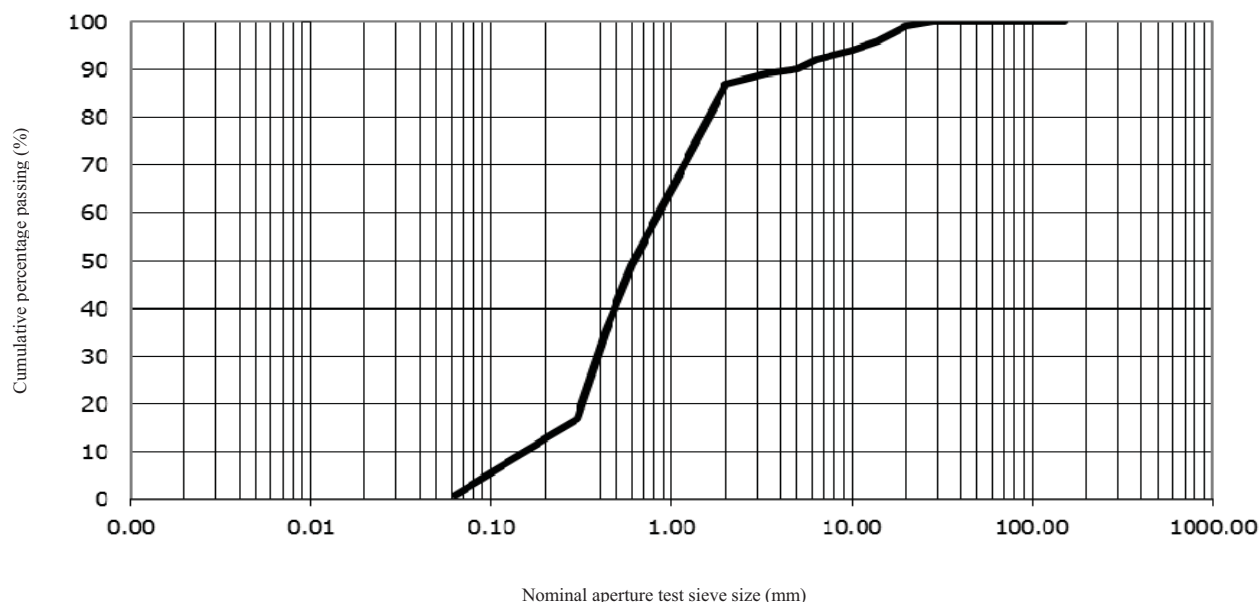
Date Sampled: N/A
Sampled from: -

Material Specification: N/A
Sample Description: Orangish brown slightly gravelly SAND
Sample Type: Disturbed
Sampled by: Client
Date Sampled: N/A

Remarks: -

BS Test Sieve (mm)	% Material Passing
125	100
90	100
75	100
63	100
50	100
40	100
37.5	100
28	100
20	99
14	96
10	94
6.3	92
5	90
3.35	89
2	87
1.18	70
0.6	49
0.425	35
0.3	17
0.15	10
0.063	1

Soil Fraction	Total Percentage
COBBLES	-
GRAVEL	13
SAND	86
SILT / CLAY	1



Sample Preparation: In accordance with BS 1377-1 & 2:1990

Certification:-

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Approved Signatory:

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Determination of Particle Size Distribution (Dry Sieving)

Report Ref. No: GS-CRM.001

GSSL Sample ID A3
Client ID WS2 @ 4.00m

Client: Enzygo Ltd
Site: CRM.413.164 Cobham PIX

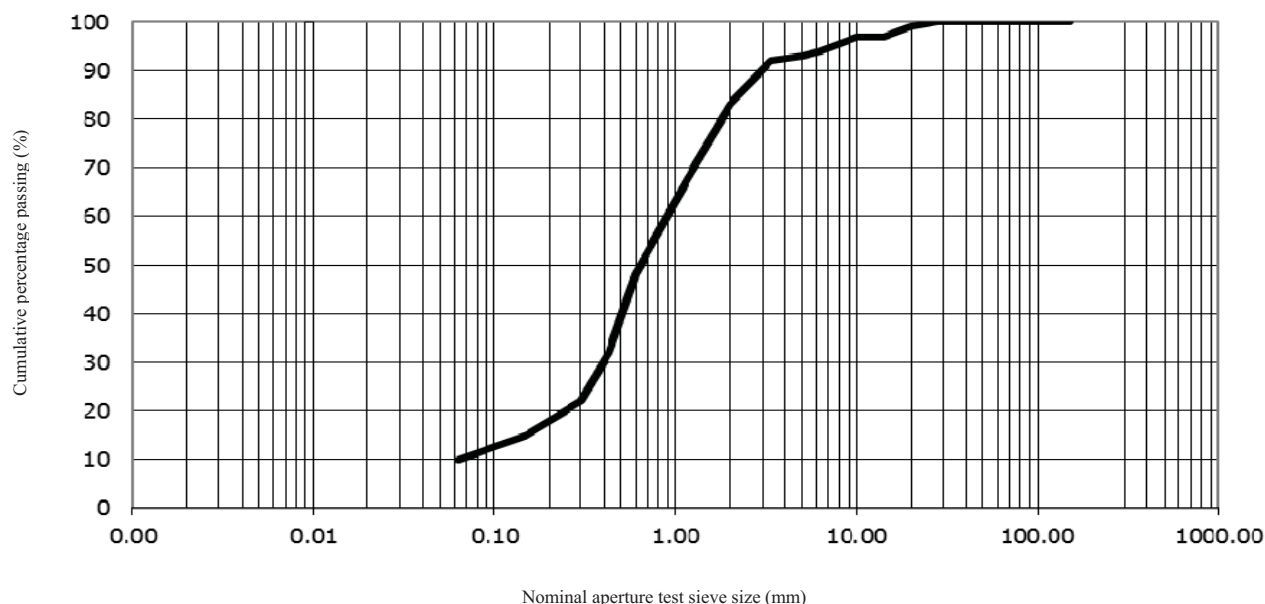
Date Sampled: N/A
Sampled from: -

Material Specification: N/A
Sample Description: Yellowish brown slightly gravelly slightly silty SAND
Sample Type: Disturbed
Sampled by: Client
Date Sampled: N/A

Remarks: -

BS Test Sieve (mm)	% Material Passing
125	100
90	100
75	100
63	100
50	100
40	100
37.5	100
28	100
20	99
14	97
10	97
6.3	94
5	93
3.35	92
2	83
1.18	68
0.6	48
0.425	32
0.3	22
0.15	15
0.063	10

Soil Fraction	Total Percentage
COBBLES	-
GRAVEL	17
SAND	73
SILT / CLAY	10



Sample Preparation: In accordance with BS 1377-1 & 2:1990

Certification:-

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Approved Signatory:

Date Reported: 12/05/15

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Determination of Particle Size Distribution (Dry Sieving)

Report Ref. No: GS-CRM.001

GSSL Sample ID A4
Client ID WS3 @ 4.00m

Client: Enzygo Ltd
Site: CRM.1201.001 Russell Street Reading

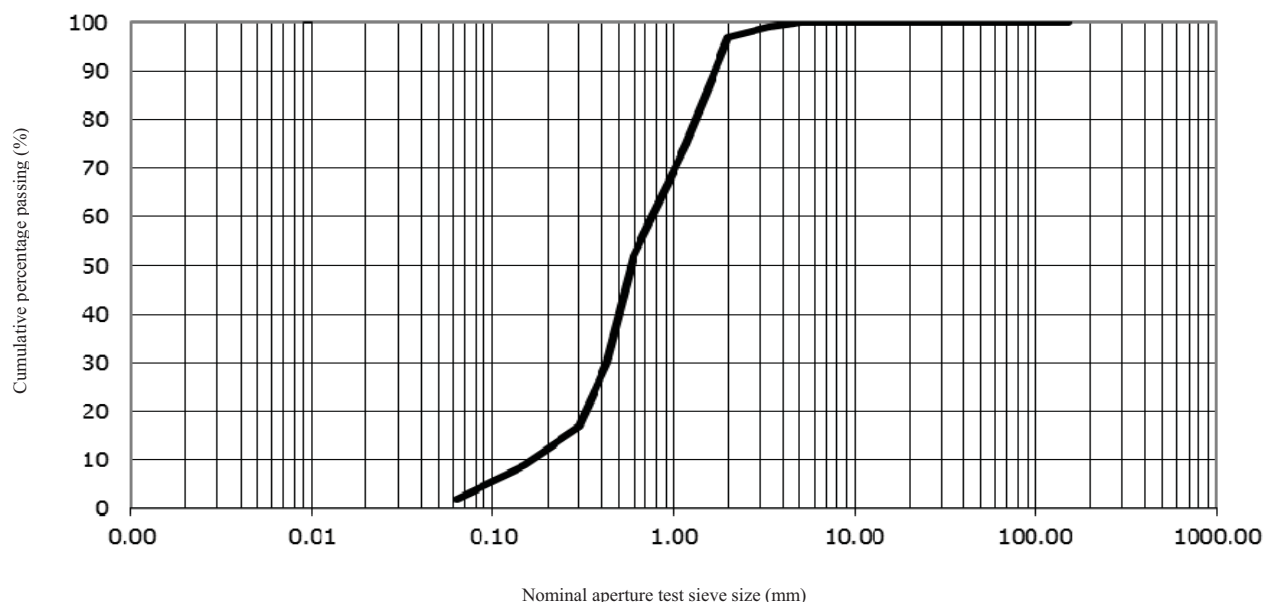
Date Sampled: N/A
Sampled from: -

Material Specification: N/A
Sample Description: Yellowish brown SAND
Sample Type: Disturbed
Sampled by: Client
Date Sampled: N/A

Remarks: -

BS Test Sieve (mm)	% Material Passing
125	100
90	100
75	100
63	100
50	100
40	100
37.5	100
28	100
20	100
14	100
10	100
6.3	100
5	100
3.35	99
2	97
1.18	75
0.6	52
0.425	30
0.3	17
0.15	9
0.063	2

Soil Fraction	Total Percentage
COBBLES	-
GRAVEL	3
SAND	95
SILT / CLAY	2



Sample Preparation: In accordance with BS 1377-1 & 2:1990

Certification:-

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Approved Signatory:

Date Reported: 12/05/15

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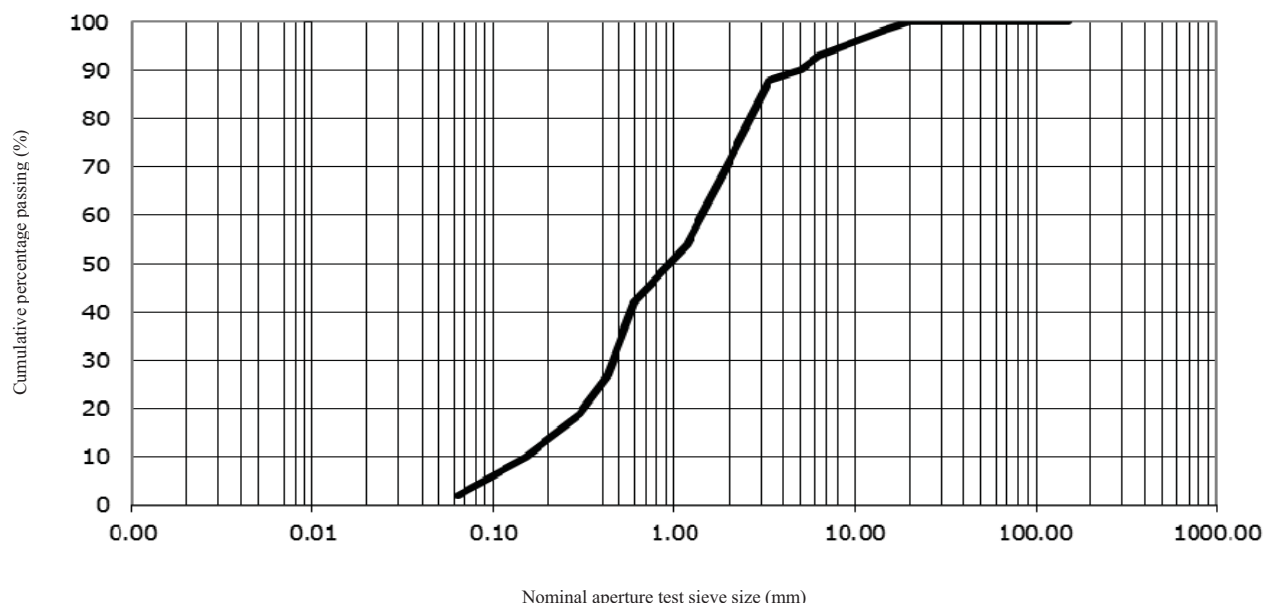
Determination of Particle Size Distribution (Dry Sieving)

Report Ref. No: GS-CRM.001

GSSL Sample ID: A5
Client ID: WS1 @ 4.50m
Client: Enzygo Ltd
Site: CRM.1201.001 Russell Street Reading
Date Sampled: N/A
Sampled from: -
Material Specification: N/A
Sample Description: Orangish brown slightly gravelly SAND
Sample Type: Disturbed
Sampled by: Client
Date Sampled: N/A
Remarks: -

BS Test Sieve (mm)	% Material Passing
125	100
90	100
75	100
63	100
50	100
40	100
37.5	100
28	100
20	100
14	98
10	96
6.3	93
5	90
3.35	88
2	71
1.18	54
0.6	42
0.425	27
0.3	19
0.15	10
0.063	2

Soil Fraction	Total Percentage
COBBLES	-
GRAVEL	29
SAND	69
SILT / CLAY	2



Sample Preparation: In accordance with BS 1377-1 & 2:1990

Certification:-

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Approved Signatory:

Date Reported: 12/05/15

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