



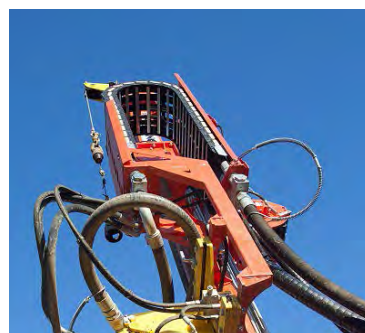
REPORT NO: D10341

PRELIMINARY INVESTIGATION OF LAND AT

**BARNES JUNIOR AND INFANT SCHOOL,
SUNDERLAND**

PREPARED FOR:

SUNDERLAND CITY COUNCIL



● FOUNDATION HOUSE ● ST. JOHN'S ROAD ● MEADOWFIELD ● DURHAM ● DH7 8TZ

● TEL: 0191 378 3151 ●



OHS 623618

FS586808

EMS 586809

Accredited Contractor
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AGS

| | |
|---------------------|---|
| Contract No. | D10341 |
| Job Name | Barnes Junior and Infant School, Sunderland |

REPORT REVISIONS

| Revision No. | Issue Date | Details |
|--------------|------------|--------------------|
| D10341/0 | 11.03.21 | Phase 1 Desk Study |
| | | |
| | | |
| | | |

VERIFICATION

| Revision No. | Issue Date | | Written By | Checked By | Verified By |
|--------------|------------|------------------|------------|-------------------|-------------------|
| D10341/0 | 11.03.21 | Initials | KD | KJ | KJ |
| | | Signature | <i>KD</i> | <i>Kate Jones</i> | <i>Kate Jones</i> |

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APPENDIX A - Drawings

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| D10341/01 | Site Location Plan |
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APPENDIX C - Desk Study Information

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1.0 SCOPE OF INVESTIGATION

Dunelm Geotechnical and Environmental Limited (Dunelm) were instructed by Sunderland City Council to undertake a Preliminary Investigation (Phase 1 Desk Study) of land at Barnes Junior and Infant School, Sunderland.

It is proposed to demolish and rebuild a shared dining hall, located between Barnes Junior and Infants school.

The purpose of this preliminary investigation is to evaluate likely ground conditions and significant geoenvironmental issues at the site, and to plan the scope of subsequent phases of investigation.

This report may be regarded as a Preliminary Risk Assessment in accordance with the Environment Agency's guidance "Land Contamination: Risk Management".

This preliminary investigation has been undertaken with due regard to current contaminated land guidance issued by the Royal Institution of Chartered Surveyors (RICS) together with BS 10175:2011, "Code of Practice for the Investigation of Potentially Contaminated Land" and relevant sections of BS 5930:2015+A1-2020, "Code of Practice for Site Investigations".

The objectives of the investigation were as follows:

- To determine the land use history of the site from an inspection of available Ordnance Survey (OS) plans.
- To determine the environmental setting of the site from available sources.
- To determine whether past mining may have had an influence on the site.
- To determine whether the site has previously been used for purposes that may have given rise to significant ground contamination.
- To provide recommendations for further investigation.

Information has been obtained from various sources and the full responses received are presented in Appendix C; details relevant to the site are discussed in Sections 3 and 4.

Conditions of offer and notes on limitations relevant to all Dunelm geoenvironmental investigations are described in Appendix D and should be read in conjunction with this report.

2.0 SITE RECONNAISSANCE

2.1 GENERAL

The centre of the site is located at Ordnance Survey Grid Reference 437945, 555943. The site is situated approximately 2.5km southwest of Sunderland city centre on the south side of Wycliffe Road. The site location is shown on Drawing No. D10341/01 presented in Appendix A to this report.

A preliminary site inspection was undertaken on 8th March 2021 and a selection of site photographs are presented in Appendix B to this report.

Existing site features are shown on Drawing No. D10341/02 presented in Appendix A to this report.

2.2 TOPOGRAPHY & SITE FEATURES

The site is a relatively flat-lying parcel of land bound to the north by Wycliffe Road and to the south by Mount Road.

The site is bound by metal railings and gates with macadam play areas and car parking present in the southern site area and the existing buildings in the northern site area.

There are three main buildings in the northern site area. Barnes Junior School in the northwest; Barnes Infant School in the northeast and the shared dining hall present in the central northern site area. The buildings are all brick-built.

The dining hall comprises an irregular shape with inner areas which are currently used for bike storage.

There are a small number of trees present along the site's southern boundary.

3.0 SITE HISTORY

In order to determine the history of the site, extracts from historical Ordnance Survey (OS) plans have been examined. Copies of these plans are provided in Appendix C to this report.

A summary of the history of the on-site and off-site features is presented below. It is not the intention of this report to describe in detail all the changes that have occurred on or adjacent to the site, only those pertinent to the site.

SUMMARY OF HISTORICAL INFORMATION

| OS Map Edition | On-site Features | Off-site Features |
|----------------|--|--|
| 1856-57 | Site is an undeveloped field. | Undeveloped fields surround. Old quarry located 400m northwest of the site. |
| 1895-97 | No significant change. | Bad Lane located 50m east of the site. Ponds located 230m southwest of the site associated with possible hall/home. Large residential development around Sunderland city centre located from 400m northwest of the site. |
| 1914 | Two school buildings occupy the east and western site areas. Smaller buildings located in the southern site areas. | Extensive residential to the north, east and west of the site. Barnes Park located from 100m south of the site. |
| 1938-41 | No significant change. | Further residential properties located directly south of the site. |
| 1955 | New building located between the two school buildings | County Laundry located 10m north of the site. |
| 1974 | No significant change. | Expansion of laundry. |
| 1992 | No significant change. | Former laundry demolished and replaced with Wycliffe Lodge. |
| 2021 | No significant change. | No significant change. |

4.0 ENVIRONMENTAL SETTING

4.1 INFORMATION SOURCES

The environmental setting of the site was determined through reference to the following:

- British Geological Survey (BGS) 1: 50,000 scale sheet No 21 Sunderland.
- Coal Mining Report from David Bellis Associates (based on data obtained from the Coal Authority).
- Groundsure Report (including historical map extracts).
- BGS report, "Surface Collapse Features in the Magnesian Limestone of the Seaham Area, County Durham, report number CR/06/225"
- BRE Publication BR211 *Radon: Guidance on Protective Measures for New Dwellings*.
- Stage 1 Preliminary UXO Risk Assessment (ref PRA-21-1412) by Brimstone Site Investigation.

4.2 GEOLOGY

The site is shown to be underlain by drift deposits comprising glacial clay.

The solid geology underlying the site comprises the Ford Formation of the Magnesian Limestone.

No faults are shown in the vicinity of the site.

There is a BGS borehole located 10m north of the site at the former laundry. The log records clay and gravel underlain by hard stony clay to 6.0m bgl underlain by limestone. The limestone is interbedded with marl to a depth of 32.3m bgl where shale was recorded.

BGS report, "Surface Collapse Features in the Magnesian Limestone of the Seaham Area, County Durham, report number CR/06/225" undertaken on behalf of District of Easington Council indicates evidence of ground dissolution features in the surrounding area of the site however, the site itself appears to fall out of the areas of concern identified within the report.

No significant ground hazards have been identified by the British Geological Survey as reported in the Groundsure Report.

4.3 SOLUTION FEATURES

Solution features can be caused by a number of reasons. Faulted rocks will commonly be heavily fractured, making them more susceptible to dissolution, and the formation of solution features. In addition, where rock is shallow, it will be more susceptible to dissolution by acid rain. Solution features can also be increased by rising mine waters, as pumping of groundwater from deep mines has stopped, the groundwater level can rise, leading to dissolution of the rock.

Evidence of solution features can include:

1. Geophysical anomalies
2. Underground voids or layers of disturbed/voided/collapsed rock strata
3. Surface depressions, both current and historical

Potential for solution features to form can increase due to:

- Rock type
- Amount of drift cover
- Faulting
- Mining and rising minewaters
- Shallow mobile groundwater

In favour of this site, there are no faults on site. No evidence of solution features was noted during the walkover.

4.4 MINING AND QUARRYING

The mining report indicates that the site may be underlain by workings in three coal seams, the shallowest being the Maudlin Seam at a depth of approximately 497m below ground level. Based on the geological plans, there are no coal seams at shallow depth beneath the site

There are no recorded mine entries within 20m of the site.

No evidence has been found to suggest that the site has been affected by quarrying.

4.5 HYDROLOGY

The nearest surface water feature is a minor stream, Barnes Burn located 179m south of the site.

The Groundsure Report indicates there are no licensed surface water abstraction within 1000m of the site.

There are no recorded discharge consents within 500m of the site.

There are no recorded pollution incidents within 500m of the site.

The site is not recorded as being situated within a zone of flooding from rivers and sea.

The site is not recorded as being situated within a zone of flooding from surface water.

4.6 HYDROGEOLOGY

Using the Environment Agency's Policy and Practice for the Protection of Groundwater the solid geology beneath the site is classified as a Principal Aquifer. Principal aquifers are highly permeable formations that are able to support large abstractions for public supply and other purposes.

The site does not lie within a source protection zone.

There are no recorded groundwater abstractions within 1000m of the site.

4.7 LANDFILLS & OTHER POTENTIAL GAS SOURCES

The Groundsure Report indicates there is a recorded landfill site located 94m south of the site at Barnes Park; no further information was listed.

A further landfill is shown 175m south of the site at Barnes Park Lake. The waste within this landfill was listed as inert with the licenses shown between 1980 and 1994.

A third landfill is listed at Barnes Park East located 242m southeast. No further information is available for this site.

4.8 RADON GAS

In accordance with the procedure described in BRE Publication BR211 *Radon: Guidance on Protective Measures for New Dwellings*, no radon protection measures are required for new buildings on the site.

4.9 OTHER SOURCES

The site lies within a moderate risk area of unexploded ordnance therefore, a preliminary UXO risk assessment was undertaken to confirm the risk to the site. The risk assessment is included in Appendix C and concludes that a stage 2 detailed risk assessment is not considered necessary however, the possibility of shallow buried UXO remaining on site cannot be completely ruled out and therefore a UXO safety awareness briefing would be prudent prior to any ground works.

5.0 CONCEPTUAL SITE MODEL

5.1 GENERAL

Based on the information presented in the preceding Sections, and in accordance with the Environment Agency guidance referenced in Section 1, a Preliminary Conceptual Site Model has been produced. A simplified diagrammatic form of the model showing the most significant features is presented as Drawing No. D10341/03 in Appendix A to this report.

It is proposed to demolish and rebuild a shared dining hall, located between Barnes Junior and Infants school. The preliminary conclusions presented below should be revised once an intrusive ground investigation has been completed.

The main features of the model are discussed in the following sections together with preliminary recommendations where appropriate.

5.2 LIKELY GROUND CONDITIONS

Based on available information, ground conditions are likely to comprise glacial clays.

Made ground deposits together with buried obstructions associated with old foundations and services may be encountered.

5.3 MINING AND QUARRYING ASSESSMENT

No evidence has been found to indicate that the site has been affected by shallow coal mine workings.

No evidence has been found to indicate that the site has been affected by quarrying.

5.4 GEOTECHNICAL ISSUES

The ground conditions noted above may allow the use of strip footings for lightly loaded structures. Where made ground is encountered, foundations will need to be taken through the made ground into underlying natural strata of adequate bearing capacity. Suspended floor slabs are required where made ground exceeds 0.6m in thickness.

Where new foundations conflict with buried obstructions, considerable overdeepening may be required to reach natural ground of adequate bearing capacity. Consequently, the use of strip or trench fill foundations may become impractical, and piles may be required.

The above suggestions should be regarded as tentative until intrusive investigations are undertaken, and information is available regarding design loads and development layout.

5.5 HAZARD IDENTIFICATION – CONTAMINATION SOURCES

The desk study has shown that the site has been occupied previously and it is possible that contamination is present associated with the site's previous use as a school however, no specific contamination sources have been identified.

It is recommended that a general suite of chemical testing is undertaken to include:

- Heavy metals
- Polycyclic aromatic hydrocarbons, PAHs
- Asbestos

5.6 HAZARD IDENTIFICATION – GAS SOURCES

Potential sources of hazardous gas that could affect the site have been identified as follows:

- Landfill site within 250m.

A hazardous gas risk assessment is therefore recommended as part of an intrusive investigation at the site. The scope of a gas investigation (including the number of monitoring points and quantity of data required) should be related to the gas generation potential of the source and the sensitivity of the proposed end use.

5.7 RISK ASSESSMENT FOR CONTAMINATED LAND

In the Environment Agency guidance "Land Contamination: Risk Assessment" noted above, risk assessment for contaminated land should be conducted using the following four steps:

- i. Hazard Identification.
- ii. Hazard Assessment.
- iii. Risk Estimation.
- iv. Risk Evaluation.

The results of the Hazard Identification process (identifying potential contamination and gas sources) are shown in the preceding sections.

'Hazard Assessment' involves analysing the potential for unacceptable risks, i.e., identifying what receptors and pathways could be present, what pollutant linkages could result, and what the effects might be. 'Pollution linkages' is a term used to describe a particular combination of contaminant pathway and receptor.

Following the site's redevelopment, significant receptors in terms of human health that could be affected by contamination will include future building occupiers. Ecosystem receptors include the underlying Principal Aquifer.

Potential pollution linkages considered to be significant at this stage are shown on the Preliminary Conceptual Site Model presented as Drawing No. D10341/03 in Appendix A to this report.

Based on the model, potentially unacceptable risks have been identified and further action is therefore recommended.

This further action should comprise an intrusive ground investigation that would enable additional Hazard Assessment to be carried out, followed by Risk Estimation and Risk Evaluation. The Preliminary Conceptual Site Model should be revised on completion of the ground investigation. An outline of a suitable intrusive ground investigation is included in the following Section of this report.

6.0 GROUND INVESTIGATION STRATEGY

An intrusive ground investigation should be undertaken to verify the assumptions made in the Preliminary Conceptual Site Model and to provide data for foundation design.

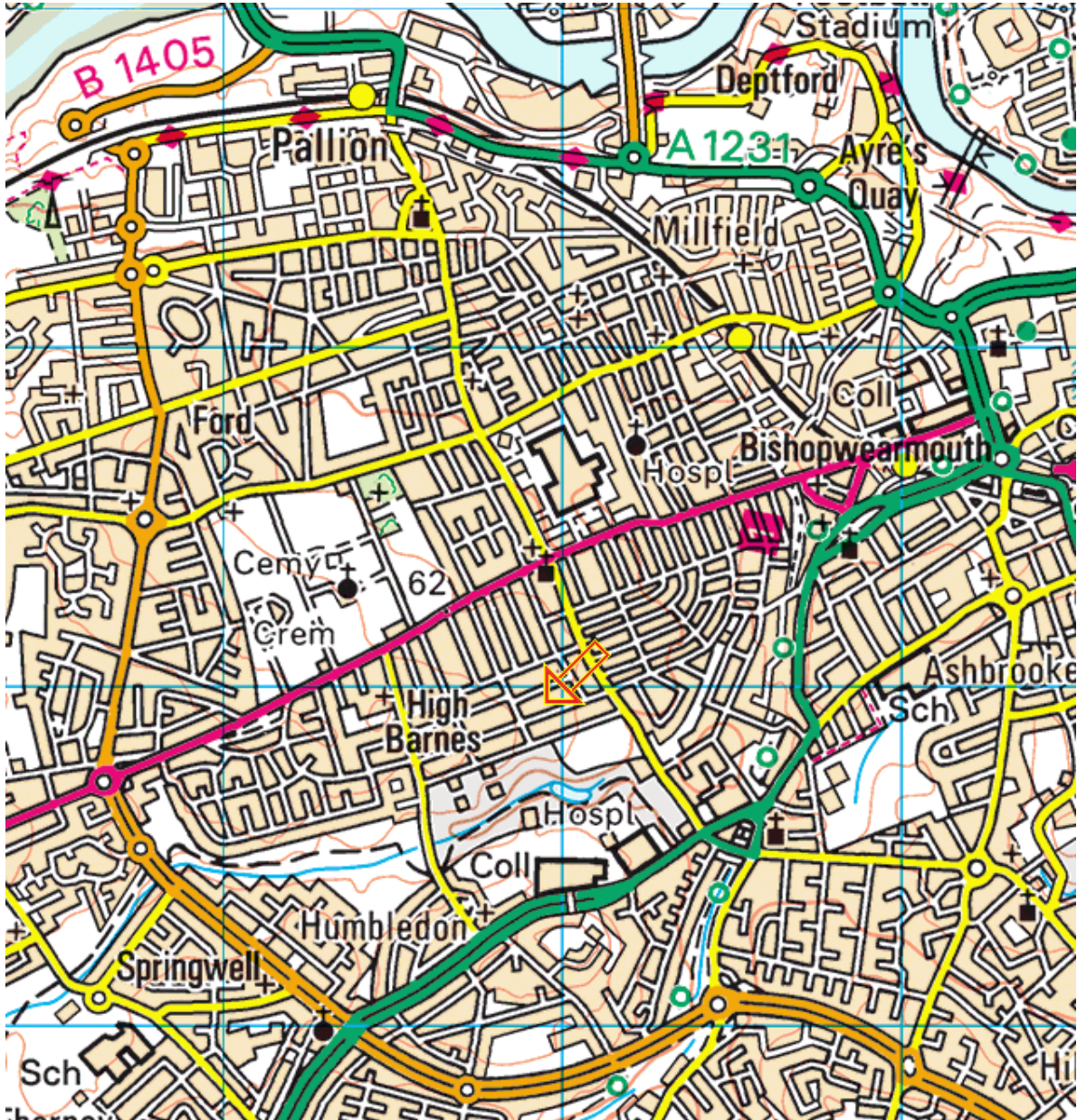
An outline ground investigation strategy is summarised below, based on the preliminary conceptual site model and information obtained during the desk study.

- Mini rig boreholes.
- Appropriate sampling to enable chemical and geotechnical testing to be carried out.
- Installation of monitoring wells to enable subsequent groundwater and gas measurements.


APPENDIX A

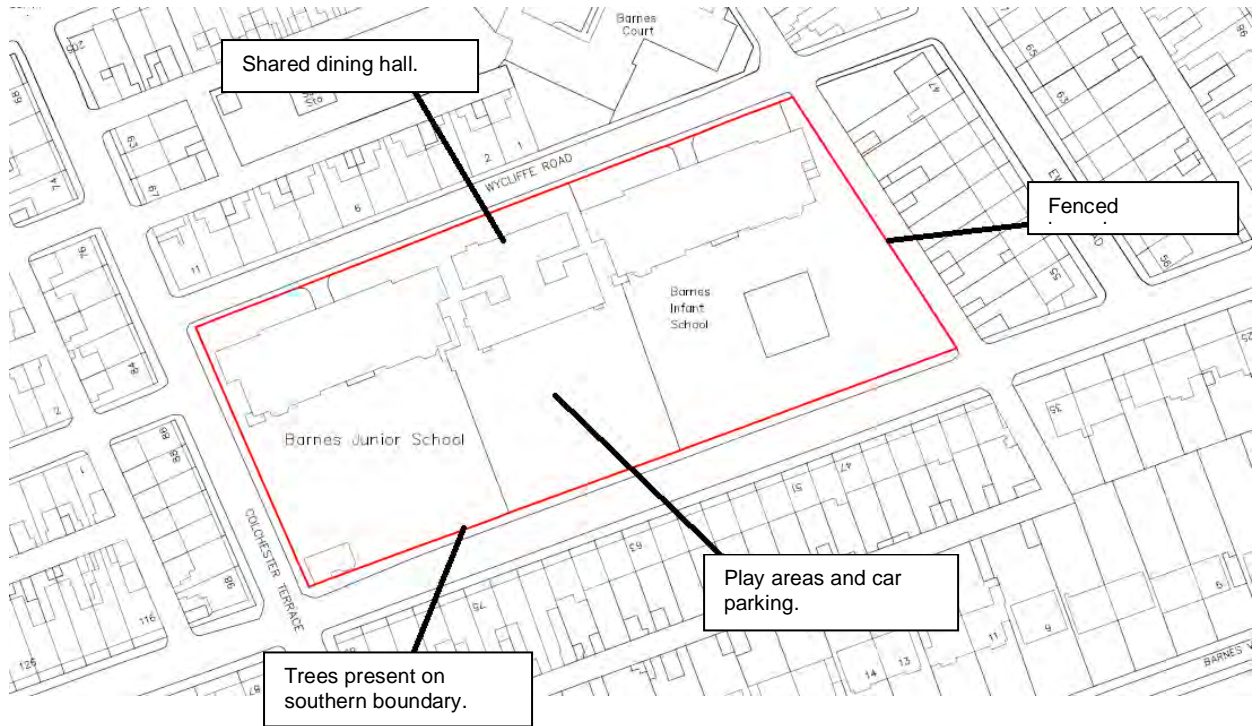
DRAWINGS






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| | | | | |
|---|--|----------------------|-------------------------------|------------------------|
|  | Contract: Barnes Infants and Junior School, Sunderland | | Contract No: D10341 | |
| | Client: Sunderland City Council | | | |
| TEL: 0191 378 3151 | Drawing Title: Site Location Plan | | | |
| Drawing & Revision No: D10341/01/0 | Date: March 2021 | Scale: NTS | Status: Final | Drawn by: KD |

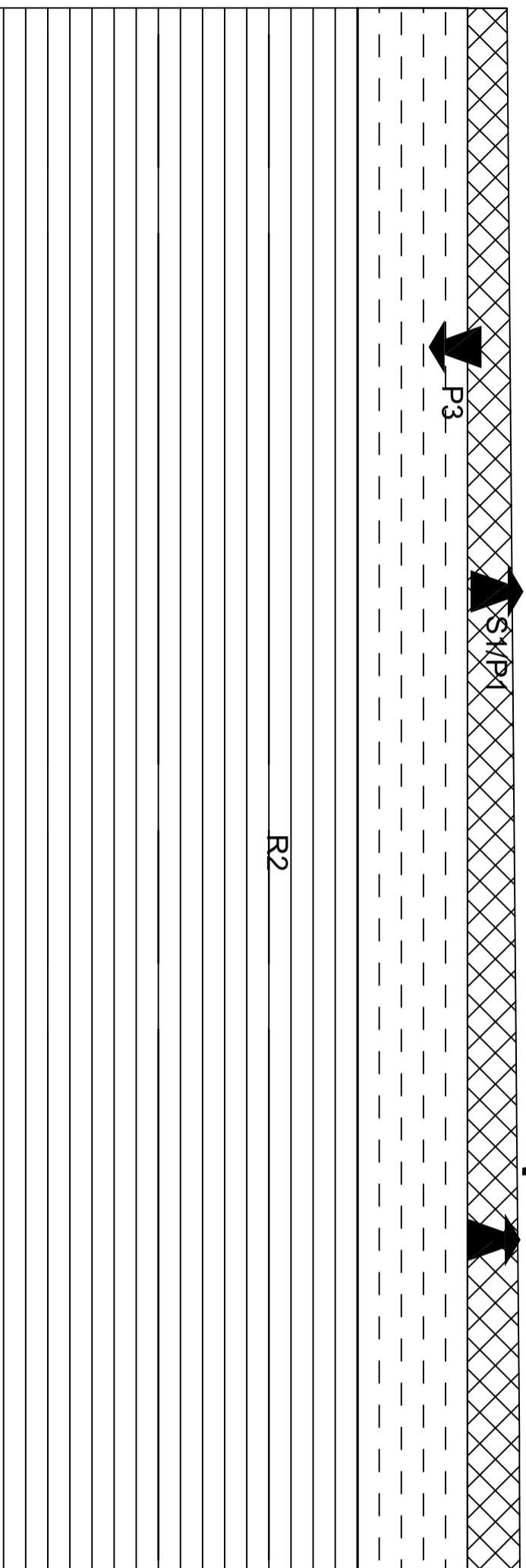


| | | | | |
|---|--|----------------------|-------------------------------|------------------------|
|  | Contract: Barnes Infants and Junior School, Sunderland | | Contract No: D10341 | |
| | Client: Sunderland City Council | | | |
| TEL: 0191 378 3151 | Drawing Title: Site Features Plan | | | |
| Drawing & Revision No: D10341/02/0 | Date: March 2021 | Scale: NTS | Status: Final | Drawn by: KD |

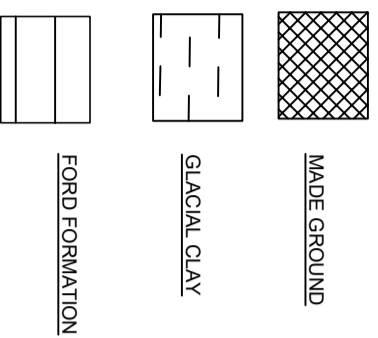
Cross Section Through the Site (Approximately West to East)

Northern boundary

Southern boundary



Ground Conditions Summary



Pollutant Linkages

| SOURCE | PATHWAY | RECEPTOR |
|---|---|--|
| <ol style="list-style-type: none"> Potential contamination within the made ground. Potential hazardous gas from nearby landfills. | <ol style="list-style-type: none"> Potential ingestion, inhalation and dermal contact with contaminated soil and water. Potential migration of hazardous gases. Potential surface run-off and migration of leachable determinands. | <ol style="list-style-type: none"> Human Health (Future users) Principal Aquifer |



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 web: www.dunelm.co.uk

NOT TO SCALE: Contractor to check all dimensions on site before commencement of any works. No dimensions to be scaled from this drawing.
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CLIENT:

Sunderland City Council

PROJECT TITLE:

Barnes Junior and Infant School, Sunderland

DRAWING TITLE:

Conceptual Site Model

DATE:

March 2021

DRAWING NUMBER:

D10341/03

REVISION NUMBER:

V1

APPENDIX B

PHOTOGRAPHIC SURVEY



Photographs



Photograph 1 – Access to the hall from the northern site area.



Photograph 2 – Southwest corner of existing dining hall.

Notes:



Project Barnes Junior and Infant School, Sunderland
Project No. D10341
Carried out for Sunderland City Council

Plate

1

Photographs



Photograph 3 – Looking north towards the dining hall from southern site area.



Photograph 4 – Bike racks located within the dining hall complex.

Notes:



Project Barnes Junior and Infant School, Sunderland
Project No. D10341
Carried out for Sunderland City Council

Plate

2

Photographs



Photograph 5 – Storage at side of building.



Photograph 6 – Entrance to school along Mount Road

APPENDIX C

DESK STUDY INFORMATION



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By

David Bellis
CONSULTING SURVEYORS

Regulated Coal Mining Search Report

Incorporating Cheshire Brine Screening



SITE LOCATION AND COAL MINING FEATURE PLAN

ADDRESS: Barnes Junior School, Mount Road, Sunderland, SR4 7QF

SEARCH NUMBER: 434494

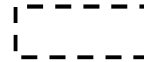


KEY

Property Boundary



50m property boundary buffer



Coal mining subsidence claims
within 50m (section 7)



Mine entries within 20m (section 5)

Adits



Shafts



Symbols are indicative only and are not drawn to scale. Do not scale from this plan.

World Topographic Map - Sources: Esri, HERE, Garmin, Intermap, Increment P Corp, GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community

This plan shows the location of the subject property and where relevant the location of mine entries and subsidence claims referred to in the attached CoalSearchPlus+ regulated coal mining search report. The plan must be viewed in conjunction with the detailed findings in the attached report. A coal mining risk rating, including recommended further action where appropriate, is given at the conclusion of the report. (section 8)

This plan shows reportable features relevant to the property only. Additional relevant coal mining aspects are reported upon within the report. The report and content of this plan are specific to the property under consideration. The report contents should not be used in relation to other property in the area.

Mine entries are reported if they are located within the property boundary or within 20m of it. (see report section 5 for detail)

Coal mining subsidence claims, made since 31st October 1994 and recorded by The Coal Authority, are reported for the subject property or property located within 50m of its boundary. Records of claims prior to this date are not normally retained by The Coal Authority and will not be reported. (see report section 7 for details)

Property owners have the benefit of the protection of the Coal Mining Subsidence Act 1991* in the event of the occurrence of damage from disused coal mine workings including from disused coal mine entries.

The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused shafts and adits). The emergency telephone number at all times is (01623) 646333. If you have any questions or queries regarding the content of this coal mining report please contact David Bellis Consulting Surveyors Ltd.

* Note The Coal Mining Subsidence Act 1991 does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester

Serial Number 434494

Client detail :

Dunelm Geotechnical &
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Foundation House
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Meadowfield
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CoalSearchPlus+ by David Bellis Consulting
Surveyors Ltd
8 Mornington Terrace
Harrogate
North Yorkshire
HG1 5DH
(DX 720352 Harrogate)

Tel 01423 529911
Fax 01423 529922

Search produced by M J Peace

Property details:

Barnes Junior School
Mount Road
Sunderland
SR4 7QF

Your ref : PO22819 KD D10341

Purchaser :

Vendor :

In accordance with your instructions received 08 Mar 2021 we have inspected plans and records of coal mine workings and have made enquiries with respect to Cheshire brine extraction in relation to the above property and can report as follows :

1. SEAM DETAILS FOR PAST UNDERGROUND COAL MINING : In relation to the property the undermentioned seam(s) have been worked within the likely zone of physical influence on the surface.

| Seam | Depth (m) | Sect (cm) | Date | Remarks |
|---------|-----------|-----------|----------|-----------|
| Maudlin | 497 | 200 | Pre 1935 | Subjacent |
| Hutton | 533 | 137 | Pre 1900 | Subjacent |
| Harvey | 594 | 94 | Pre 1970 | Adjacent |

2. SEAM DETAILS FOR CURRENT AND FUTURE UNDERGROUND COAL MINING : The undermentioned seam(s) are currently being worked, or licenses to work are being determined, or have been granted to work, within the likely zone of physical influence on the surface in relation to the property.

| Seam | Depth (m) | Sect (cm) | Date | Remarks |
|------|-----------|-----------|------|--|
| | | | | Coal in reserve - no workings currently planned. |

3. UNDERLYING GEOLOGY :

The property is situated in an area of till over dolostone.

There are no faults or abnormal features relevant to the property.

Serial Number 434494

4. OPENCAST COAL MINING :

Past Opencast Workings : The property is not situated within the boundary of a former opencast coal mining site.

Present Opencast Workings : The property is not situated within 200m of the boundary of a currently operating opencast coal mining site.

Future Opencast Workings : The property is not situated within 800m of the boundary of an opencast site for which a license to extract coal by opencast methods has been granted or a license to do so is currently being determined.

5. MINE ENTRIES, MINE GAS, SURFACE HAZARDS AND ADDITIONAL INFORMATION :

The Coal Authority licensed Mine Entry dataset shows no evidence of any shafts or adits within 20 metres of the property or the boundary of the property.

There are no tips or lagoons in the vicinity of the Property.

The Coal Authority licensed Mine Gas dataset shows no record of mine gas emissions within the property or the property boundary requiring action.

The Coal Authority licensed Coal Mining Related Hazards dataset shows that the property has not been subject to remedial works by the Coal Authority, or its representatives, under the Coal Authority Emergency Surface Hazard Call Out Procedures.

6. NOTICES IN RELATION TO FUTURE COAL MINING ACTIVITY :

We have no knowledge of any intention to work coal by underground methods within influencing distance on the surface in the vicinity of the property for which section 46 notices have been issued under the Coal Mining Subsidence Act 1991.

7. PAST COAL MINING RELATED SUBSIDENCE :

A review of the records held by the Coal Authority has shown no evidence of coal mining related subsidence claims in relation to the subject property since 31st October 1994. This is the period for which records are held by the Coal Authority.

8. CONCLUSION (COAL MINING) : In the light of the above facts we conclude that in relation to coal mining :

Old workings are present but all settlement is likely to have completed long ago.
In our opinion it is unlikely that coal will be worked in the foreseeable future.

COAL MINING RISK LEVEL : We recommend that the transaction is treated as :

Serial Number 434494

Where this report is to be used for development purposes particular attention is drawn to the paragraphs below concerning the ownership of in situ coal, coal workings and the risks from mine gases.

Please note that the overall coal mining risk level above is based upon an assessment of the detailed information contained in the body of the report. The risk assessment must be used in conjunction with the detailed report.

If development of the property is being considered then all necessary enquiries and investigations should be completed prior to the commencement of works to ensure that proposals follow good engineering practice for development in mining areas. The Coal Authority has ownership of in situ coal, coal mines (both current and disused) and coal mine shafts and adits. Activities that intersect, enter or disturb any of the Coal Authority's interests require the written permission of the Authority.

Any development proposals should consider risks to the development, or adjacent property, of generating or displacing underground gases where coal seams or former mining works are disturbed. The need for effective measures to prevent gasses entering public properties should be assessed and properly addressed. These actions are necessary due to the public safety implications of development in these circumstances.

CHESHIRE BRINE EXTRACTION INFORMATION :

The property lies outside the Cheshire Brine Compensation District as prescribed by the Cheshire Brine Pumping (Compensation for Subsidence) Act 1952.

With respect to coal mining there is nothing to prevent a claim being made under the provisions of the Coal Mining Subsidence Act 1991 and subsequent legislation, but it must not be inferred that the Coal Authority or their licensees will necessarily accept that any damage has been caused as a result of mining subsidence.

If you require any further information please contact CoalSearchPlus+ on 01423 529911 or via our website www.coalsearch.plus.com.

This report is prepared in accordance with the CoalSearchPlus+ terms and conditions as published on the CoalSearchPlus+ website (www.coalsearch.plus.com) on the date of issue of this report.

This is a Coal Mining Search Report and is not to be interpreted as being part of an Environmental Assessment of the property.

We cannot be held responsible for the accuracy of the information provided to us by third party organisations.

The information and/or material supplied is composed from data based in many cases on measurements and records of various standards of reliability and age. We cannot be held responsible for the accuracy of such information.

This search report is based upon the privately owned CoalSearchPlus+ mining record database, data supplied to CoalSearchPlus+ under license from the Coal Authority, and plans and records held by the Coal Authority and made publicly available at the time of inspection which may include British Geological Survey and Ordnance Survey data. Organisations reserve the right to vary their proposals and intentions as to their future mining operations without prior notice save as provided in the Coal Mining (Subsidence) Act 1991 and the Coal Industry Act 1994.

This report contains Data provided by the Coal Authority. Any and all analysis and interpretation of the Coal Authority Data in this report is made by David Bellis Consulting Surveyors Ltd trading as CoalSearchPlus+, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be copyright of the Coal Authority and permission should be sought from David Bellis Consulting Surveyors Ltd prior to any re-use.

Serial Number 434494

Coal Authority Address : The Coal Authority, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire, HG18 4RG
British Geological Survey Address : British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham NG12 5GG

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The information contained in this report relates to the property address given by the individual or organisation ordering the report. Where a plan indicating the property location and boundary is supplied with the instruction the report is based on that information. Where no plan is supplied the report is based on the property location as defined in publicly available mapping data. At all times it remains the responsibility of the instructing organisation or individual to define the boundary of the property.

Additional notes applicable to Residential Coal Mining Reports only:

David Bellis Consulting Surveyors Ltd is not aware of any personal or business relationship between the person conducting or preparing the search and any person involved in the sale of the property.

This report is a desk study of existing published geological and coal mining records, the CoalSearchPlus+ coal mining data base and data supplied under license by the Coal Authority. In order to compile this report enquiries have been made in relation to the following:

Past Coal Mining – the existence of any previously worked seams of coal within influencing distance on the surface in relation to the property including an indication of the depth and age of the workings,

A statement of shallow depth generally indicates records show that coal has been mined within 30m of the surface. In some circumstances coal classified as shallow may extend up to a depth of 50m.

A statement of moderate depth indicates records show that coal has been mined at between 30m and 500m depth.

A statement of 'at depth' indicates records show that coal has been mined at depths of over 500m.

Present Coal Mining - the existence of any currently worked seams of coal within influencing distance on the surface in relation to the property including an indication of the depth and age of the workings. The existence of coal that could be worked at some time in the future will be enquired into and detail of any relevant licenses disclosed where available.

Underlying Geology - the underlying geology of the property will be reviewed and briefly described in relation to coal mining.

Opencast Coal Mining - the existence of past present and future opencast coal mining, specifically :

- if the property is situated within the boundary of a former opencast site. In the case of old opencast workings it must be understood that the records are often unclear regarding the site boundary and or worked areas. Published records and data supplied under license by the Coal Authority will be reviewed to give our opinion of the existence of relevant former opencast coal workings.
- if the property is situated within 200m of the boundary of a currently operating opencast site.
- if the property is situated within 800m of the boundary of an opencast for which either a license to extract coal by opencast methods has been granted or a license to do so is currently being determined.

Mine Entries, Mine Gas, Surface Hazards and Additional Information – the existence of any mine entries within 20m of the property or the boundary of the property and its associated land and buildings (the definition of the boundary of the property is the responsibility of the individual or organisation ordering this report). Where a mine entry is found to exist the approximate location of the mine entry will be indicated on a plan. The existence of unworked coal will be enquired into and our opinion regarding the likelihood of it being worked at some time in the past will be given where relevant.

It will be reported if mine gas emissions relating to the property are recorded by The Coal Authority.

It will be reported if The Coal Authority has carried out work in relation to the property after a report of an alleged coal mining related hazard under the Coal Authority's Emergency Hazard Call Out procedures.

Any other relevant coal mining related features discovered will be noted.

Notices in relation to future coal mining activity – the existence of notices indicating an intention to work coal by underground methods in the future.

Past coal mining related subsidence – report if The Coal Authority licensed Claim Dataset shows record of a coal mining subsidence claim having been reported on the subject property or any other property within 50m of the boundary of the subject property since 31st October 1994. Where available claim detail information will be given for claims on the subject property only.

Coal Mining Risk Level – the opinion of David Bellis Consulting Surveyors Ltd of the risk posed to the property from coal mining given all the information contained in the report. The risk to the property is given in relation to the majority of the housing stock in the immediate area.

Cheshire Brine – the location of the property in relation to the Cheshire Brine Compensation District.

Additional information, including answers to many frequently asked questions, can be found on the CoalSearchPlus+ website, www.coalsearch.plus.com

Complaints Procedure

David Bellis Consulting Surveyors Ltd is registered with the Property Codes Compliance Board as a subscriber to the Search Code. A key commitment under the Code is that firms will handle any complaints both speedily and fairly.

If you want to make a complaint, we will:

Serial Number 434494

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

Complaints should be sent to:

Mr M. Peace, Director, David Bellis Consulting Surveyors Ltd, 8 Morningson Terrace, Harrogate, North Yorkshire, HG1 5DH
Tel : 01423 529911 Fax : 01423 529922 Email : contact@coalsearch.plus.com

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs):

Tel: 01722 333306, Website: www.tpos.co.uk, E-mail: admin@tpos.co.uk

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.

Date : 08 Mar 2021

Signed :



Serial Number 434494**Important Consumer Protection Information**

This search has been produced by David Belius Consulting Surveyors Ltd, 8 Mornington Terrace, Harrogate, HG1 5DH (T: 01423 529911, F: 01423 529922, E: contact@coalsearch.plus.com) which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered firms maintain compliance with the Code.

The Search Code:

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom
- sets out minimum standards which firms compiling and selling search reports have to meet
- promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Search Code will:

- Display the Code logo prominently on their search reports.
- Act with integrity and carry out work with due skill, care and diligence.
- At all times maintain adequate and appropriate insurance to protect consumers.
- Conduct business in an honest, fair and professional manner.
- Handle complaints speedily and fairly.
- Ensure that all products and services comply with industry registration rules and standards and relevant laws.
- Monitor their compliance with the Code.

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award up to £5,000 to you if the Ombudsman finds that you have suffered actual financial loss and/or aggravation, distress or inconvenience as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs Contact Details:

The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Website: www.tpos.co.uk
Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk.

PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE

Serial Number 434494**David Bellis Consulting Surveyors Ltd and CoalSearchPlus+ Terms and Conditions (Available in large print by request)**

1. Definitions.
 - a) The Service Provider is David Bellis Consulting Surveyors Ltd, trading as CoalSearchPlus+.
 - b) The Applicant is the Individual, Organisation, or appointed officer of said Organisation placing a Request with the Service Provider.
 - c) The Third Party Provider is any Organisation from which the Service Provider obtains data and/or information on behalf of the Applicant in the normal course of fulfilling the Applicants Request.
 - d) The request is a formal Request by the Applicant with CoalSearchPlus+ to retrieve specific data and/or information.
2. CoalSearchPlus+ accept Requests only on the basis that the Applicant is acting as a principal and is directly liable for payment of our invoice or account.
3. It is the policy of CoalSearchPlus+ to observe confidentiality with regard to the identity and affairs of our customers to the extent permitted by law, but, in common with other service providers, we may be required exceptionally to disclose information to governmental and other public authorities.
4. The placing of a Request by the Applicant with CoalSearchPlus+ confirms acceptance of these terms and conditions.
5. Any Order Form produced by CoalSearchPlus+, either printed or published on the CoalSearchPlus+ website, is an invitation to treat. The Applicant makes an offer to buy from CoalSearchPlus+ by the submission of a Request, subject to clause 10. Acceptable modes of transmission for a Request are facsimile (fax), telephone, electronic mail(e-mail), online transmission via the CoalSearchPlus+ website only, Document Exchange (DX), Royal Mail or courier appointed by the Applicant.
6. Orders will be accepted on order forms other than CoalSearchPlus+ forms however these will be accepted under the standard CoalSearchPlus+ terms and conditions only, subject to Clause 10.
7. CoalSearchPlus+ reserves the right to refuse any Request.
8. CoalSearchPlus+ reserves the right to cancel any Request at any time.
9. Proof of transmission of a Request by the Applicant does not constitute proof of receipt by CoalSearchPlus+.
10. It is the responsibility of the Applicant to ensure the accuracy, legibility, clarity and completeness of all data and/or information provided to CoalSearchPlus+ as part of the Request, including but not limited to, names, numbers, addresses, location plans, and boundary plans. This applies whether the Request is submitted on CoalSearchPlus+ order forms either printed or published on the CoalSearchPlus+ website or on the Applicants own order form.
11. CoalSearchPlus+ may request additional relevant data and/or information from the Applicant in the course of fulfilling a Request, including, but not limited to, names, numbers, addresses, location plans, and boundary plans.
12. CoalSearchPlus+ may request clarification of data and/or information supplied by the Applicant.
13. If, subsequent to Clause 11. and/or Clause 12., requested data and/or information is not provided and/or clarified, CoalSearchPlus+ cannot be held responsible for any resultant loss or delay.
14. If, subsequent to Clause 11. and/or Clause 12., requested data and/or information is not provided and/or clarified within a reasonable period of time, CoalSearchPlus+ reserves the right to cancel the Request in whole or in part. The Applicant remains liable for all fees, Taxes and Disbursements accrued prior to the cancellation.
15. CoalSearchPlus+ reserves the right to subcontract data and/or information retrieval to selected Organisations and/or Individuals. CoalSearchPlus+ is not required to reveal the identity of its Subcontractors.
16. CoalSearchPlus+ will, in the process of fulfilling the request, retrieve data and/or information from publicly and/or commercially available sources and the CoalSearchPlus+ mining database. The sources of data used will primarily be data held by The Coal Authority under an agreement with the Health and Safety Executive, data owned by the British Geological Survey and the CoalSearchPlus+ database.
17. A CoalSearchPlus+ mining report is a report of the interpretation of the data sources in 16. made by CoalSearchPlus+ staff.
18. CoalSearchPlus+ coal mining search reports are based upon the plans and records available from data sources detailed in 16. at the time the report was produced. It should be understood that third party organisations reserve the right to vary their proposals and intentions as to their future mining operations without prior notice save as provided in the Coal Mining Subsidence Act 1994. CoalSearchPlus+ cannot be held responsible for changes to the future proposals and intentions of Third Parties.
19. The information and/or material supplied in a CoalSearchPlus+ coal mining report is composed from data based, in many cases, on measurements and records of various standards of reliability and age. In some instances (usually relating to older records) it is necessary for CoalSearchPlus+ to make assumptions regarding the 'best plot' position of mining features. For these reasons users of CoalSearchPlus+ reports should take the position of mining features detailed in reports to be indicative only.
20. The data and/or information that a coal mining search report is based on is constantly being updated. A CoalSearchPlus+ coal mining search report is based on the most up to date information available at the time that the report is produced however it cannot be guaranteed that the information and/or data will not become obsolete at some time in the future. Responsibility for the supply of accurate and up to date information to CoalSearchPlus+ lies with the data supplying organisations listed in 16.
21. A CoalSearchPlus+ coal mining search report relates only to coal mining and minerals worked in relation to coal mining. Other reports may be required in relation to other minerals.
22. A CoalSearchPlus+ coal mining search report is not a substitute for site investigation or a mining survey. Depending on the content of a coal mining search report, or whether development is intended, the Applicant must decide whether a site investigation or mining survey is required.
23. CoalSearchPlus+ coal mining reports comply with the Search Code.

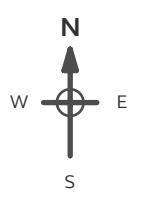
Serial Number 434494

24. All CoalSearchPlus+ reports are covered by professional indemnity insurance. The content of CoalSearchPlus+ coal mining search reports does not prevent any future claim being made by the Applicant against the Coal Authority in respect of coal mining related subsidence.
25. Any liability in the instance of negligence by CoalSearchPlus+ or its employees in the interpretation of coal mining data and/or the production and provision of coal mining reports will be limited to the extent of the CoalSearchPlus+ Professional Indemnity Insurance or the value of the loss caused by the negligence, whichever is the lower.
26. All CoalSearchPlus+ coal mining search reports give the information detailed in the services section of the CoalSearchPlus+ website and summarised in the report. Further explanation of this information is available in the Glossary and/or the Frequently Asked Questions areas of the CoalSearchPlus+ website. Alternatively contact CoalSearchPlus+ who will be happy to explain the content of a report.
27. The Request is fulfilled when all reports, data and/or information requested by the Applicant have been retrieved and/or compiled by CoalSearchPlus+ and delivered by electronic mail (e-mail) or fax or post or document exchange (DX) or a combination of these methods as required by the Applicant. Alternative delivery arrangements are at the discretion of CoalSearchPlus+.
28. If Requests for multiple reports, data and/or information relating to multiple addresses were made on a single order form these will be fulfilled individually by the delivery of the reports, data and/or information relating to each individual address being treated as an individual Request.
29. CoalSearchPlus+ is not responsible for any loss or misdelivery of retrieved data and/or information caused by failure of Document Exchange (DX), Royal Mail or internet service provider. Most retrieved data and/or information is archived by CoalSearchPlus+ and a copy may be requested by the Applicant. If the data and/or information could not be archived CoalSearchPlus+ reserves the right to treat the request as a new Request.
30. Delivery, by whatever agreed means, will be accompanied by an invoice. Delivery by electronic mail may be followed up with a paper invoice by post or DX. Where Applicants have agreed account facilities with CoalSearchPlus+ invoicing may be on a monthly basis. In all cases the Applicant agrees to provide CoalSearchPlus+ with remuneration for the full amount shown on the invoice, including all Fees, Taxes and Disbursements.
31. The Applicant will be liable for payment of the full invoice amount within 14 days from the date of receipt of the invoice. CoalSearchPlus+ reserve the right to charge for costs and expenses incurred in recovering late payments and to charge interest at the rate of 8% above the Bank of England base rate per annum for the full period that the payments are overdue.
32. Where full payment of the invoice is not made by the Applicant within 14 days from receipt of the invoice CoalSearchPlus+ reserve the right to withdraw account facilities from the Applicant and cancel any individual agreements concerning fees or other Terms and Conditions that may have been made between the Applicant and CoalSearchPlus+.
33. Where possible the Applicant will receive Advance Notice of the cost of the Request, including all Fees, Taxes and Disbursements, prior to receipt of the invoice. This advance notice will take the form of the price for the service requested as published on the CoalSearchPlus+ website, or the price as individually agreed between CoalSearchPlus+ and the Applicant.
34. Additional Fees, Taxes and Disbursements may arise during the course of data and/or information retrieval, over and above Advance Notice costs as in clause 33. The Applicant is liable for any such additional costs. Where possible, the Applicant is notified of additional costs prior to fulfilment of the Request.
35. If the Applicant shall pay in advance of receipt of the invoice, then the Applicant remains liable for any underpayment.
36. Any overpayment on the part of the Applicant will be refunded. Arrangements for refunds are agreed on a case-by-case basis, through discussion between CoalSearchPlus+ and the Applicant.
37. The Applicant may cancel the Request in whole or in part at any time prior to Clause 27.
38. If the Applicant cancels the Request in whole or in part prior to Clause 27, the Applicant remains liable for all Fees, Taxes and Disbursements already accrued prior to the Cancellation.
39. CoalSearchPlus+ accept no liability for any loss incurred by the Applicant or the Applicants client where the Applicant is acting as an agent for a client, due to late fulfilment and delivery of the Request.
40. CoalSearchPlus+ accept no liability for any loss to the Applicant, or the Applicant's client where the Applicant is acting as an agent for a client, due to any negative outcome of a report provided in the process of the correct and accurate fulfilment of the Request.
41. Any disputes relating to the provision of coal mining search reports should be addressed to the Practice Principal, CoalSearchPlus+ in the first instance. Disputes will be settled according to the CoalSearchPlus+ complaints procedure detailed in each report.
42. Independent Dispute Resolution - If you make a complaint and we are unable to resolve it to your satisfaction you may refer the complaint to The Property Ombudsman scheme (website: www.tpos.co.uk email: admin@tpos.co.uk Tel: 01722 333306). We will cooperate fully with the Ombudsman during an investigation and comply with his final decision.
43. Third Party and subcontractor Terms and Conditions shall apply in addition to these clauses. Should any conflict arise between CoalSearchPlus+ Terms and Conditions and Third Party or Subcontractor Terms and Conditions, then CoalSearchPlus+ Terms and Conditions prevail unless and until CoalSearchPlus+ expressly states otherwise in writing and/or courts of England and Wales establish otherwise.
44. No variation to these Terms and Conditions is effective unless and until CoalSearchPlus+ expressly agrees in writing.
45. CoalSearchPlus+ reserves the right to alter these terms and conditions as appropriate, without notice, at any time. Such amended Terms and Conditions will become effective upon publication on the CoalSearchPlus+ website.
46. These Terms and conditions are subject to English Law and the exclusive jurisdiction of the courts of England and Wales.

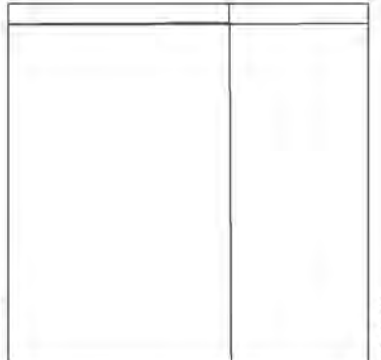
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 BARNES JUNIOR SCHOOL,
 MOUNT ROAD, SUNDERLAND,
 SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: County Series
Map date: 1855-1857
Scale: 1:2,500
Printed at: 1:2,500



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 Edition N/A
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Surveyed 1857
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 Levelled N/A

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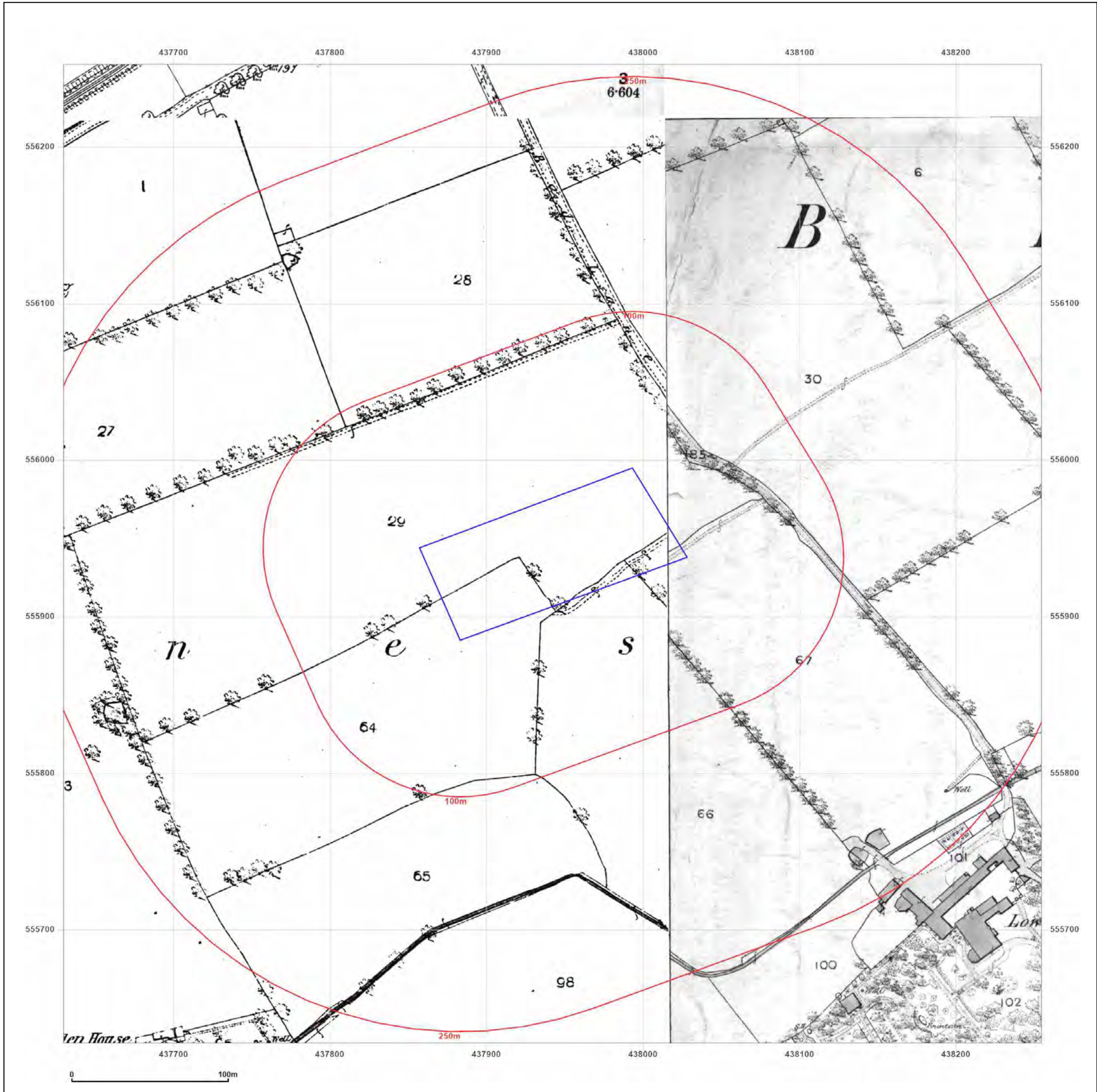
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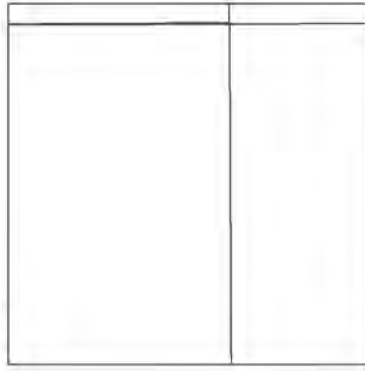
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 SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: County Series
Map date: 1896-1897
Scale: 1:2,500
Printed at: 1:2,500



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 Revised 1896
 Edition N/A
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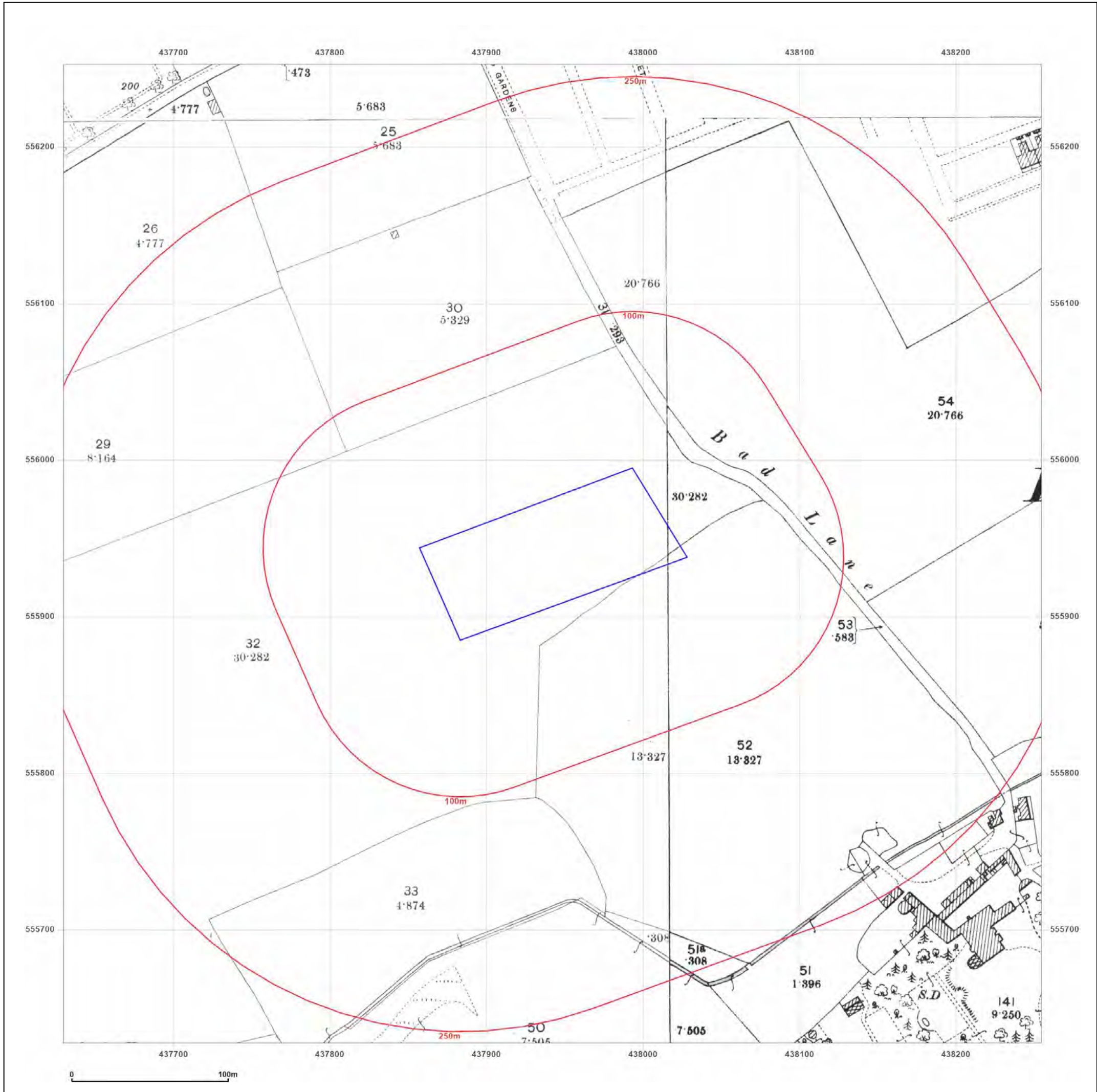


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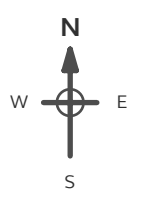


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MOUNT ROAD, SUNDERLAND,
SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: County Series
Map date: 1919-1920
Scale: 1:2,500
Printed at: 1:2,500



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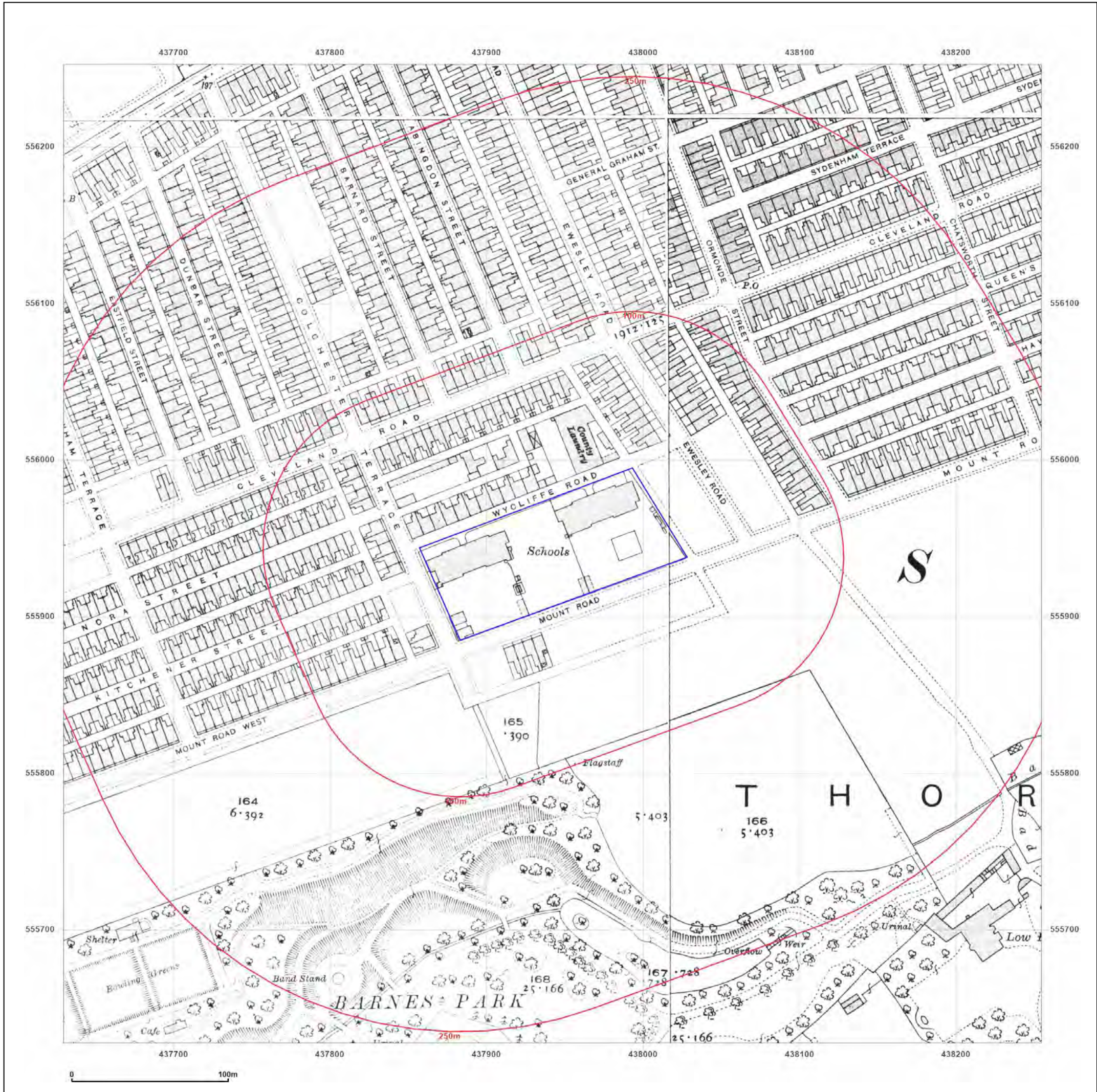


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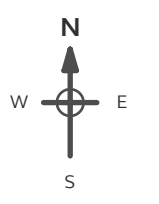
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Map Name: County Series

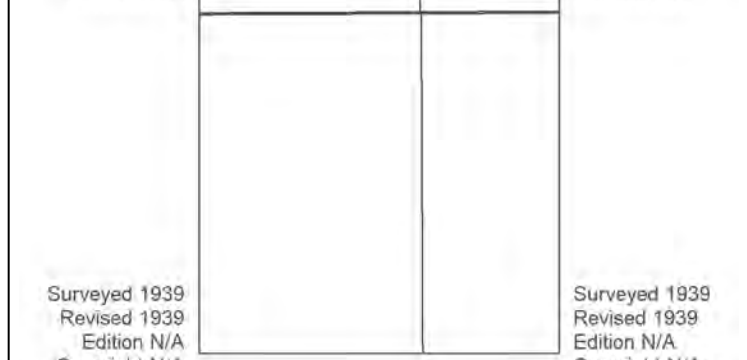
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Scale: 1:2,500

Printed at: 1:2,500



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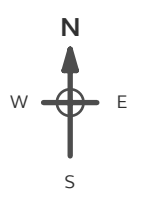
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Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid

Map date: 1953-1955

Scale: 1:1,250

Printed at: 1:2,000



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Surveyed 1954
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Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid

Map date: 1954-1955

Scale: 1:1,250

Printed at: 1:2,000



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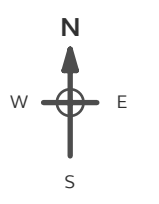


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SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid
Map date: 1953-1955
Scale: 1:2,500
Printed at: 1:2,500



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Production date: 01 March 2021

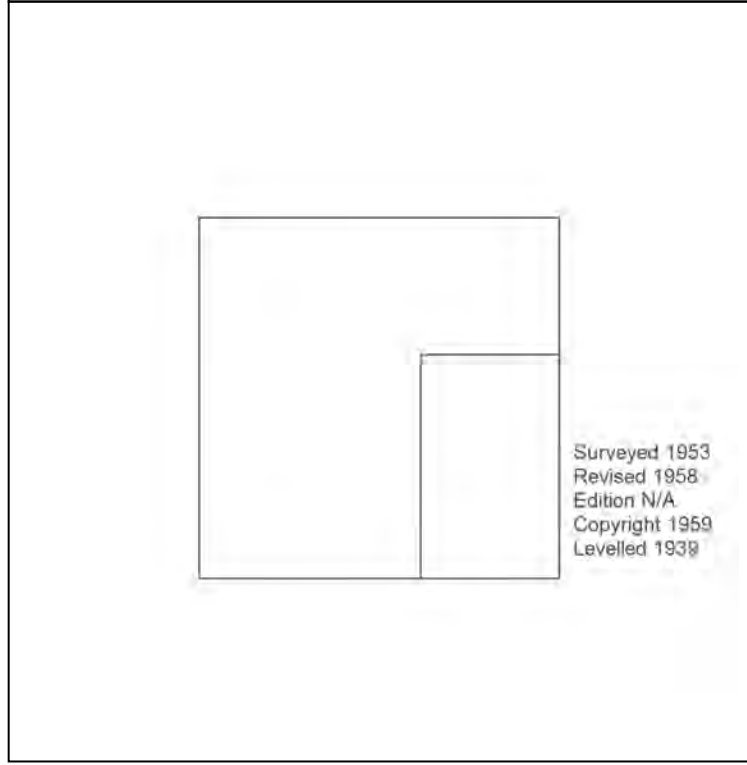
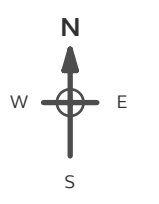
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:
 BARNES JUNIOR SCHOOL,
 BARNES JUNIOR SCHOOL,
 MOUNT ROAD, SUNDERLAND,
 SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid
Map date: 1959
Scale: 1:1,250
Printed at: 1:2,000



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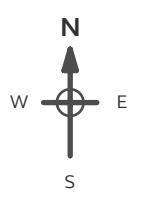
Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Site Details:
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 BARNES JUNIOR SCHOOL,
 MOUNT ROAD, SUNDERLAND,
 SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid
Map date: 1963-1969
Scale: 1:2,500
Printed at: 1:2,500



| | |
|--|--|
| <p>Surveyed 1966 Revised 1966 Edition N/A Copyright 1968 Levelled 1963</p> | <p>Surveyed 1967 Revised 1967 Edition N/A Copyright 1969 Levelled 1963</p> |
| <p>Surveyed 1963 Revised 1963 Edition N/A Copyright 1967 Levelled 1963</p> | <p>Surveyed 1953 Revised 1969 Edition N/A Copyright 1971 Levelled 1963</p> |



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SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid

Map date: 1969-1974

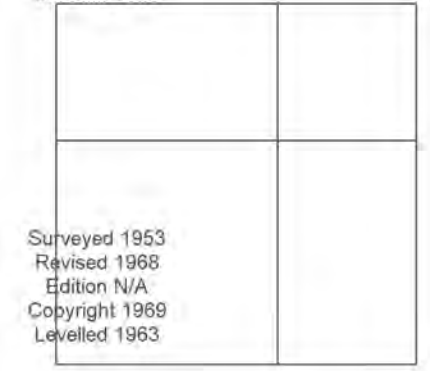
Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1955
Revised 1973
Edition N/A
Copyright 1974
Levelled 1963

Surveyed 1954
Revised 1972
Edition N/A
Copyright 1972
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Surveyed 1953
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SR4 7QF

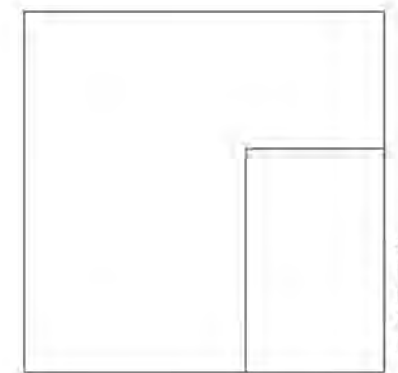
Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid

Map date: 1976

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1953
Revised 1975
Edition N/A
Copyright 1976
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SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid

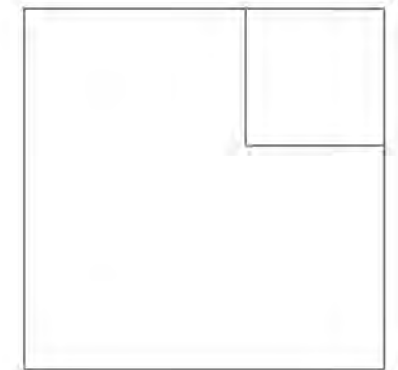
Map date: 1988

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1983
Revised 1988
Edition N/A
Copyright 1988
Levelled 1983

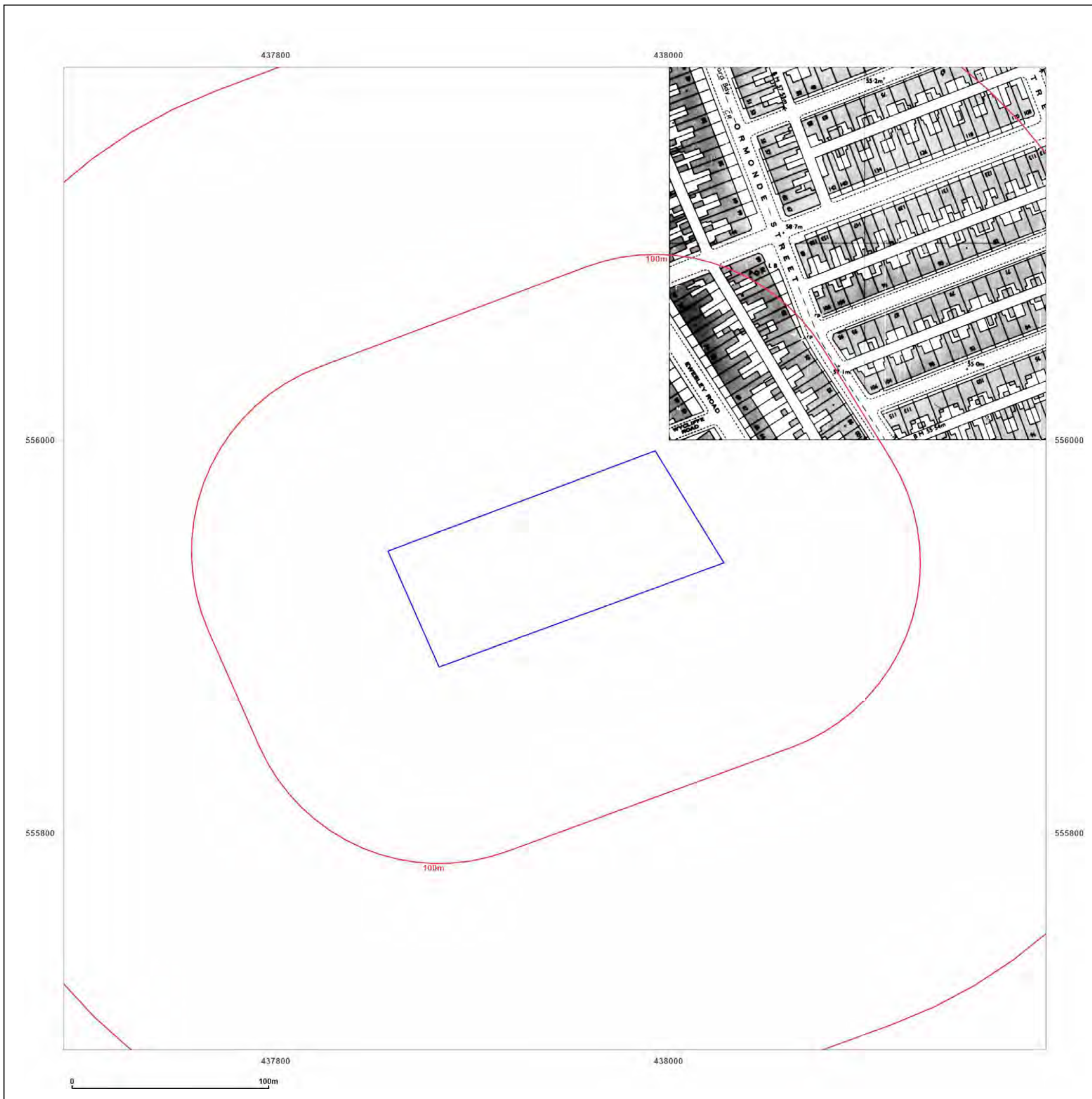


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SR4 7QF

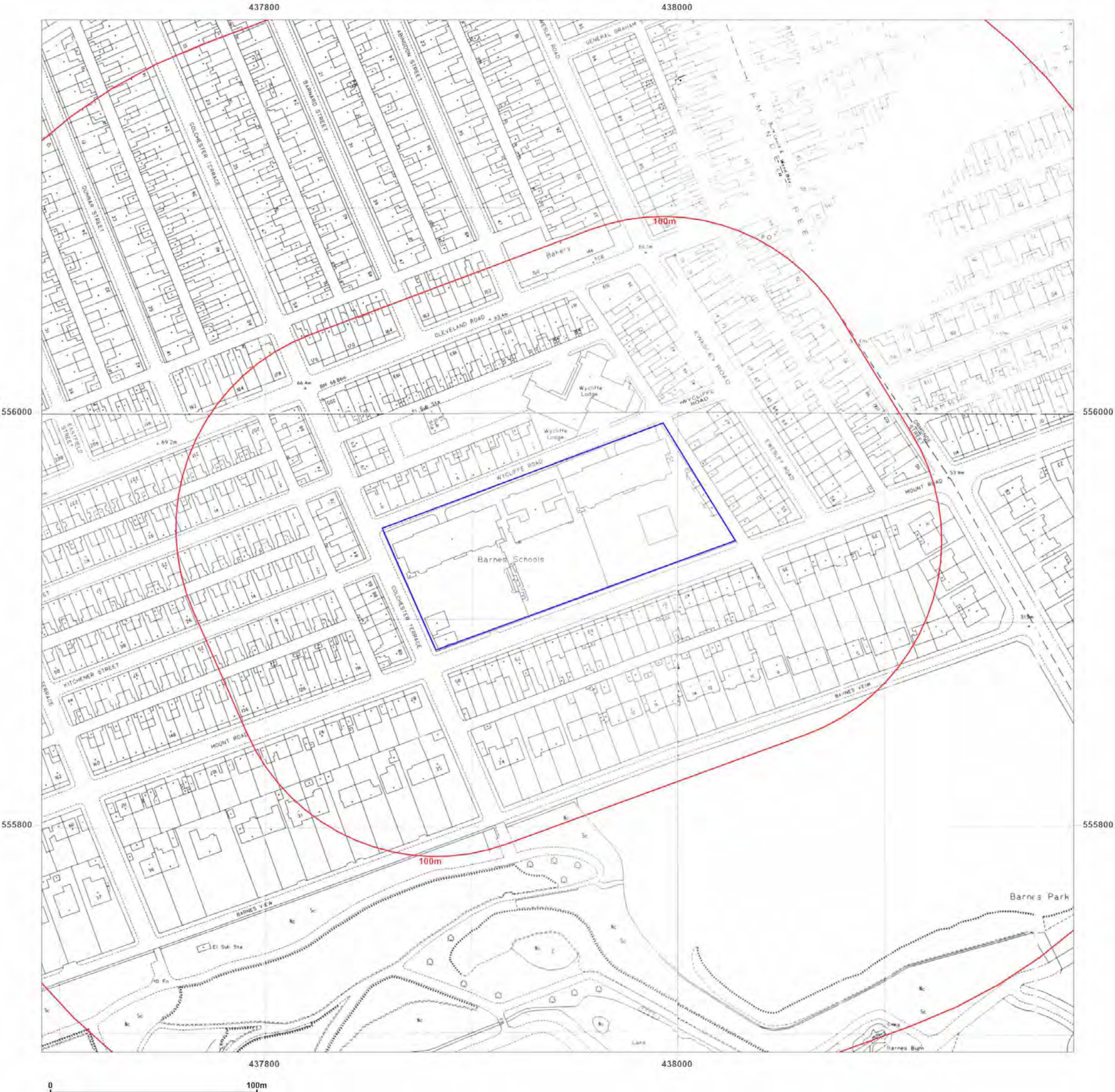
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Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid

Map date: 1988-1993

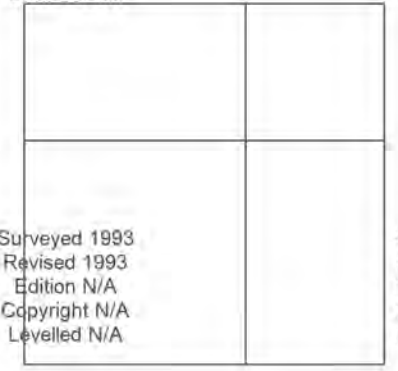
Scale: 1:1,250

Printed at: 1:2,000



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

Surveyed 1988
Revised 1988
Edition N/A
Copyright 1988
Levelled N/A



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Edition N/A
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SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid

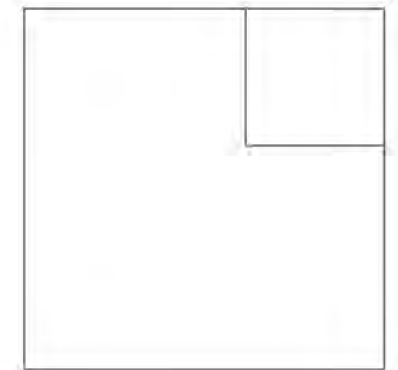
Map date: 1993

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1993
Revised 1993
Edition N/A
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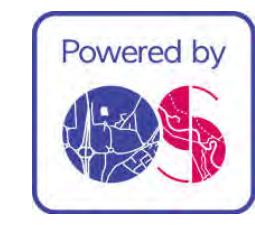
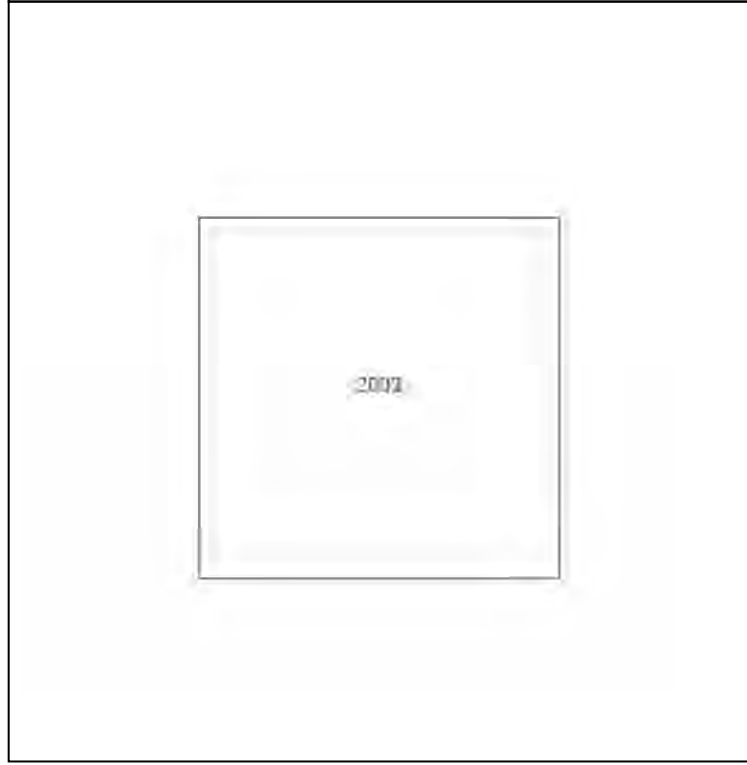
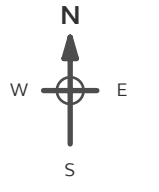
Map legend available at:
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SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: LandLine
Map date: 2003
Scale: 1:1,250
Printed at: 1:1,250



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SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: County Series

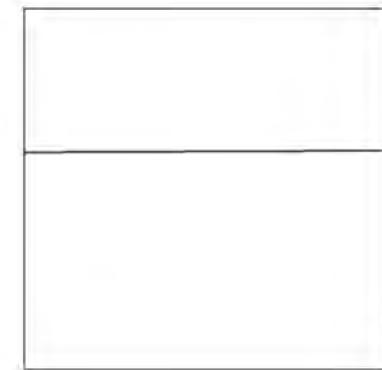
Map date: 1855-1856

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1855
Revised 1855
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1856
Revised 1856
Edition N/A
Copyright N/A
Levelled N/A

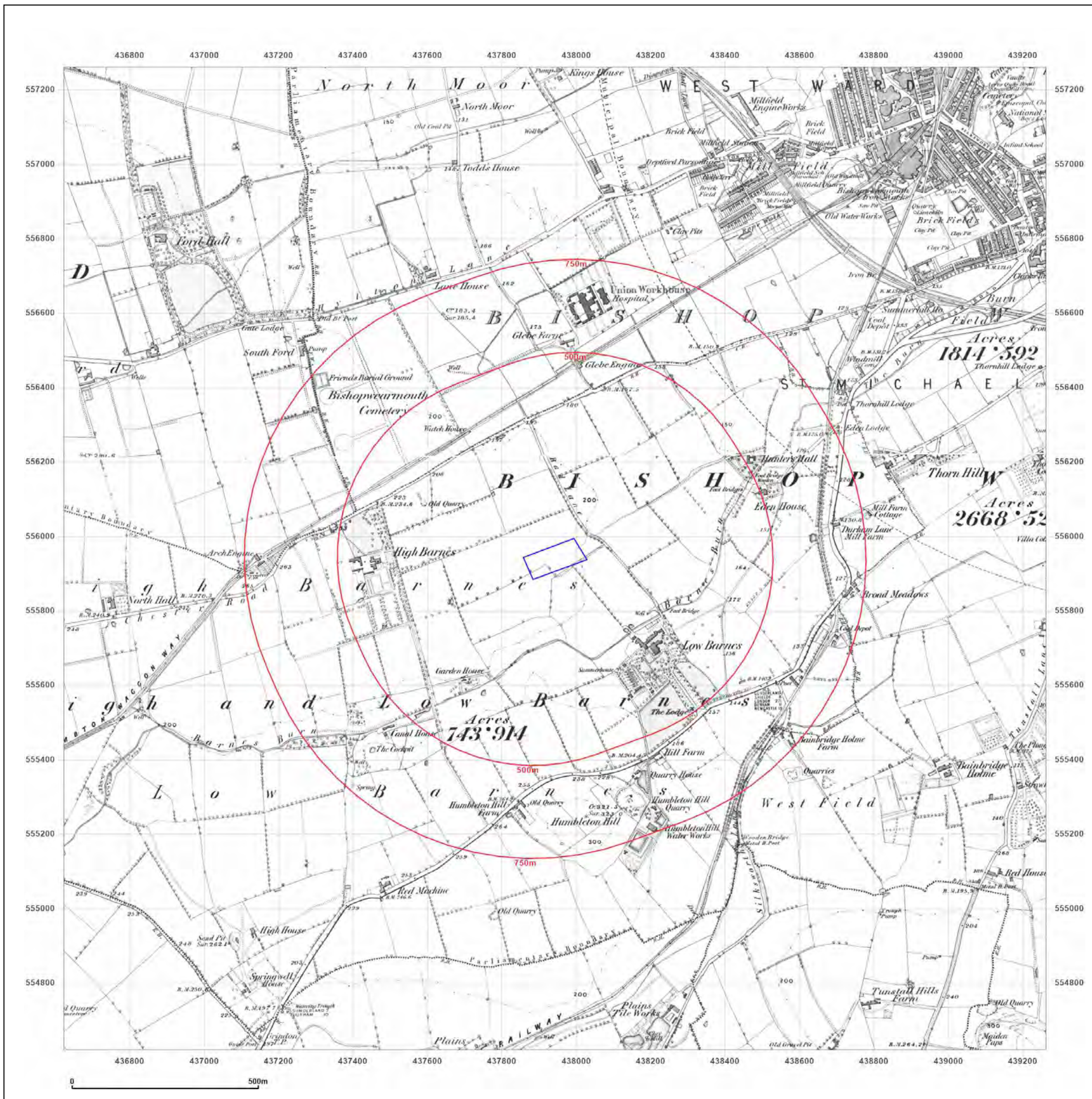


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SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: County Series

Map date: 1895

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1857
Revised 1895
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1856
Revised 1895
Edition N/A
Copyright N/A
Levelled N/A

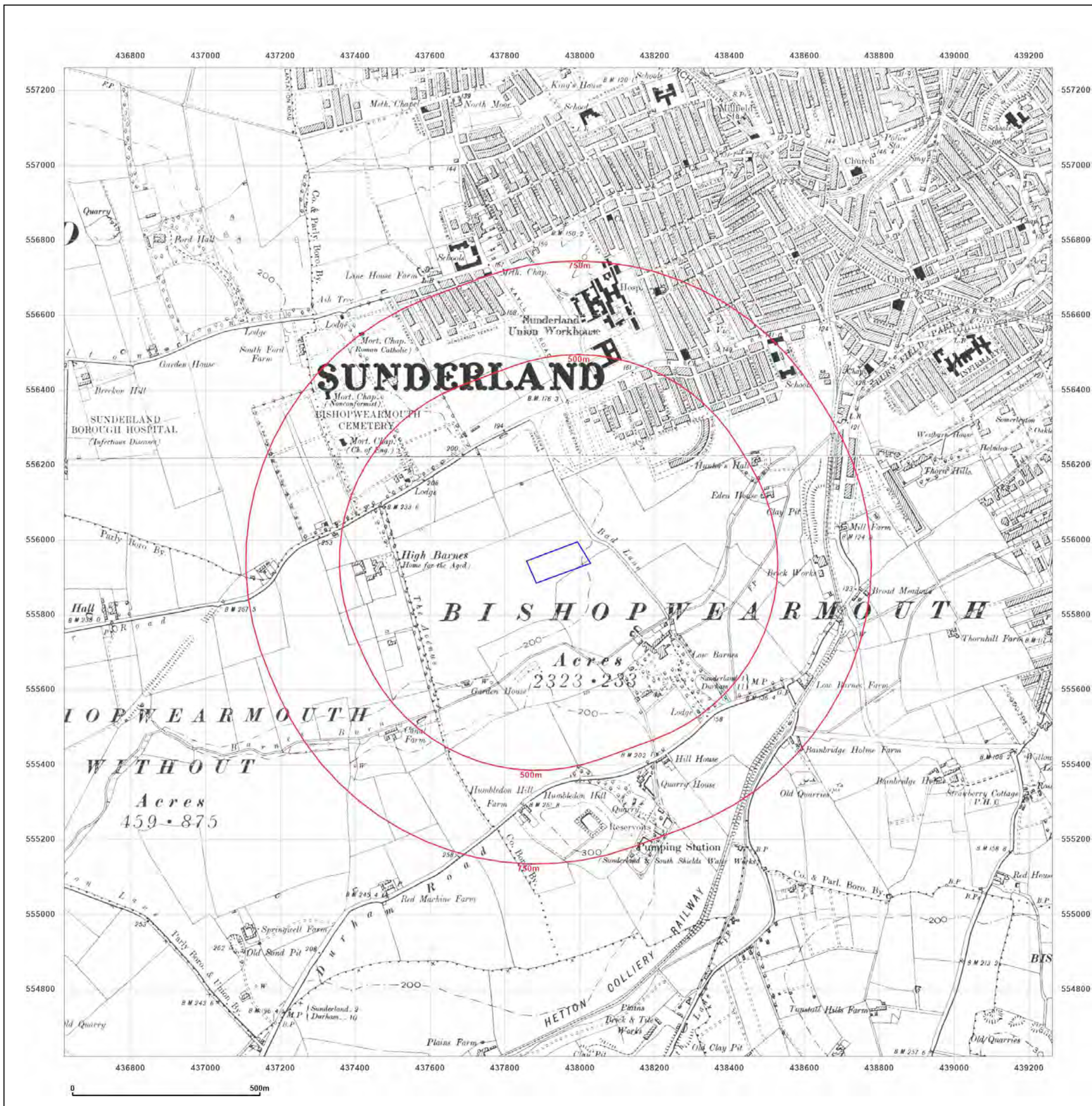


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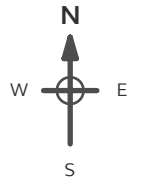
Map legend available at:
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 MOUNT ROAD, SUNDERLAND,
 SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: County Series
Map date: 1914
Scale: 1:10,560
Printed at: 1:10,560



Surveyed 1855
 Revised 1914
 Edition N/A
 Copyright N/A
 Levelled N/A

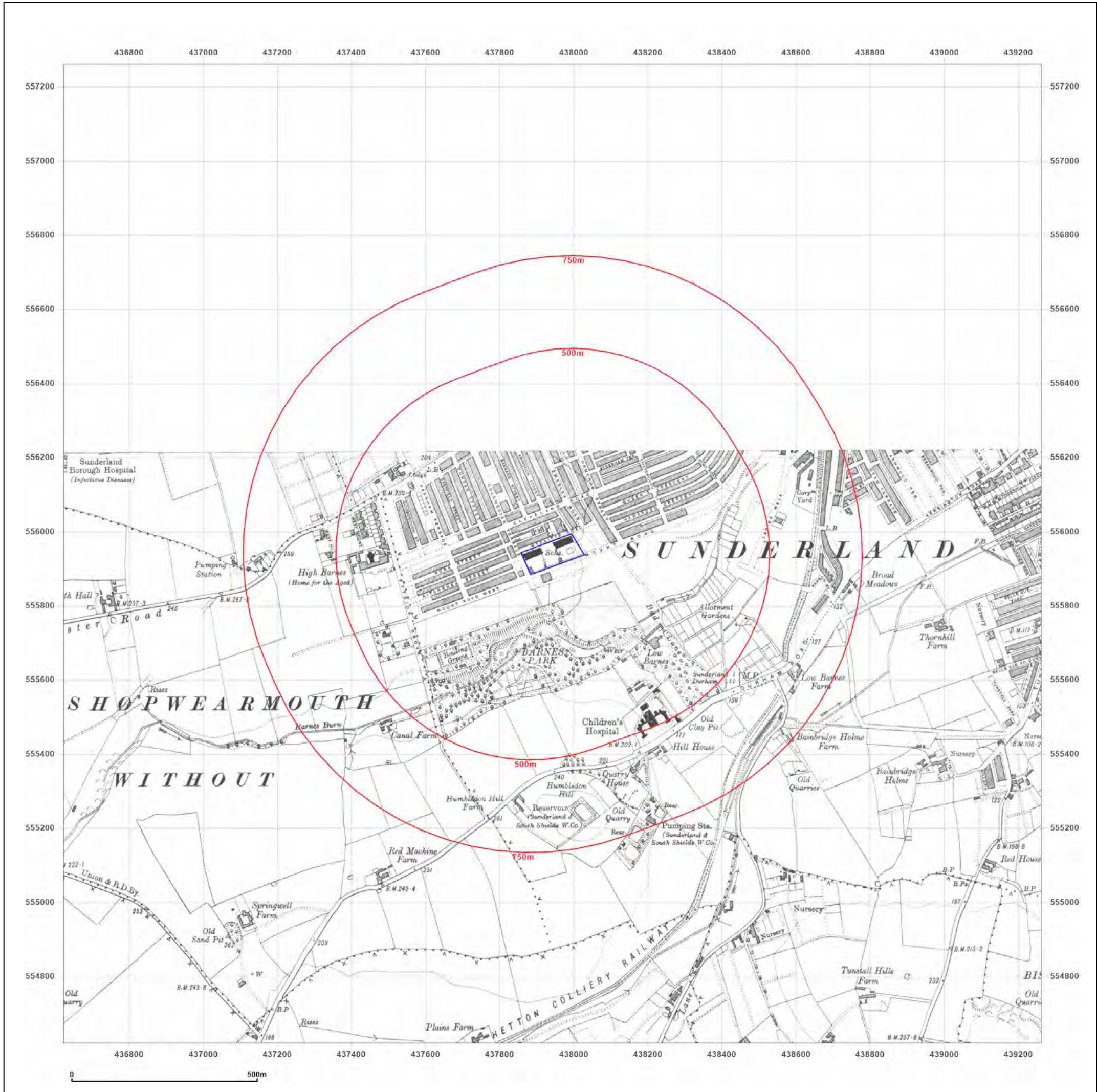
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SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: County Series

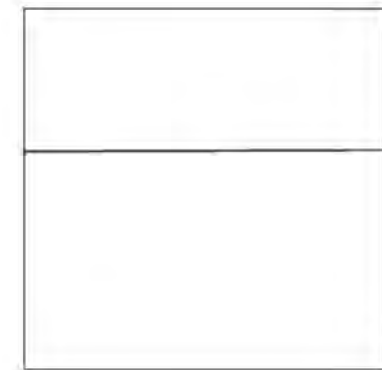
Map date: 1921

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1857
Revised 1921
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1855
Revised 1921
Edition N/A
Copyright N/A
Levelled N/A

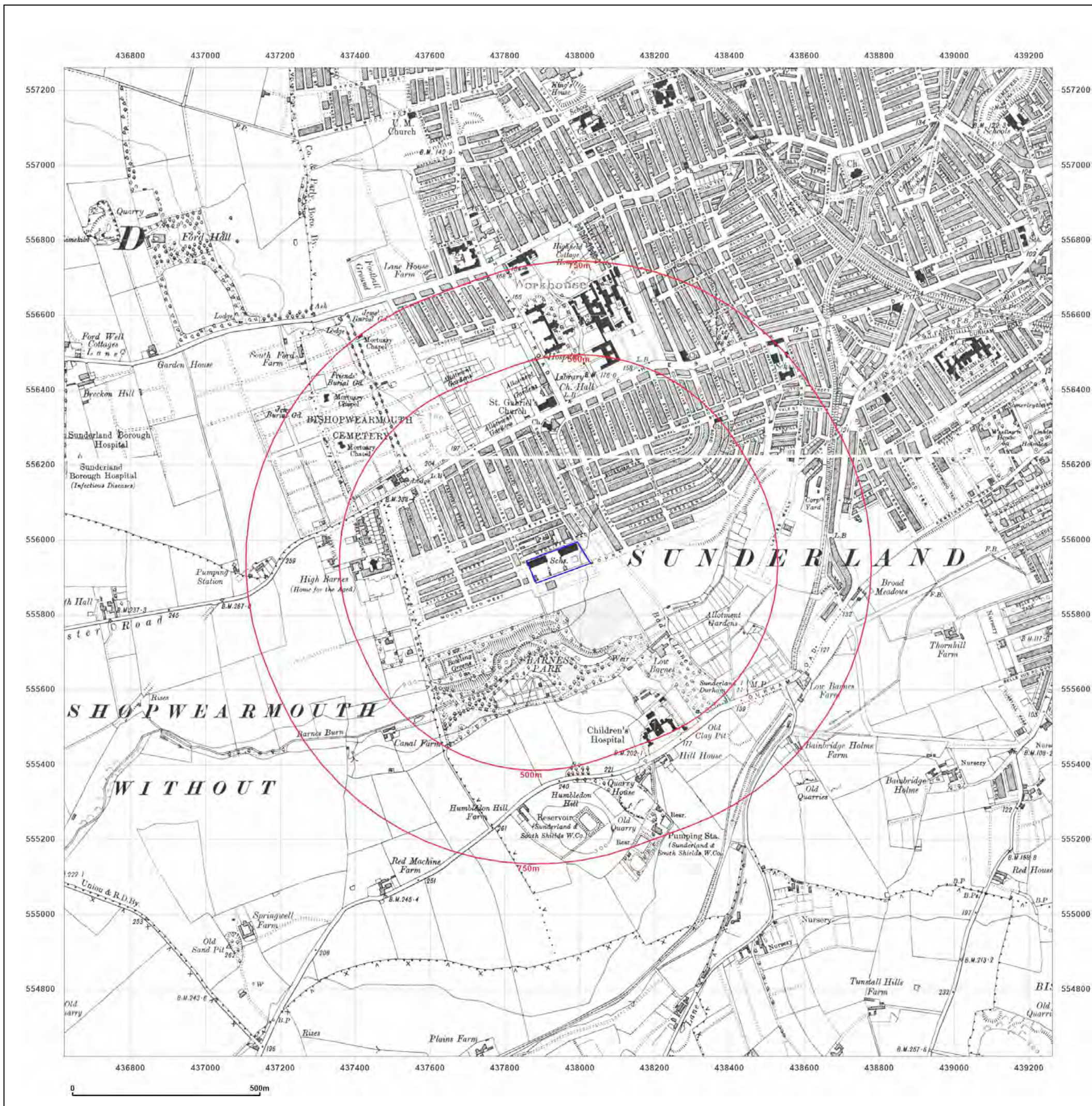


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SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: County Series

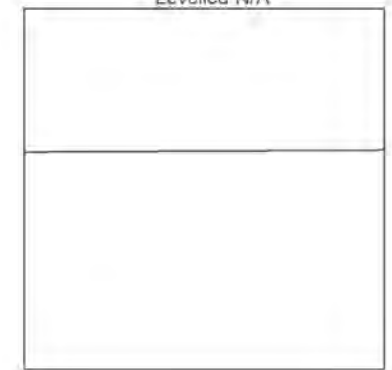
Map date: 1921

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1857
Revised 1921
Edition 1921
Copyright N/A
Levelled N/A

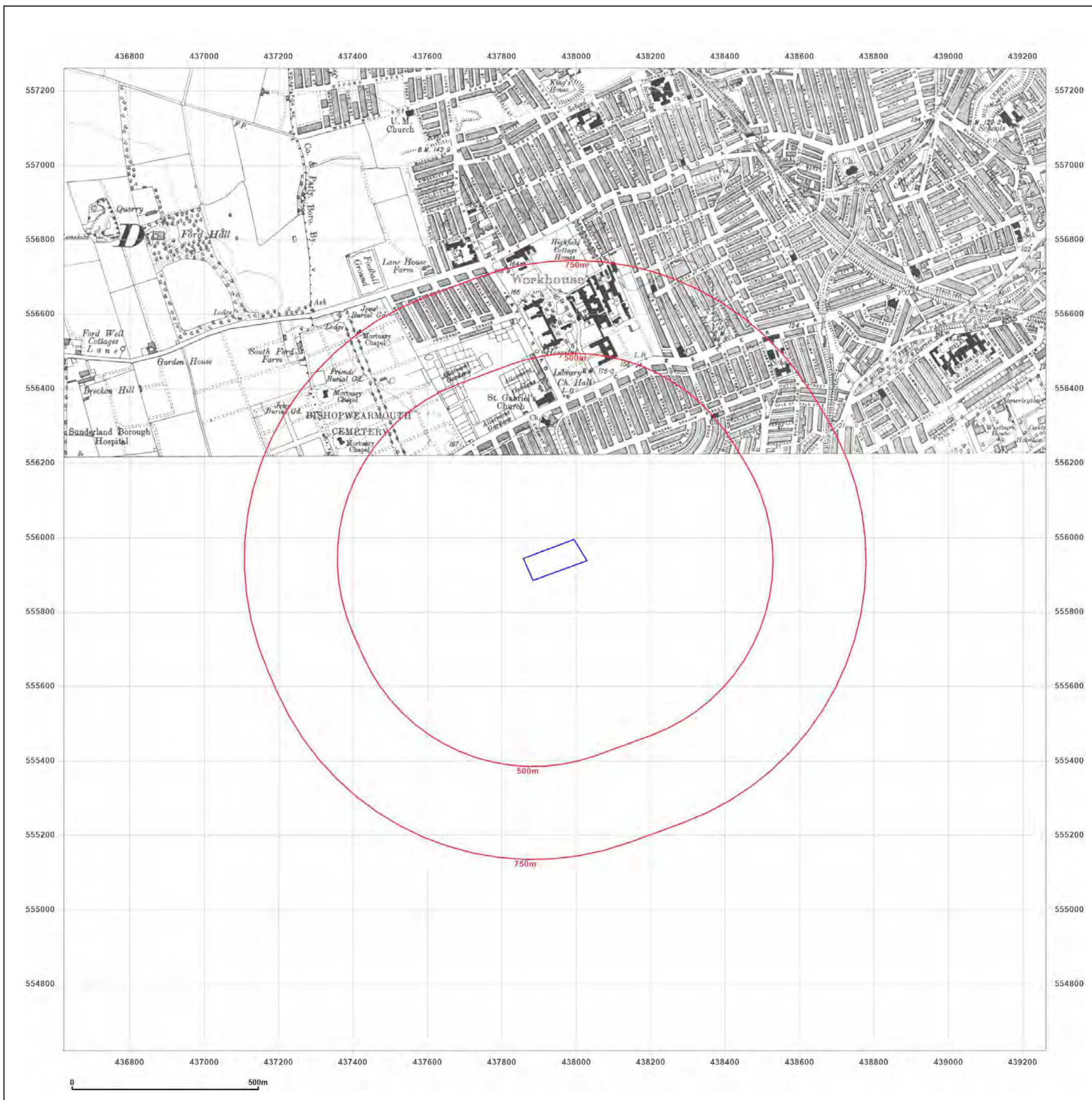


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SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: County Series

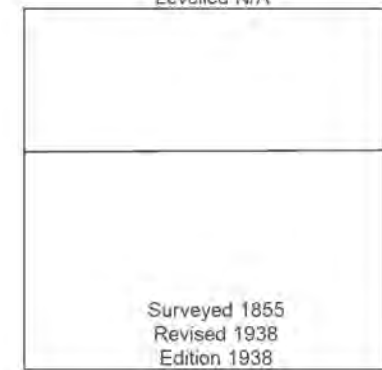
Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1857
Revised 1938
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1855
Revised 1938
Edition 1938
Copyright N/A
Levelled N/A

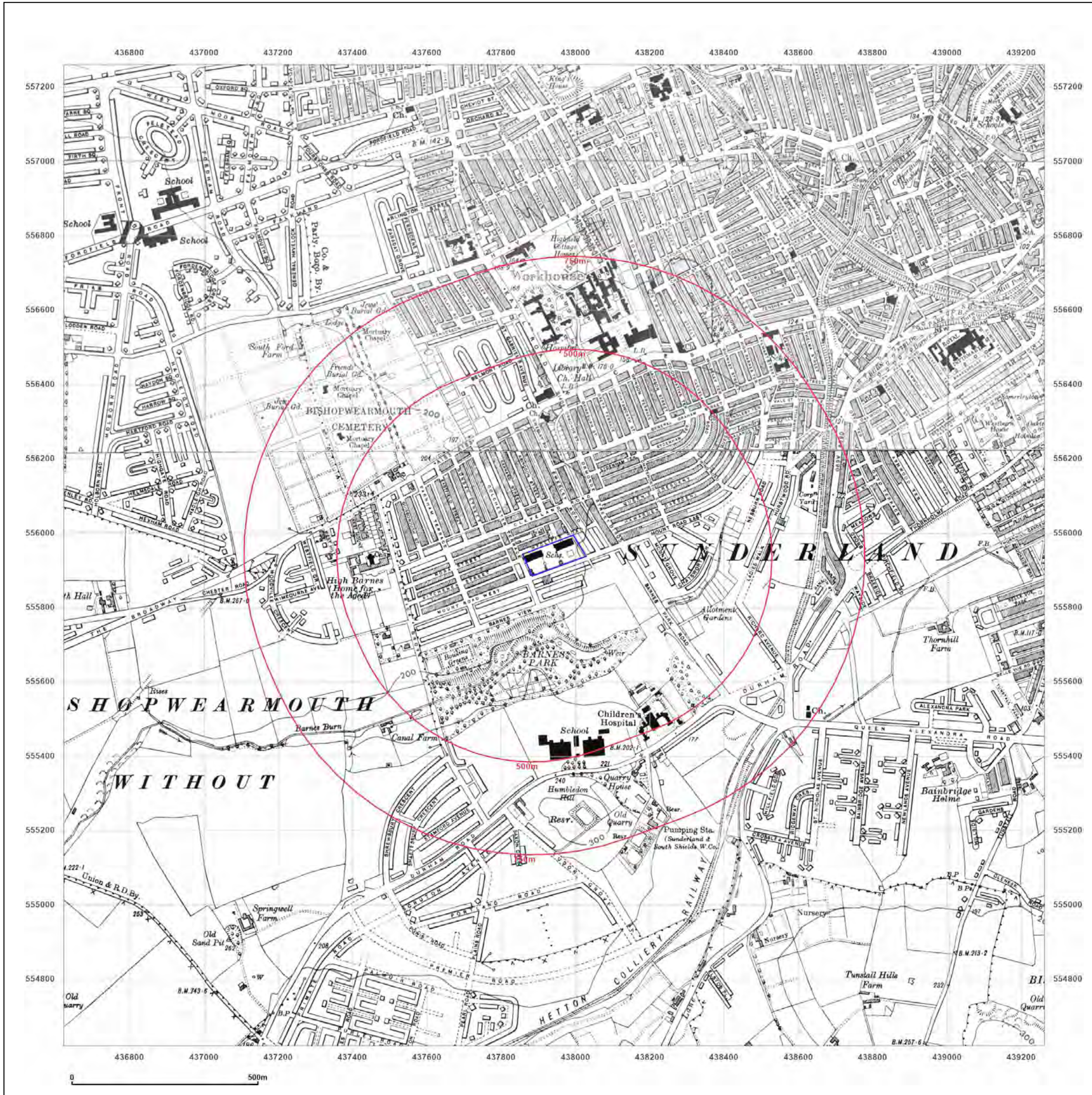


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SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: Provisional

Map date: 1951

Scale: 1:10,560

Printed at: 1:10,560



Surveyed N/A
Revised 1940
Edition 1951
Copyright N/A
Levelled N/A

Surveyed 1940
Revised 1940
Edition N/A
Copyright 1951
Levelled N/A

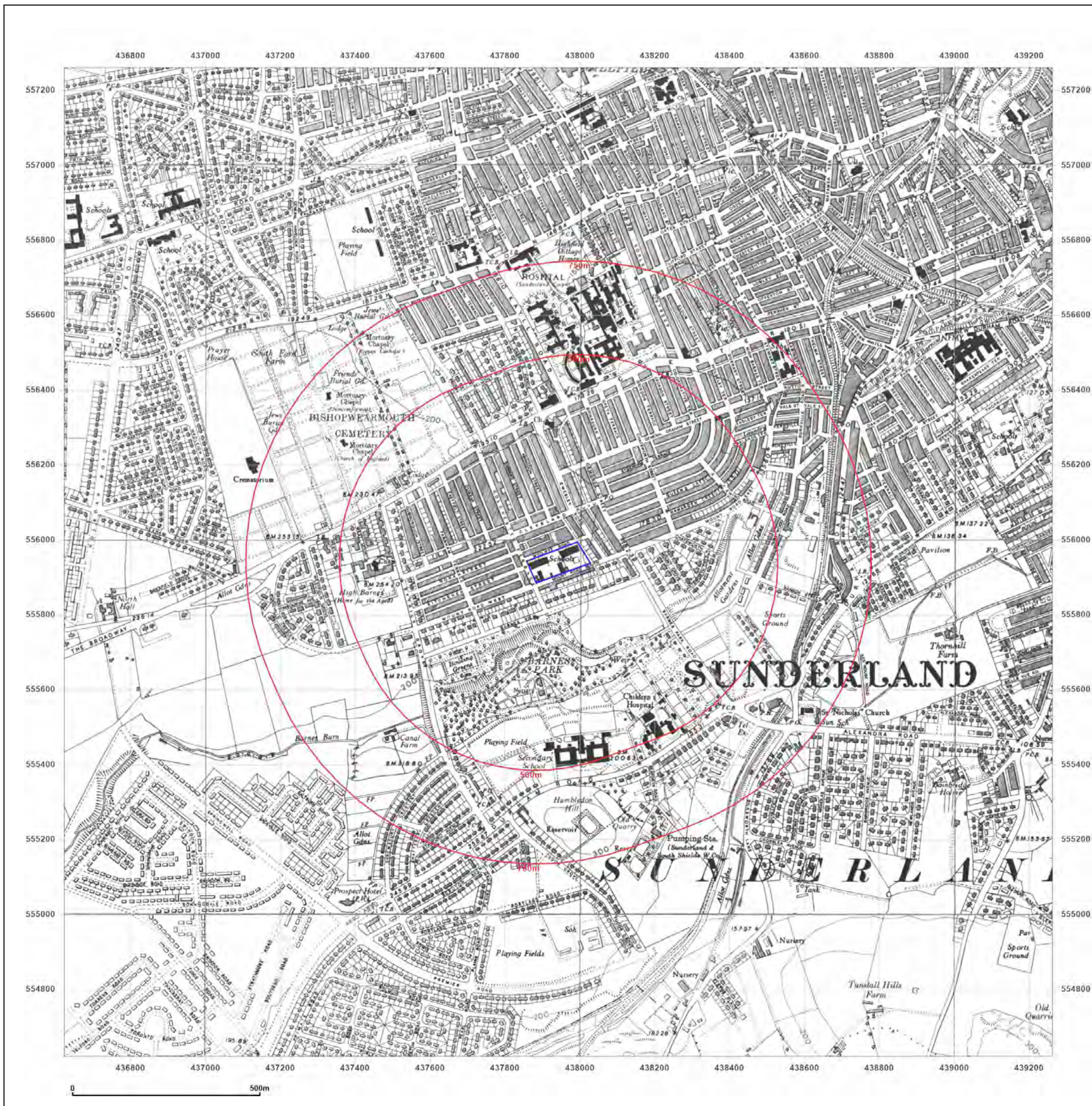


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SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: Provisional

Map date: 1967

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1967
Revised 1967
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1967
Revised 1967
Edition N/A
Copyright N/A
Levelled N/A

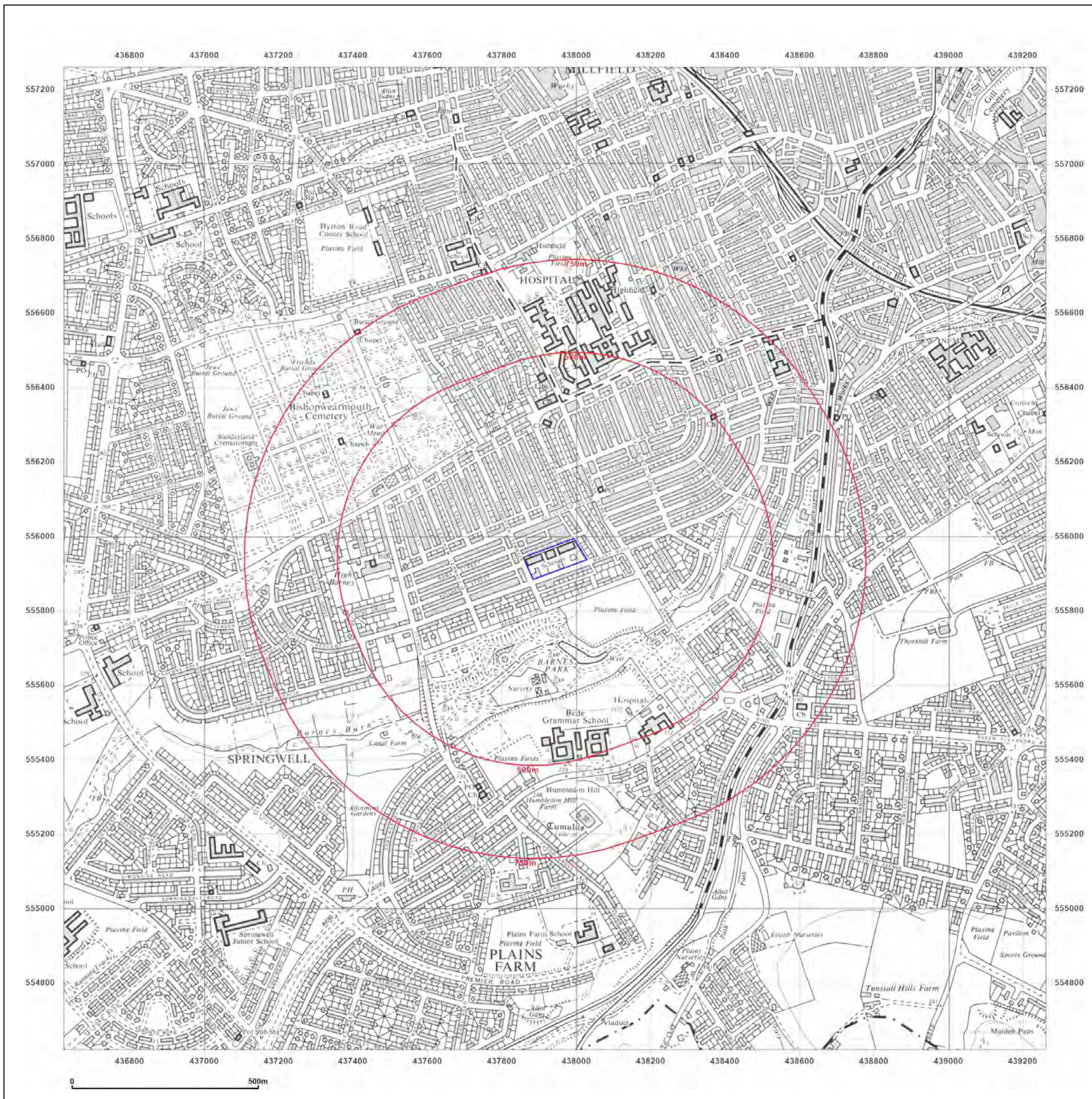


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SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid

Map date: 1974

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1974
Revised 1974
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1974
Revised 1974
Edition N/A
Copyright N/A
Levelled N/A

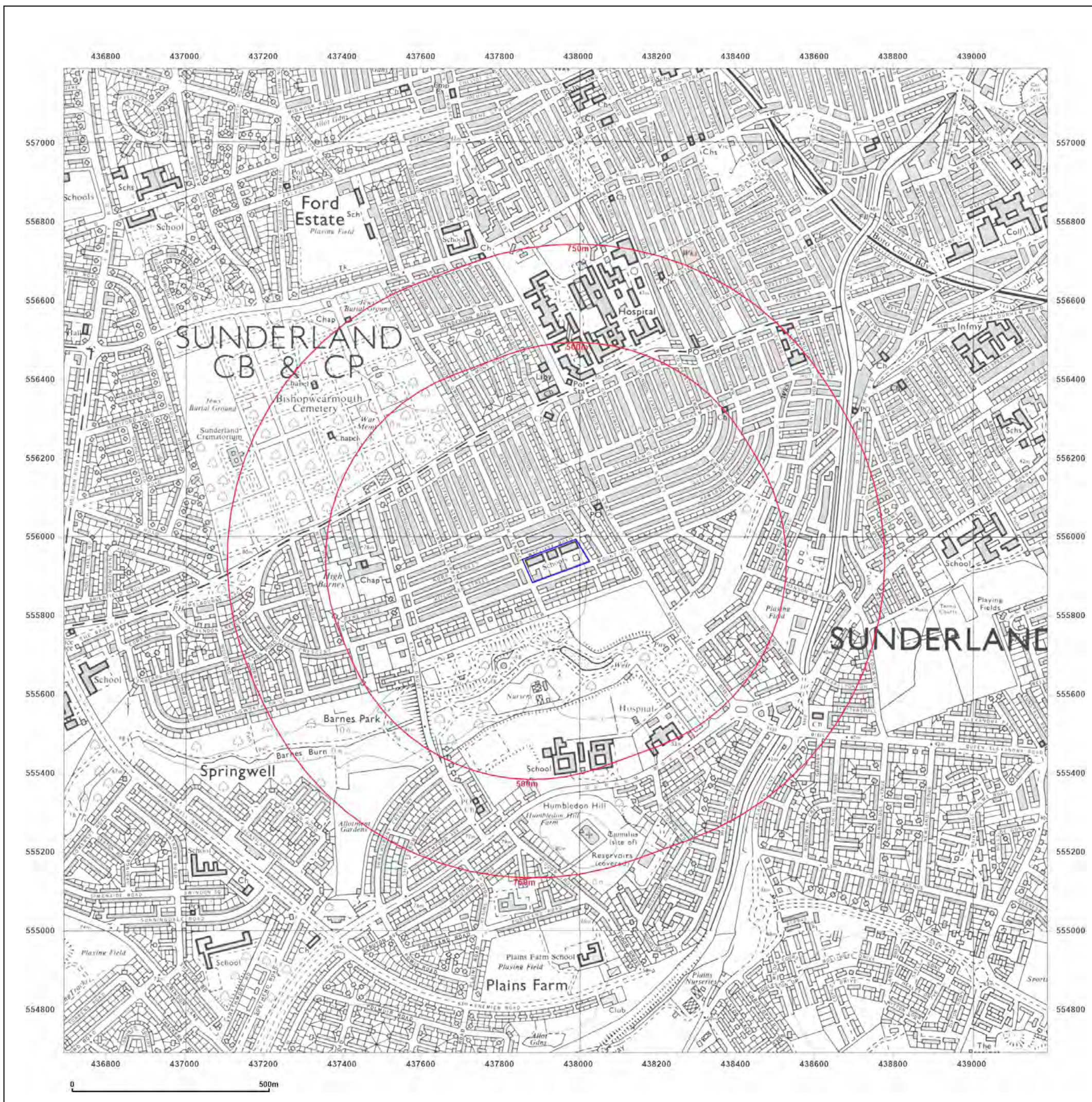


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MOUNT ROAD, SUNDERLAND,
SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid

Map date: 1985-1988

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1985
Revised 1985
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1985
Revised 1988
Edition N/A
Copyright N/A
Levelled N/A

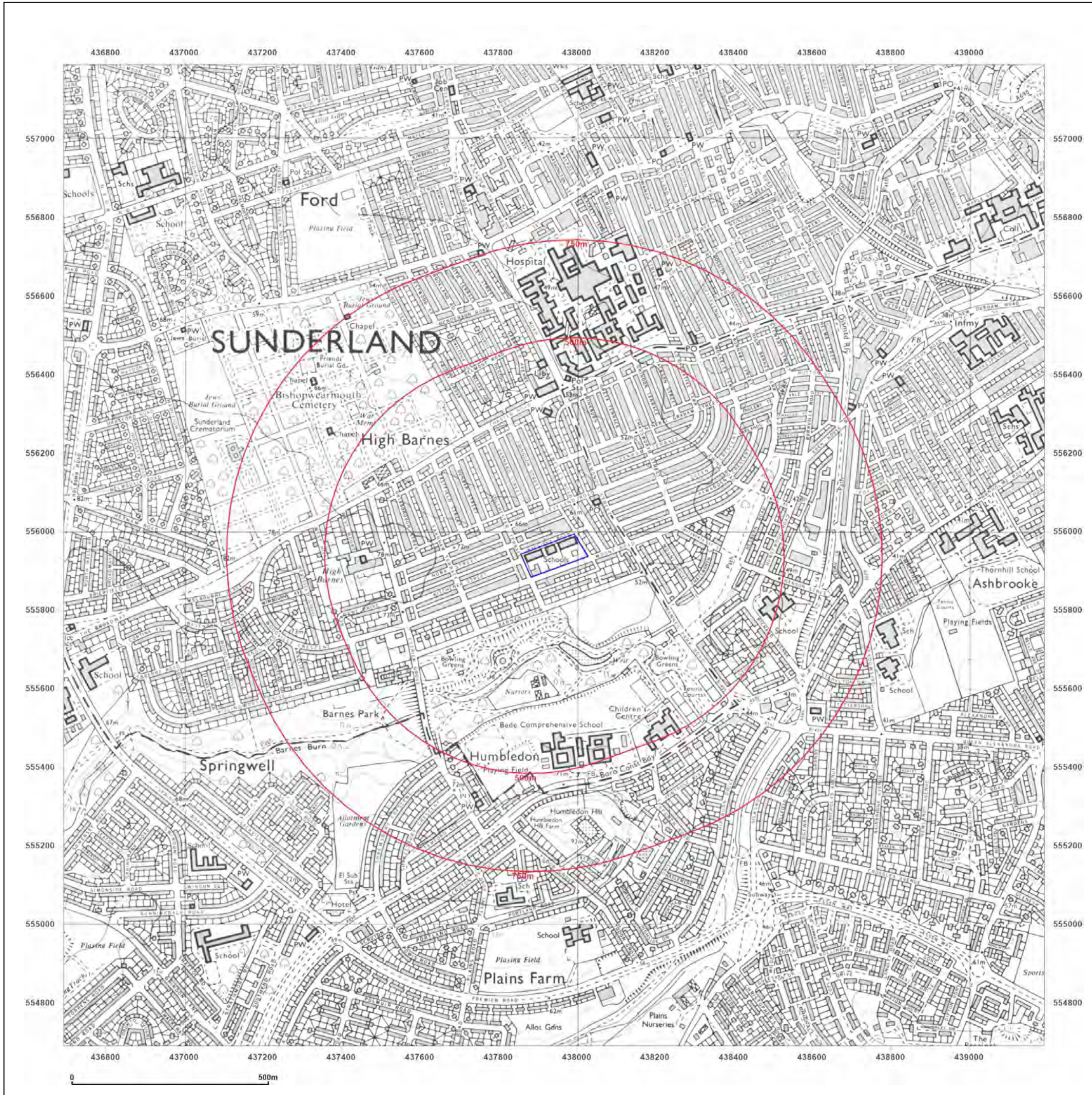


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MOUNT ROAD, SUNDERLAND,
SR4 7QF

Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid

Map date: 1992

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1985
Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

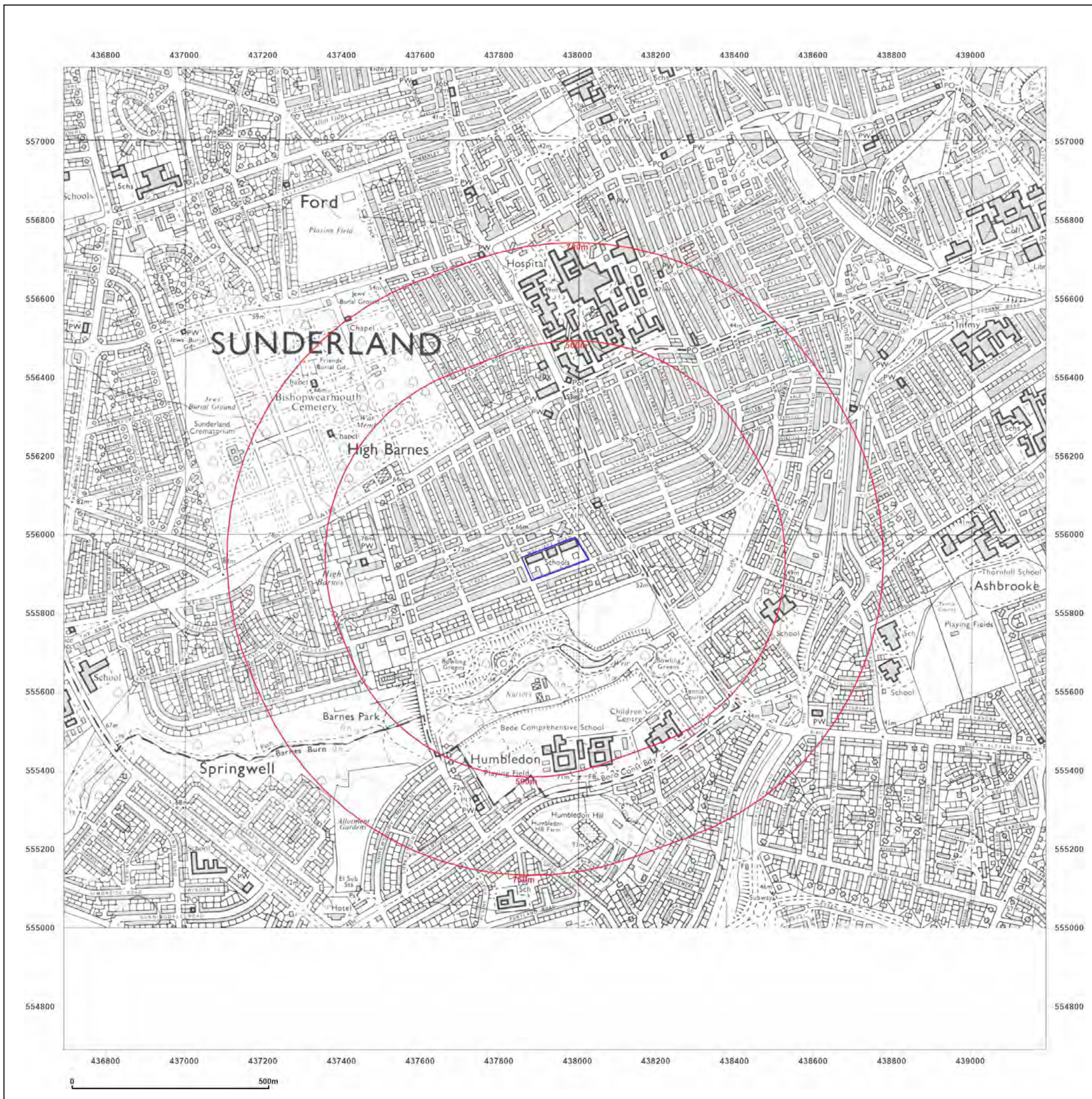


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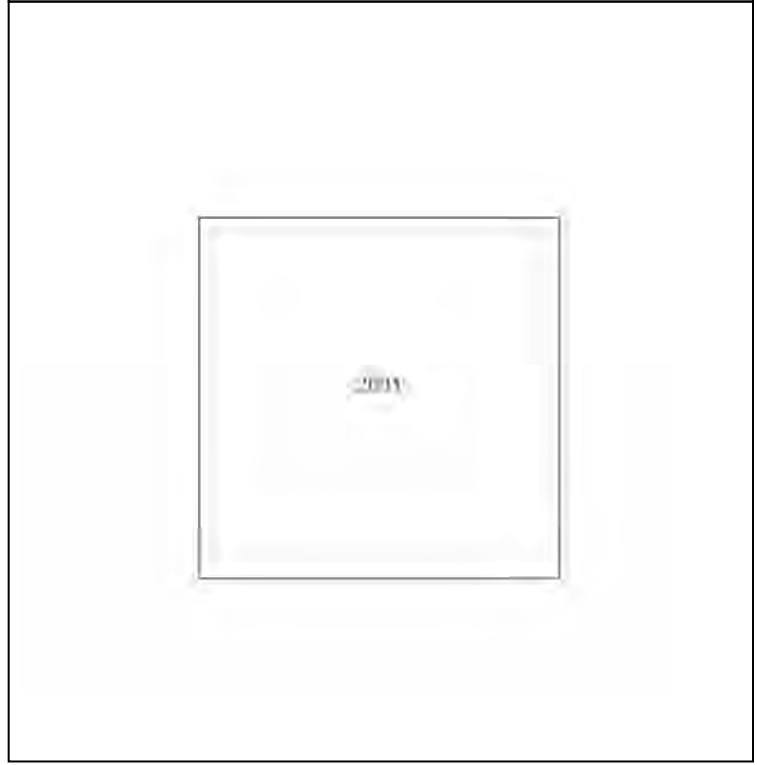
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Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000

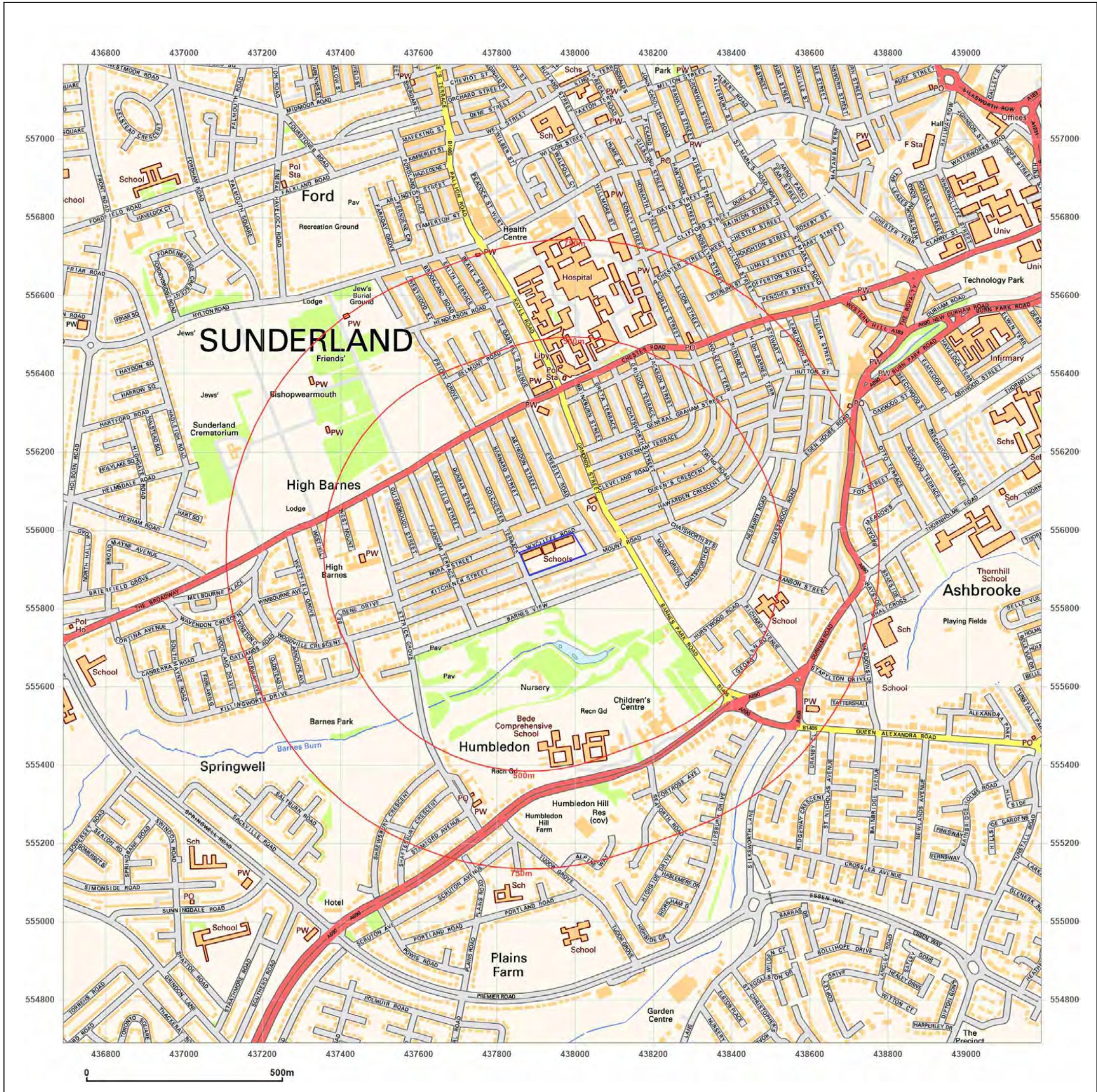


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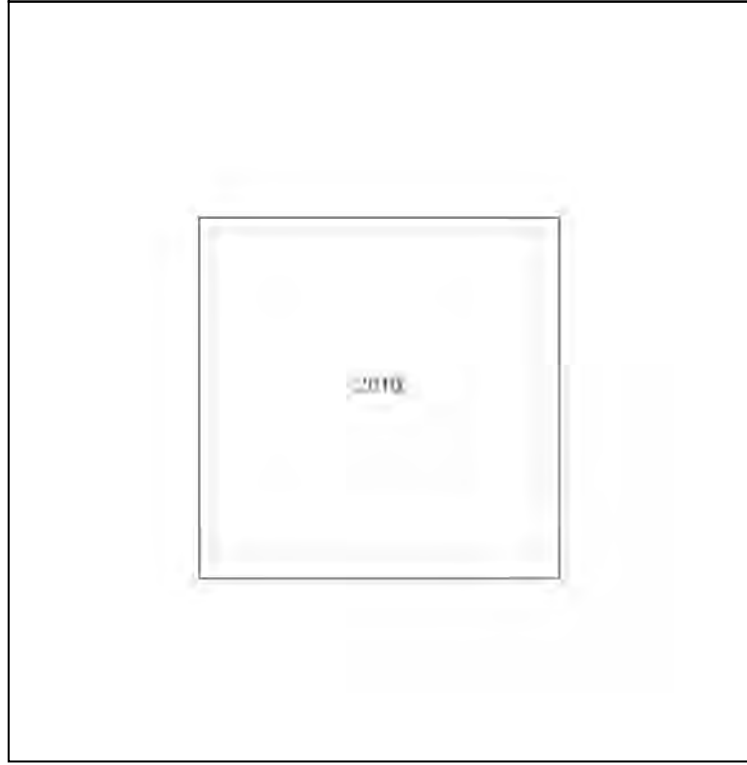
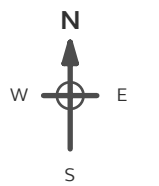
Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



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Site Details:

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BARNES JUNIOR SCHOOL,
MOUNT ROAD, SUNDERLAND,
SR4 7QF

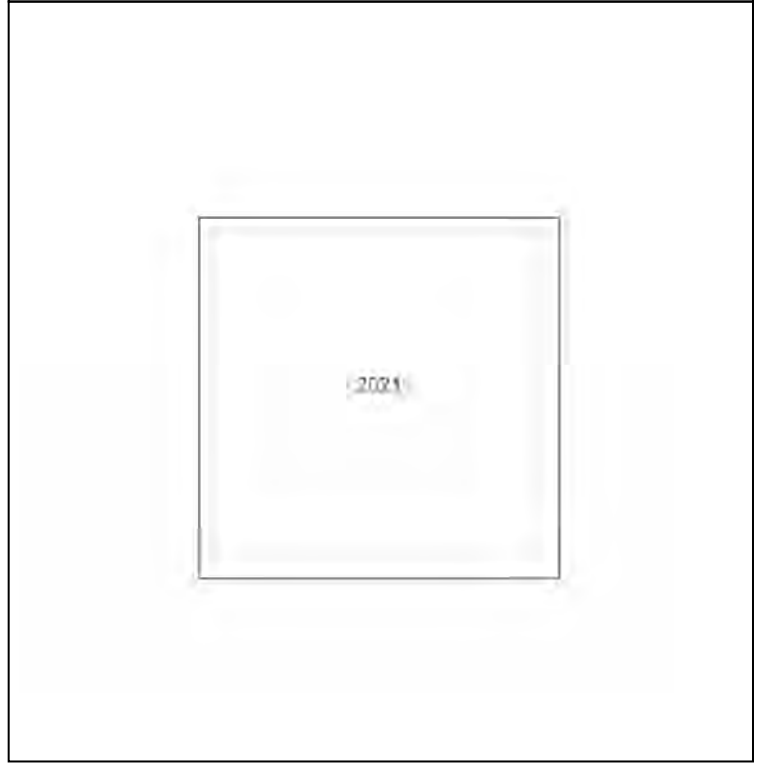
Client Ref: PO22730RSD10341
Report Ref: GS-7613751
Grid Ref: 437942, 555940

Map Name: National Grid

Map date: 2021

Scale: 1:10,000

Printed at: 1:10,000

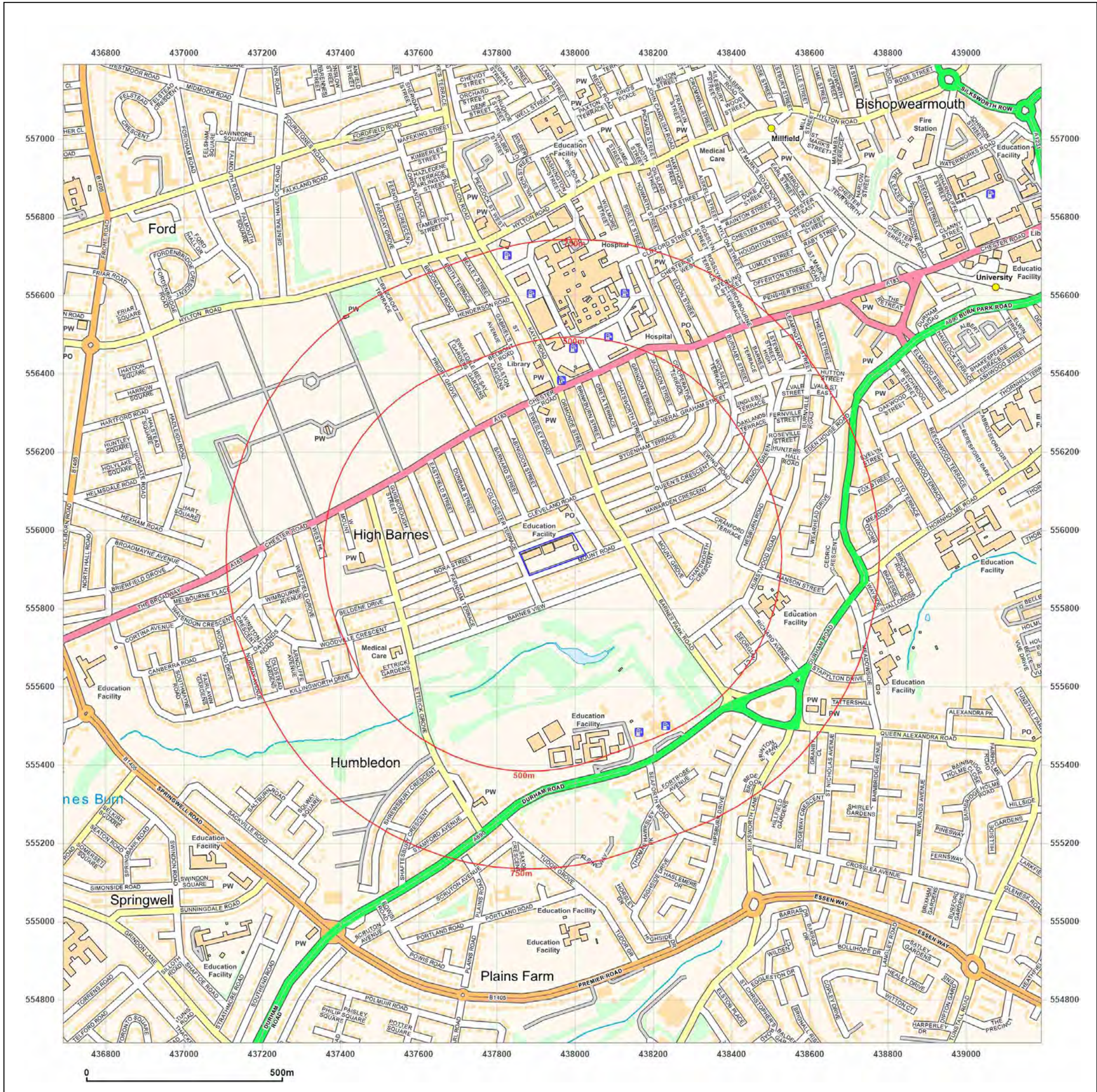


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Groundsure Insights
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W: www.groundsure.com

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Production date: 01 March 2021

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



BARNES JUNIOR SCHOOL, BARNES JUNIOR SCHOOL, MOUNT ROAD, SUNDERLAND, SR4 7QF

Order Details

Date: 01/03/2021
Your ref: PO22730RSD10341
Our Ref: GS-7613752
Client: Dunelm Geotechnical and Environmental Ltd

Site Details

Location: 437945 555943
Area: 0.97 ha
Authority: [Sunderland City Council](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.13

groundsure.com/insightuserguide

Contact us with any questions at:

info@groundsure.com

08444 159 000

Summary of findings

| Page | Section | Past land use | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|-----------|------------|--|---------|-------|---------|----------|-----------|
| 14 | 1.1 | <u>Historical industrial land uses</u> | 0 | 0 | 10 | 39 | - |
| 16 | 1.2 | <u>Historical tanks</u> | 0 | 0 | 0 | 7 | - |
| 17 | 1.3 | <u>Historical energy features</u> | 0 | 6 | 1 | 3 | - |
| 18 | 1.4 | Historical petrol stations | 0 | 0 | 0 | 0 | - |
| 18 | 1.5 | Historical garages | 0 | 0 | 0 | 0 | - |
| 18 | 1.6 | Historical military land | 0 | 0 | 0 | 0 | - |
| Page | Section | Past land use - un-grouped | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 19 | 2.1 | <u>Historical industrial land uses</u> | 0 | 0 | 15 | 49 | - |
| 22 | 2.2 | <u>Historical tanks</u> | 0 | 0 | 0 | 7 | - |
| 22 | 2.3 | <u>Historical energy features</u> | 0 | 13 | 2 | 9 | - |
| 24 | 2.4 | Historical petrol stations | 0 | 0 | 0 | 0 | - |
| 24 | 2.5 | Historical garages | 0 | 0 | 0 | 0 | - |
| Page | Section | Waste and landfill | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 25 | 3.1 | Active or recent landfill | 0 | 0 | 0 | 0 | - |
| 25 | 3.2 | Historical landfill (BGS records) | 0 | 0 | 0 | 0 | - |
| 26 | 3.3 | Historical landfill (LA/mapping records) | 0 | 0 | 0 | 0 | - |
| 26 | 3.4 | <u>Historical landfill (EA/NRW records)</u> | 0 | 0 | 3 | 0 | - |
| 27 | 3.5 | Historical waste sites | 0 | 0 | 0 | 0 | - |
| 27 | 3.6 | <u>Licensed waste sites</u> | 0 | 0 | 0 | 3 | - |
| 28 | 3.7 | <u>Waste exemptions</u> | 0 | 1 | 4 | 7 | - |
| Page | Section | Current industrial land use | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 29 | 4.1 | <u>Recent industrial land uses</u> | 0 | 2 | 3 | - | - |
| 30 | 4.2 | Current or recent petrol stations | 0 | 0 | 0 | 0 | - |
| 30 | 4.3 | Electricity cables | 0 | 0 | 0 | 0 | - |
| 30 | 4.4 | Gas pipelines | 0 | 0 | 0 | 0 | - |
| 30 | 4.5 | Sites determined as Contaminated Land | 0 | 0 | 0 | 0 | - |



| 31 | 4.6 | Control of Major Accident Hazards (COMAH) | 0 | 0 | 0 | 0 | - |
|-----------|------------|--|--------------------------|-------|---------|----------|-----------|
| 31 | 4.7 | Regulated explosive sites | 0 | 0 | 0 | 0 | - |
| 31 | 4.8 | Hazardous substance storage/usage | 0 | 0 | 0 | 0 | - |
| 31 | 4.9 | Historical licensed industrial activities (IPC) | 0 | 0 | 0 | 0 | - |
| 31 | 4.10 | Licensed industrial activities (Part A(1)) | 0 | 0 | 0 | 0 | - |
| 32 | 4.11 | Licensed pollutant release (Part A(2)/B) | 0 | 0 | 0 | 0 | - |
| 32 | 4.12 | Radioactive Substance Authorisations | 0 | 0 | 0 | 0 | - |
| 32 | 4.13 | Licensed Discharges to controlled waters | 0 | 0 | 0 | 0 | - |
| 32 | 4.14 | Pollutant release to surface waters (Red List) | 0 | 0 | 0 | 0 | - |
| 32 | 4.15 | Pollutant release to public sewer | 0 | 0 | 0 | 0 | - |
| 33 | 4.16 | List 1 Dangerous Substances | 0 | 0 | 0 | 0 | - |
| 33 | 4.17 | List 2 Dangerous Substances | 0 | 0 | 0 | 0 | - |
| 33 | 4.18 | Pollution Incidents (EA/NRW) | 0 | 0 | 0 | 0 | - |
| 33 | 4.19 | Pollution inventory substances | 0 | 0 | 0 | 0 | - |
| 33 | 4.20 | Pollution inventory waste transfers | 0 | 0 | 0 | 0 | - |
| 34 | 4.21 | Pollution inventory radioactive waste | 0 | 0 | 0 | 0 | - |
| Page | Section | Hydrogeology | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 35 | 5.1 | <u>Superficial aquifer</u> | Identified (within 500m) | | | | |
| 37 | 5.2 | <u>Bedrock aquifer</u> | Identified (within 500m) | | | | |
| 38 | 5.3 | <u>Groundwater vulnerability</u> | Identified (within 50m) | | | | |
| 40 | 5.4 | <u>Groundwater vulnerability- soluble rock risk</u> | Identified (within 0m) | | | | |
| 40 | 5.5 | <u>Groundwater vulnerability- local information</u> | Identified (within 0m) | | | | |
| 41 | 5.6 | Groundwater abstractions | 0 | 0 | 0 | 0 | 0 |
| 41 | 5.7 | Surface water abstractions | 0 | 0 | 0 | 0 | 0 |
| 41 | 5.8 | Potable abstractions | 0 | 0 | 0 | 0 | 0 |
| 41 | 5.9 | Source Protection Zones | 0 | 0 | 0 | 0 | - |
| 42 | 5.10 | Source Protection Zones (confined aquifer) | 0 | 0 | 0 | 0 | - |
| Page | Section | Hydrology | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 43 | 6.1 | <u>Water Network (OS MasterMap)</u> | 0 | 0 | 7 | - | - |



| 44 | 6.2 | <u>Surface water features</u> | 0 | 0 | 1 | - | - |
|-----------|-------------|---|--|-------|---------|----------|-----------|
| 44 | 6.3 | <u>WFD Surface water body catchments</u> | 1 | - | - | - | - |
| 45 | 6.4 | WFD Surface water bodies | 0 | 0 | 0 | - | - |
| 45 | 6.5 | <u>WFD Groundwater bodies</u> | 1 | - | - | - | - |
| Page | Section | River and coastal flooding | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 46 | 7.1 | Risk of Flooding from Rivers and Sea (RoFRaS) | None (within 50m) | | | | |
| 46 | 7.2 | Historical Flood Events | 0 | 0 | 0 | - | - |
| 46 | 7.3 | Flood Defences | 0 | 0 | 0 | - | - |
| 46 | 7.4 | Areas Benefiting from Flood Defences | 0 | 0 | 0 | - | - |
| 47 | 7.5 | Flood Storage Areas | 0 | 0 | 0 | - | - |
| 48 | 7.6 | Flood Zone 2 | None (within 50m) | | | | |
| 48 | 7.7 | Flood Zone 3 | None (within 50m) | | | | |
| Page | Section | Surface water flooding | | | | | |
| 49 | 8.1 | <u>Surface water flooding</u> | 1 in 30 year, Greater than 1.0m (within 50m) | | | | |
| Page | Section | Groundwater flooding | | | | | |
| 51 | 9.1 | <u>Groundwater flooding</u> | Low (within 50m) | | | | |
| Page | Section | Environmental designations | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 52 | 10.1 | <u>Sites of Special Scientific Interest (SSSI)</u> | 0 | 0 | 0 | 0 | 5 |
| 53 | 10.2 | Conserved wetland sites (Ramsar sites) | 0 | 0 | 0 | 0 | 0 |
| 53 | 10.3 | Special Areas of Conservation (SAC) | 0 | 0 | 0 | 0 | 0 |
| 53 | 10.4 | Special Protection Areas (SPA) | 0 | 0 | 0 | 0 | 0 |
| 54 | 10.5 | National Nature Reserves (NNR) | 0 | 0 | 0 | 0 | 0 |
| 54 | 10.6 | <u>Local Nature Reserves (LNR)</u> | 0 | 0 | 0 | 0 | 2 |
| 54 | 10.7 | Designated Ancient Woodland | 0 | 0 | 0 | 0 | 0 |
| 54 | 10.8 | Biosphere Reserves | 0 | 0 | 0 | 0 | 0 |
| 55 | 10.9 | Forest Parks | 0 | 0 | 0 | 0 | 0 |
| 55 | 10.10 | Marine Conservation Zones | 0 | 0 | 0 | 0 | 0 |
| 55 | 10.11 | Green Belt | 0 | 0 | 0 | 0 | 0 |
| 55 | 10.12 | Proposed Ramsar sites | 0 | 0 | 0 | 0 | 0 |

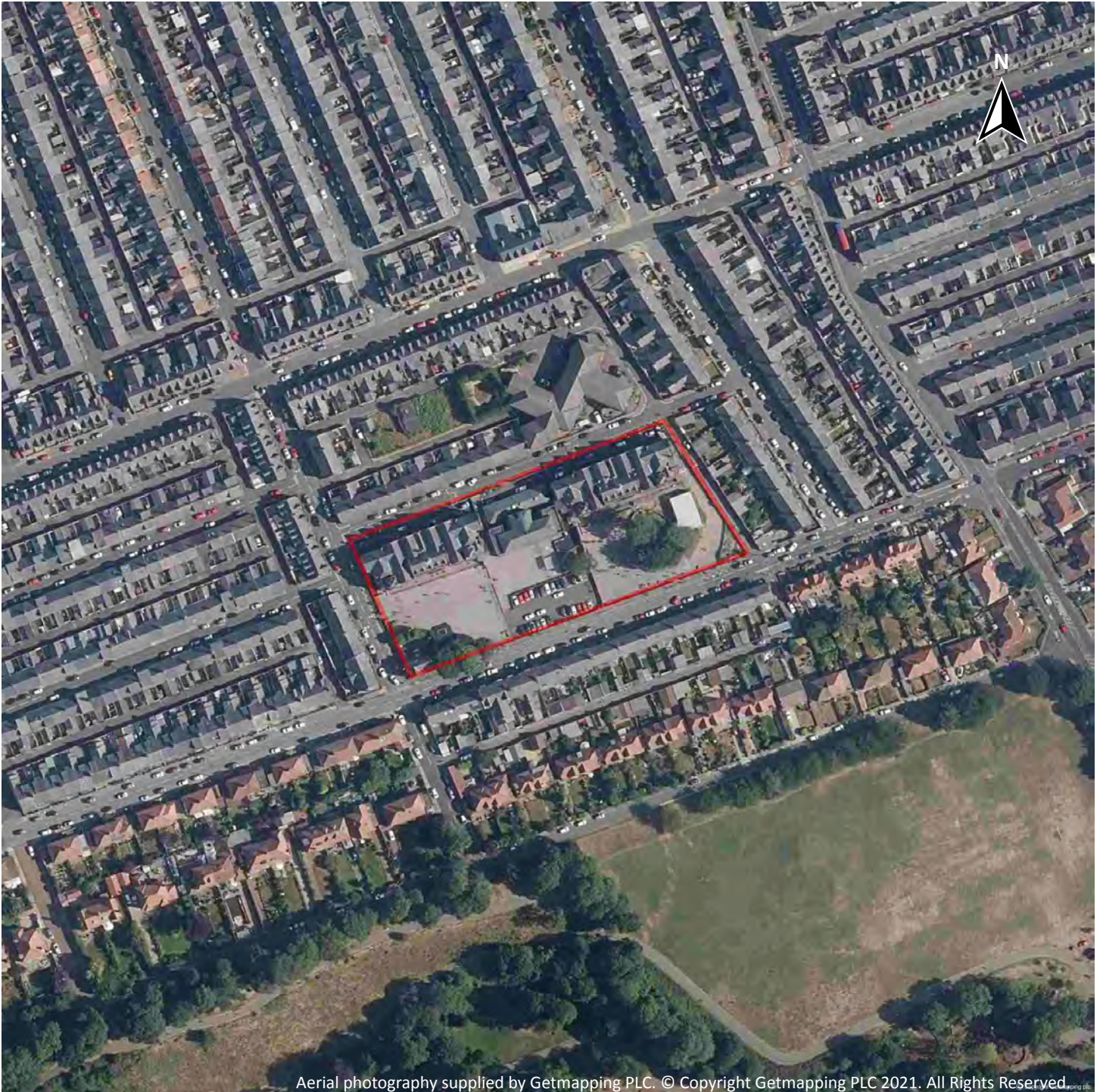


| 55 | 10.13 | Possible Special Areas of Conservation (pSAC) | 0 | 0 | 0 | 0 | 0 |
|-----------|--------------|--|--------------------------|-------|---------|----------|-----------|
| 56 | 10.14 | Potential Special Protection Areas (pSPA) | 0 | 0 | 0 | 0 | 0 |
| 56 | 10.15 | Nitrate Sensitive Areas | 0 | 0 | 0 | 0 | 0 |
| 56 | 10.16 | Nitrate Vulnerable Zones | 0 | 0 | 0 | 0 | 0 |
| 57 | 10.17 | <u>SSSI Impact Risk Zones</u> | 2 | - | - | - | - |
| 58 | 10.18 | <u>SSSI Units</u> | 0 | 0 | 0 | 0 | 5 |
| Page | Section | Visual and cultural designations | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 61 | 11.1 | World Heritage Sites | 0 | 0 | 0 | - | - |
| 62 | 11.2 | Area of Outstanding Natural Beauty | 0 | 0 | 0 | - | - |
| 62 | 11.3 | National Parks | 0 | 0 | 0 | - | - |
| 62 | 11.4 | <u>Listed Buildings</u> | 2 | 0 | 1 | - | - |
| 63 | 11.5 | Conservation Areas | 0 | 0 | 0 | - | - |
| 63 | 11.6 | Scheduled Ancient Monuments | 0 | 0 | 0 | - | - |
| 63 | 11.7 | Registered Parks and Gardens | 0 | 0 | 0 | - | - |
| Page | Section | Agricultural designations | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 64 | 12.1 | <u>Agricultural Land Classification</u> | Urban (within 250m) | | | | |
| 65 | 12.2 | Open Access Land | 0 | 0 | 0 | - | - |
| 65 | 12.3 | Tree Felling Licences | 0 | 0 | 0 | - | - |
| 65 | 12.4 | Environmental Stewardship Schemes | 0 | 0 | 0 | - | - |
| 65 | 12.5 | Countryside Stewardship Schemes | 0 | 0 | 0 | - | - |
| Page | Section | Habitat designations | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 66 | 13.1 | <u>Priority Habitat Inventory</u> | 0 | 0 | 8 | - | - |
| 67 | 13.2 | Habitat Networks | 0 | 0 | 0 | - | - |
| 67 | 13.3 | Open Mosaic Habitat | 0 | 0 | 0 | - | - |
| 67 | 13.4 | Limestone Pavement Orders | 0 | 0 | 0 | - | - |
| Page | Section | Geology 1:10,000 scale | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 68 | 14.1 | <u>10k Availability</u> | Identified (within 500m) | | | | |
| 69 | 14.2 | <u>Artificial and made ground (10k)</u> | 0 | 0 | 2 | 2 | - |
| 71 | 14.3 | <u>Superficial geology (10k)</u> | 1 | 1 | 1 | 3 | - |

| 72 | 14.4 | Landslip (10k) | 0 | 0 | 0 | 0 | - |
|-----------|--------------|--|--------------------------|-------|---------|----------|-----------|
| 73 | 14.5 | <u>Bedrock geology (10k)</u> | 1 | 0 | 2 | 4 | - |
| 74 | 14.6 | <u>Bedrock faults and other linear features (10k)</u> | 0 | 0 | 2 | 3 | - |
| Page | Section | Geology 1:50,000 scale | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 75 | 15.1 | <u>50k Availability</u> | Identified (within 500m) | | | | |
| 76 | 15.2 | <u>Artificial and made ground (50k)</u> | 0 | 0 | 2 | 2 | - |
| 77 | 15.3 | Artificial ground permeability (50k) | 0 | 0 | - | - | - |
| 78 | 15.4 | <u>Superficial geology (50k)</u> | 1 | 1 | 1 | 2 | - |
| 79 | 15.5 | <u>Superficial permeability (50k)</u> | Identified (within 50m) | | | | |
| 79 | 15.6 | Landslip (50k) | 0 | 0 | 0 | 0 | - |
| 79 | 15.7 | Landslip permeability (50k) | None (within 50m) | | | | |
| 80 | 15.8 | <u>Bedrock geology (50k)</u> | 1 | 0 | 2 | 4 | - |
| 81 | 15.9 | <u>Bedrock permeability (50k)</u> | Identified (within 50m) | | | | |
| 81 | 15.10 | <u>Bedrock faults and other linear features (50k)</u> | 0 | 0 | 0 | 1 | - |
| Page | Section | Boreholes | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 82 | 16.1 | <u>BGS Boreholes</u> | 0 | 7 | 3 | - | - |
| Page | Section | Natural ground subsidence | | | | | |
| 84 | 17.1 | <u>Shrink swell clays</u> | Low (within 50m) | | | | |
| 85 | 17.2 | <u>Running sands</u> | Very low (within 50m) | | | | |
| 87 | 17.3 | <u>Compressible deposits</u> | Moderate (within 50m) | | | | |
| 89 | 17.4 | <u>Collapsible deposits</u> | Very low (within 50m) | | | | |
| 90 | 17.5 | <u>Landslides</u> | Very low (within 50m) | | | | |
| 91 | 17.6 | <u>Ground dissolution of soluble rocks</u> | Very low (within 50m) | | | | |
| Page | Section | Mining, ground workings and natural cavities | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 93 | 18.1 | Natural cavities | 0 | 0 | 0 | 0 | - |
| 94 | 18.2 | <u>BritPits</u> | 0 | 0 | 0 | 1 | - |
| 94 | 18.3 | <u>Surface ground workings</u> | 0 | 0 | 12 | - | - |
| 95 | 18.4 | <u>Underground workings</u> | 0 | 0 | 0 | 0 | 4 |
| 95 | 18.5 | Historical Mineral Planning Areas | 0 | 0 | 0 | 0 | - |

| 95 | 18.6 | Non-coal mining | 0 | 0 | 0 | 0 | 0 |
|-----------|-------------|--|---------------------------------|-------|---------|----------|-----------|
| 96 | 18.7 | Mining cavities | 0 | 0 | 0 | 0 | 0 |
| 96 | 18.8 | JPB mining areas | None (within 0m) | | | | |
| 96 | 18.9 | Coal mining | Identified (within 0m) | | | | |
| 96 | 18.10 | Brine areas | None (within 0m) | | | | |
| 97 | 18.11 | Gypsum areas | None (within 0m) | | | | |
| 97 | 18.12 | Tin mining | None (within 0m) | | | | |
| 97 | 18.13 | Clay mining | None (within 0m) | | | | |
| Page | Section | Radon | | | | | |
| 98 | 19.1 | Radon | Less than 1% (within 0m) | | | | |
| Page | Section | Soil chemistry | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 99 | 20.1 | BGS Estimated Background Soil Chemistry | 2 | 4 | - | - | - |
| 99 | 20.2 | BGS Estimated Urban Soil Chemistry | 0 | 0 | - | - | - |
| 100 | 20.3 | BGS Measured Urban Soil Chemistry | 0 | 0 | - | - | - |
| Page | Section | Railway infrastructure and projects | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 101 | 21.1 | Underground railways (London) | 0 | 0 | 0 | - | - |
| 101 | 21.2 | Underground railways (Non-London) | 0 | 0 | 0 | - | - |
| 101 | 21.3 | Railway tunnels | 0 | 0 | 0 | - | - |
| 101 | 21.4 | Historical railway and tunnel features | 0 | 0 | 0 | - | - |
| 101 | 21.5 | Royal Mail tunnels | 0 | 0 | 0 | - | - |
| 102 | 21.6 | Historical railways | 0 | 0 | 0 | - | - |
| 102 | 21.7 | Railways | 0 | 0 | 0 | - | - |
| 102 | 21.8 | Crossrail 1 | 0 | 0 | 0 | 0 | - |
| 102 | 21.9 | Crossrail 2 | 0 | 0 | 0 | 0 | - |
| 102 | 21.10 | HS2 | 0 | 0 | 0 | 0 | - |

Recent aerial photograph



Capture Date: 18/07/2018

Site Area: 0.97ha



Recent site history - 2015 aerial photograph



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Capture Date: 10/04/2015

Site Area: 0.97ha



Recent site history - 2009 aerial photograph



Aerial photography supplied by Getmapping PLC. ©

Capture Date: 01/06/2009

Site Area: 0.97ha



Recent site history - 2008 aerial photograph



Aerial photography supplied by Getmapping PLC. ©

Capture Date: 02/05/2008

Site Area: 0.97ha



Recent site history - 1999 aerial photograph

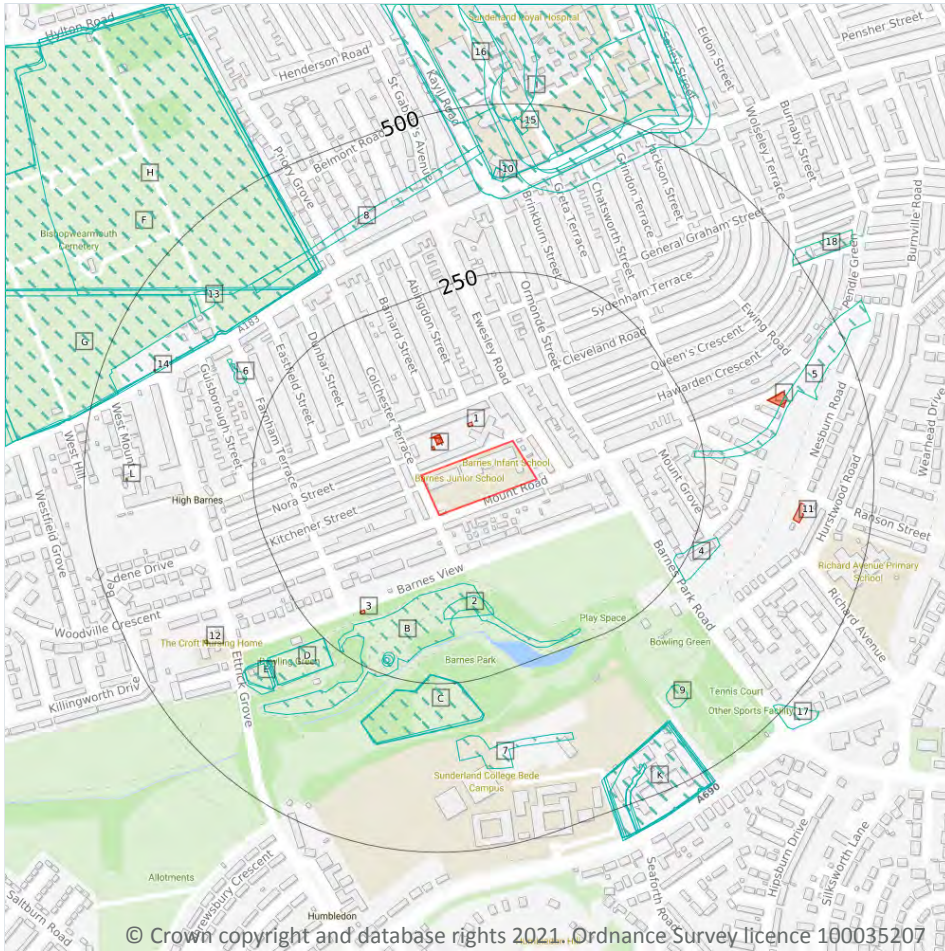


Capture Date: 10/07/1999

Site Area: 0.97ha



1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features

1.1 Historical industrial land uses

Records within 500m **49**

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

| ID | Location | Land use | Dates present | Group ID |
|----|----------|-----------------------------|---------------|----------|
| B | 107m S | Unspecified Ground Workings | 1914 | 1309615 |

| ID | Location | Land use | Dates present | Group ID |
|----|----------|-----------------------------|---------------|----------|
| 2 | 129m S | Unspecified Pit | 1974 | 1336442 |
| B | 216m S | Unspecified Tank | 1974 - 1992 | 1401958 |
| B | 221m S | Unspecified Tank | 1967 | 1366858 |
| B | 225m S | Unspecified Tank | 1914 | 1376112 |
| 4 | 235m SE | Unspecified Pit | 1951 - 1967 | 1373625 |
| C | 236m S | Nursery | 1951 | 1344142 |
| 5 | 237m E | Unspecified Ground Workings | 1921 | 1309614 |
| C | 237m S | Nursery | 1974 - 1992 | 1350426 |
| C | 237m S | Nursery | 1967 | 1380285 |
| D | 250m SW | Unspecified Pit | 1939 | 1347422 |
| D | 251m SW | Unspecified Pit | 1914 | 1345907 |
| 6 | 295m NW | Unspecified Old Quarry | 1856 | 1330496 |
| 7 | 330m S | Unspecified Ground Workings | 1951 | 1309616 |
| E | 333m SW | Unspecified Pit | 1914 | 1346230 |
| F | 333m NW | Cemetery | 1967 - 1992 | 1361249 |
| F | 334m NW | Cemetery | 1921 | 1339092 |
| F | 334m NW | Cemetery | 1914 | 1339093 |
| F | 335m NW | Cemetery | 1951 | 1341678 |
| G | 336m NW | Cemetery | 1895 | 1393711 |
| E | 336m SW | Unspecified Pit | 1939 | 1407031 |
| H | 337m NW | Cemetery | 1921 - 1938 | 1372712 |
| H | 337m NW | Cemetery | 1895 | 1398213 |
| E | 340m SW | Unspecified Pit | 1921 | 1394253 |
| I | 359m N | Hospital | 1974 | 1396233 |
| I | 359m N | Hospital | 1967 | 1398919 |
| 8 | 360m NW | Cuttings | 1855 | 1306486 |
| 9 | 366m SE | Unspecified Pit | 1895 | 1336435 |
| H | 372m NW | Cemetery | 1855 | 1339209 |



| ID | Location | Land use | Dates present | Group ID |
|----|----------|-----------------------------|---------------|----------|
| I | 374m N | Hospital | 1921 | 1375095 |
| 10 | 384m N | Police Station | 1967 - 1992 | 1398550 |
| I | 384m N | Hospital | 1985 - 1992 | 1389957 |
| I | 390m N | Hospital | 1951 | 1354587 |
| 13 | 397m NW | Cuttings | 1895 | 1306487 |
| I | 401m N | Unspecified Workhouse | 1938 | 1380185 |
| I | 404m N | Unspecified Workhouse | 1855 - 1895 | 1371755 |
| K | 408m SE | Children Hospital | 1951 | 1370824 |
| K | 408m SE | Hospital | 1967 - 1974 | 1393583 |
| G | 409m NW | Cemetery | 1921 | 1395523 |
| K | 409m SE | Hospital | 1914 | 1379420 |
| K | 410m SE | Children's Hospital | 1939 | 1337303 |
| K | 413m SE | Children Hospital | 1921 | 1356174 |
| I | 428m N | Unspecified Workhouse | 1921 | 1393418 |
| K | 450m S | Unspecified Ground Workings | 1939 | 1390996 |
| K | 450m S | Unspecified Ground Workings | 1914 | 1365292 |
| 15 | 454m N | Engine | 1855 | 1330959 |
| 16 | 475m N | Hospital | 1938 | 1349081 |
| 17 | 486m SE | Unspecified Pit | 1951 | 1336497 |
| 18 | 490m NE | Laundry | 1921 - 1938 | 1408139 |

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

7

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**



| ID | Location | Land use | Dates present | Group ID |
|----|----------|------------------|---------------|----------|
| 12 | 391m SW | Unspecified Tank | 1939 | 202434 |
| 14 | 424m W | Unspecified Tank | 1896 | 202436 |
| L | 436m W | Unspecified Tank | 1963 | 218709 |
| L | 436m W | Unspecified Tank | 1953 | 209104 |
| L | 436m W | Unspecified Tank | 1993 | 215043 |
| L | 436m W | Unspecified Tank | 1963 | 214669 |
| L | 436m W | Unspecified Tank | 1953 | 221288 |

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

10

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

| ID | Location | Land use | Dates present | Group ID |
|----|----------|------------------------|---------------|----------|
| A | 29m N | Electricity Substation | 1953 | 128096 |
| A | 34m N | Electricity Substation | 1993 | 120791 |
| A | 35m N | Electricity Substation | 1966 - 1974 | 121461 |
| A | 42m N | Electricity Substation | 1993 | 118760 |
| A | 42m N | Electricity Substation | 1955 | 119747 |
| 1 | 42m N | Electricity Substation | 1955 - 1974 | 128163 |
| 3 | 179m SW | Electricity Substation | 1969 - 1993 | 127754 |
| J | 361m E | Electricity Substation | 1988 - 1993 | 120218 |
| J | 362m E | Electricity Substation | 1954 - 1972 | 120085 |
| 11 | 384m E | Electricity Substation | 1976 - 1993 | 122038 |

This data is sourced from Ordnance Survey / Groundsure.



1.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

0

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

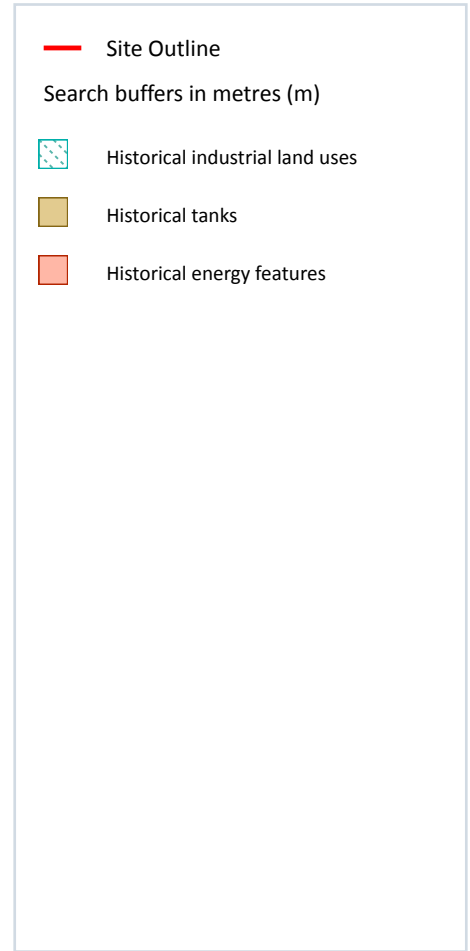
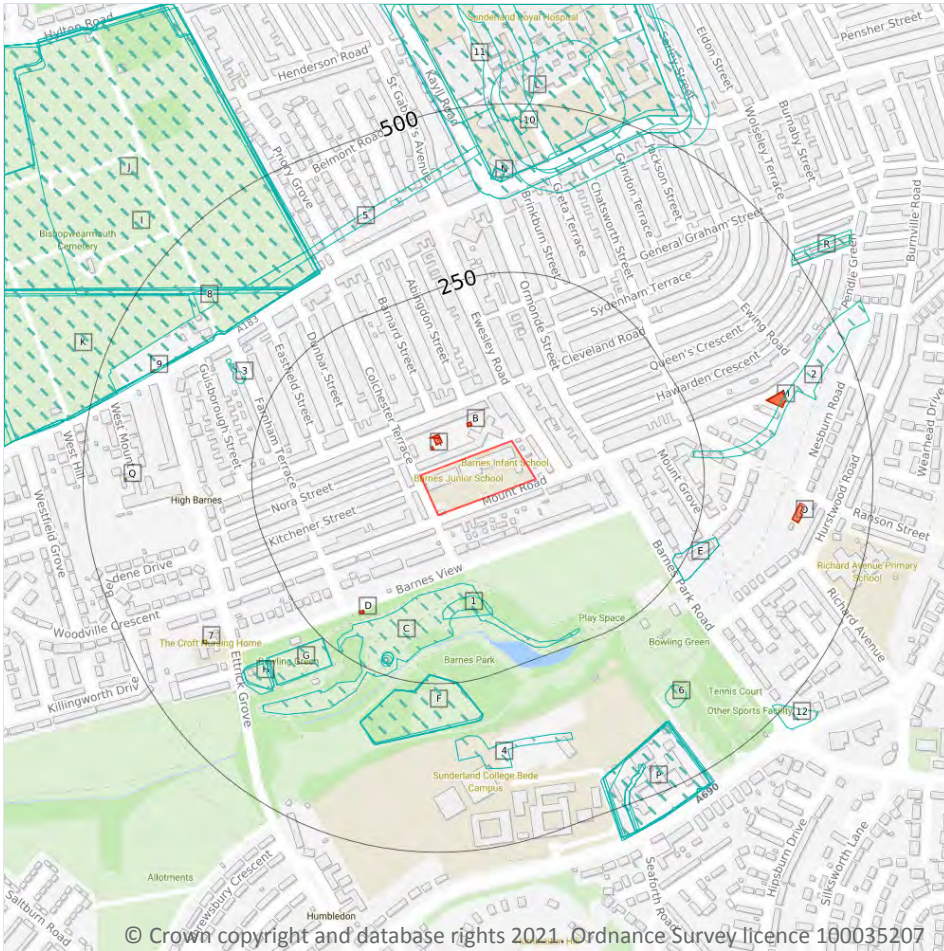
0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.



2 Past land use - un-grouped



2.1 Historical industrial land uses

Records within 500m **64**

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19**

| ID | Location | Land Use | Date | Group ID |
|----|----------|-----------------------------|------|----------|
| C | 107m S | Unspecified Ground Workings | 1914 | 1309615 |
| 1 | 129m S | Unspecified Pit | 1974 | 1336442 |
| C | 216m S | Unspecified Tank | 1985 | 1401958 |

| ID | Location | Land Use | Date | Group ID |
|----|----------|-----------------------------|------|----------|
| C | 216m S | Unspecified Tank | 1992 | 1401958 |
| C | 216m S | Unspecified Tank | 1974 | 1401958 |
| C | 221m S | Unspecified Tank | 1967 | 1366858 |
| C | 225m S | Unspecified Tank | 1914 | 1376112 |
| E | 235m SE | Unspecified Pit | 1951 | 1373625 |
| E | 235m SE | Unspecified Pit | 1967 | 1373625 |
| F | 236m S | Nursery | 1951 | 1344142 |
| 2 | 237m E | Unspecified Ground Workings | 1921 | 1309614 |
| F | 237m S | Nursery | 1985 | 1350426 |
| F | 237m S | Nursery | 1992 | 1350426 |
| F | 237m S | Nursery | 1974 | 1350426 |
| F | 237m S | Nursery | 1967 | 1380285 |
| G | 250m SW | Unspecified Pit | 1939 | 1347422 |
| G | 251m SW | Unspecified Pit | 1914 | 1345907 |
| 3 | 295m NW | Unspecified Old Quarry | 1856 | 1330496 |
| 4 | 330m S | Unspecified Ground Workings | 1951 | 1309616 |
| H | 333m SW | Unspecified Pit | 1914 | 1346230 |
| I | 333m NW | Cemetery | 1985 | 1361249 |
| I | 333m NW | Cemetery | 1992 | 1361249 |
| I | 333m NW | Cemetery | 1974 | 1361249 |
| I | 333m NW | Cemetery | 1967 | 1361249 |
| J | 334m NW | Cemetery | 1921 | 1339092 |
| I | 335m NW | Cemetery | 1951 | 1341678 |
| K | 336m NW | Cemetery | 1914 | 1339093 |
| K | 336m NW | Cemetery | 1895 | 1393711 |
| H | 336m SW | Unspecified Pit | 1939 | 1407031 |
| J | 337m NW | Cemetery | 1938 | 1372712 |
| J | 337m NW | Cemetery | 1895 | 1398213 |



| ID | Location | Land Use | Date | Group ID |
|----|----------|-----------------------------|------|----------|
| J | 337m NW | Cemetery | 1921 | 1372712 |
| H | 340m SW | Unspecified Pit | 1921 | 1394253 |
| L | 359m N | Hospital | 1974 | 1396233 |
| L | 359m N | Hospital | 1967 | 1398919 |
| 5 | 360m NW | Cuttings | 1855 | 1306486 |
| 6 | 366m SE | Unspecified Pit | 1895 | 1336435 |
| J | 372m NW | Cemetery | 1855 | 1339209 |
| L | 374m N | Hospital | 1921 | 1375095 |
| L | 384m N | Hospital | 1985 | 1389957 |
| L | 384m N | Hospital | 1992 | 1389957 |
| N | 384m N | Police Station | 1985 | 1398550 |
| N | 384m N | Police Station | 1992 | 1398550 |
| N | 384m N | Police Station | 1974 | 1398550 |
| N | 384m N | Police Station | 1967 | 1398550 |
| L | 390m N | Hospital | 1951 | 1354587 |
| 8 | 397m NW | Cuttings | 1895 | 1306487 |
| L | 401m N | Unspecified Workhouse | 1938 | 1380185 |
| L | 404m N | Unspecified Workhouse | 1895 | 1371755 |
| P | 408m SE | Children Hospital | 1951 | 1370824 |
| P | 408m SE | Hospital | 1974 | 1393583 |
| P | 408m SE | Hospital | 1967 | 1393583 |
| K | 409m NW | Cemetery | 1921 | 1395523 |
| P | 409m SE | Hospital | 1914 | 1379420 |
| P | 410m SE | Children's Hospital | 1939 | 1337303 |
| P | 413m SE | Children Hospital | 1921 | 1356174 |
| L | 428m N | Unspecified Workhouse | 1921 | 1393418 |
| P | 450m S | Unspecified Ground Workings | 1939 | 1390996 |
| P | 450m S | Unspecified Ground Workings | 1914 | 1365292 |



| ID | Location | Land Use | Date | Group ID |
|----|----------|-----------------|------|----------|
| 10 | 454m N | Engine | 1855 | 1330959 |
| 11 | 475m N | Hospital | 1938 | 1349081 |
| 12 | 486m SE | Unspecified Pit | 1951 | 1336497 |
| R | 490m NE | Laundry | 1921 | 1408139 |
| R | 497m NE | Laundry | 1938 | 1408139 |

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

7

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19**

| ID | Location | Land Use | Date | Group ID |
|----|----------|------------------|------|----------|
| 7 | 391m SW | Unspecified Tank | 1939 | 202434 |
| 9 | 424m W | Unspecified Tank | 1896 | 202436 |
| Q | 436m W | Unspecified Tank | 1953 | 209104 |
| Q | 436m W | Unspecified Tank | 1963 | 218709 |
| Q | 436m W | Unspecified Tank | 1993 | 215043 |
| Q | 436m W | Unspecified Tank | 1963 | 214669 |
| Q | 436m W | Unspecified Tank | 1953 | 221288 |

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

24

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19**



| ID | Location | Land Use | Date | Group ID |
|----|----------|------------------------|------|----------|
| A | 29m N | Electricity Substation | 1953 | 128096 |
| A | 30m N | Electricity Substation | 1953 | 128096 |
| A | 34m N | Electricity Substation | 1993 | 120791 |
| A | 35m N | Electricity Substation | 1969 | 121461 |
| A | 42m N | Electricity Substation | 1993 | 118760 |
| A | 42m N | Electricity Substation | 1955 | 119747 |
| A | 42m N | Electricity Substation | 1974 | 121461 |
| A | 42m N | Electricity Substation | 1955 | 119747 |
| A | 42m N | Electricity Substation | 1966 | 121461 |
| B | 42m N | Electricity Substation | 1955 | 128163 |
| B | 42m N | Electricity Substation | 1966 | 128163 |
| B | 43m N | Electricity Substation | 1955 | 128163 |
| B | 43m N | Electricity Substation | 1974 | 128163 |
| D | 179m SW | Electricity Substation | 1969 | 127754 |
| D | 180m SW | Electricity Substation | 1993 | 127754 |
| M | 361m E | Electricity Substation | 1988 | 120218 |
| M | 361m E | Electricity Substation | 1988 | 120218 |
| M | 362m E | Electricity Substation | 1954 | 120085 |
| M | 362m E | Electricity Substation | 1967 | 120085 |
| M | 363m E | Electricity Substation | 1972 | 120085 |
| M | 363m E | Electricity Substation | 1954 | 120085 |
| M | 363m E | Electricity Substation | 1993 | 120218 |
| O | 384m E | Electricity Substation | 1993 | 122038 |
| O | 385m E | Electricity Substation | 1976 | 122038 |

This data is sourced from Ordnance Survey / Groundsure.



2.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

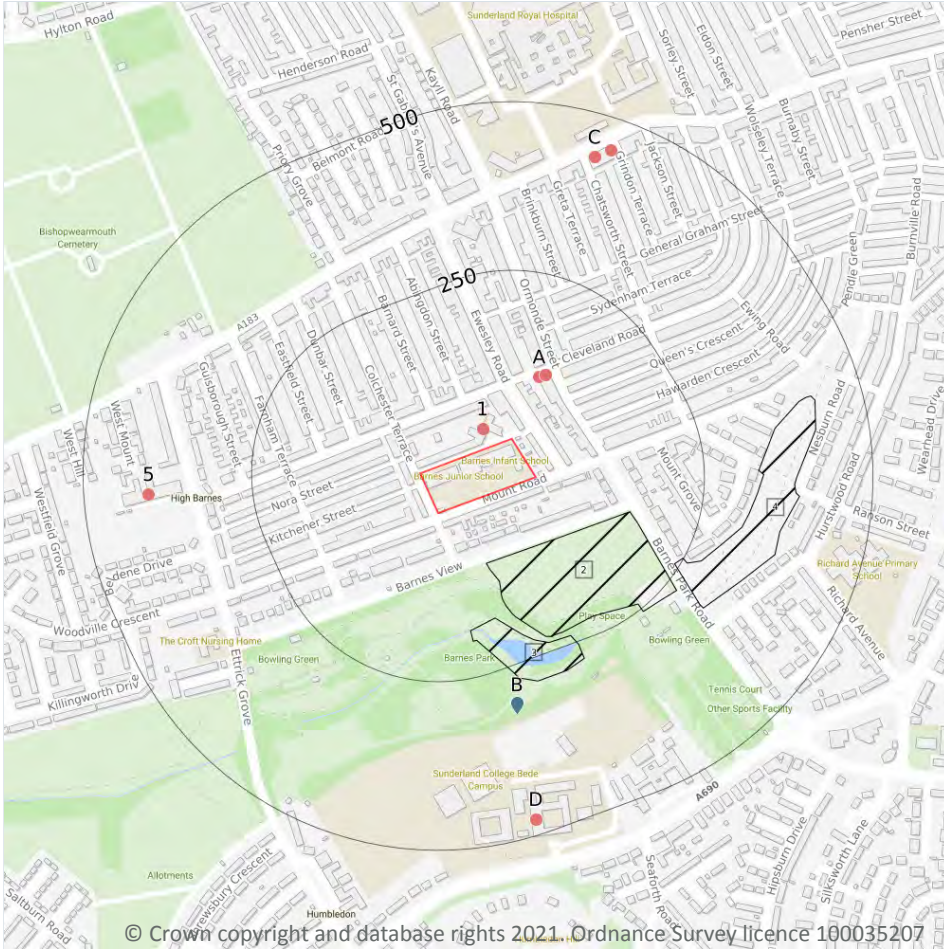
0

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



3.1 Active or recent landfill

Records within 500m

0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m

0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m

0

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m

3

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

Features are displayed on the Waste and landfill map on **page 25**

| ID | Location | Details | | |
|----|----------|--|--|--|
| 2 | 94m S | Site Address: Barnes Park West, Humbledon, Sunderland Licence Holder Address: - | Waste Licence: - Site Reference: SL 039, SL 5 Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: - | Operator: - Licence Holder: - First Recorded: - Last Recorded: - |
| 3 | 175m S | Site Address: Barnes Park Lake, High Barnes, Sunderland, Tyne and Wear Licence Holder Address: Area Office, Broadway, Houghton-le Spring, County Durham | Waste Licence: Yes Site Reference: TW 060 SL, SL 056 Waste Type: Inert Environmental Permitting Regulations (Waste) Reference: YO1/L/BOR010 Licence Issue: 30/01/1980 Licence Surrender: 31/03/1994 | Operator: - Licence Holder: Borough Of Sunderland First Recorded 30/01/1980 Last Recorded: 31/05/1980 |
| 4 | 242m SE | Site Address: Barnes Park East, Humbledon, Sunderland Licence Holder Address: - | Waste Licence: - Site Reference: SL 001, SL 4 Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: - | Operator: - Licence Holder: - First Recorded: - Last Recorded: - |

This data is sourced from the Environment Agency and Natural Resources Wales.



3.5 Historical waste sites

Records within 500m

0

Waste site records derived from Local Authority planning records and high detail historical mapping.

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m

3

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on **page 25**

| ID | Location | Details | | |
|----|----------|---|--|--|
| B | 307m S | Site Name: Barnes Park Lake Landfill Site Address: High Barnes, Sunderland, Tyne & Wear Correspondence Address: Area Office, Broadway, Houghton-le Spring, County Durham, DH4 4UJ | Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: BOR010 EPR reference: - Operator: Borough Of Sunderland Waste Management licence No: 0 Annual Tonnage: 0 | Issue Date: 30/01/1980 Effective Date: - Modified:: - Surrendered Date: 31/03/1994 Expiry Date: - Cancelled Date: - Status: Surrendered |
| B | 307m S | Site Name: Barnes Park Lake Landfill Site Address: High Barnes, Sunderland, Tyne & Wear Correspondence Address: Area Office, Broadway, Houghton-le Spring, County Durham, DH4 4UJ | Type of Site: Landfill taking Non-Biodegradable Wastes Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BOR010 EPR reference: - Operator: Borough Of Sunderland Waste Management licence No: 0 Annual Tonnage: 0 | Issue Date: 30/01/1980 Effective Date: - Modified:: - Surrendered Date: 31/03/1994 Expiry Date: - Cancelled Date: - Status: Surrendered |
| B | 307m S | Site Name: Barnes Park Lake Landfill Site Address: High Barnes, Sunderland, Tyne & Wea Correspondence Address: - | Type of Site: Landfill taking Non-Biodegradable Wastes Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BOR010 EPR reference: EA/EPR/QP3498EH/S002 Operator: Borough Of Sunderland Waste Management licence No: 64465 Annual Tonnage: 150000 | Issue Date: 30/01/1980 Effective Date: - Modified:: - Surrendered Date: Mar 31 1994 12:00AM Expiry Date: - Cancelled Date: - Status: Surrendered |

This data is sourced from the Environment Agency and Natural Resources Wales.



3.7 Waste exemptions

Records within 500m

12

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 25**

| ID | Location | Site | Reference | Category | Sub-Category | Description |
|----|----------|---|-----------------------|--------------------------|-----------------------------|--|
| 1 | 28m N | WYCLIFFE ROAD, SUNDERLAND, SR4 7QG | WEX218665 | Treating waste exemption | Not on a farm | Sorting and de-naturing of controlled drugs for disposal |
| A | 99m NE | 68 Ormonde Street SUNDERLAND SR4 7PP | EPR/KE5253W K/A001 | Treating waste exemption | Non-Agricultural Waste Only | Sorting and de-naturing of controlled drugs for disposal |
| A | 106m NE | 68, ORMONDE STREET, SUNDERLAND, SR4 7PP | WEX128627 | Treating waste exemption | Not on a farm | Sorting and de-naturing of controlled drugs for disposal |
| A | 106m NE | 68, ORMONDE STREET, SUNDERLAND, SR4 7PP | WEX156837 | Treating waste exemption | Not on a Farm | Sorting and de-naturing of controlled drugs for disposal |
| A | 106m NE | 68, ORMONDE STREET, SUNDERLAND, SR4 7PP | WEX238691 | Treating waste exemption | Not on a farm | Sorting and de-naturing of controlled drugs for disposal |
| 5 | 404m W | HOLY CROSS HOME, ETTRICK GROVE, SUNDERLAND, SR4 8QA | WEX013072 | Storing waste exemption | Not on a farm | Storage of waste in secure containers |
| C | 434m N | 217, CHESTER ROAD, SUNDERLAND, SR4 7TU | WEX238003 | Treating waste exemption | Not on a farm | Sorting and de-naturing of controlled drugs for disposal |
| C | 434m N | 217, CHESTER ROAD, SUNDERLAND, SR4 7TU | WEX095169 | Treating waste exemption | Not on a farm | Sorting and de-naturing of controlled drugs for disposal |
| C | 452m N | 217 Chester Road SUNDERLAND SR4 7TU | EPR/TF0135RT /A001 | Treating waste exemption | Non-Agricultural Waste Only | Sorting and de-naturing of controlled drugs for disposal |
| D | 478m S | Sunderland College Bede Campus Sunderland SR3 4AH | EPR/NH0471B W/A001 | Treating waste exemption | Non-Agricultural Waste Only | Screening and blending of waste |
| D | 478m S | Sunderland College Bede Campus Sunderland SR3 4AH | EPR/NH0471B W/A001 | Using waste exemption | Non-Agricultural Waste Only | Use of waste in construction |
| D | 478m S | Bede Centre Durham Road SUNDERLAND SR3 4AH | EPR/HF0805PX /A001 | Treating waste exemption | Non-Agricultural Waste Only | Crushing waste fluorescent tubes |

This data is sourced from the Environment Agency and Natural Resources Wales.



4 Current industrial land use



4.1 Recent industrial land uses

Records within 250m

5

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 29**

| ID | Location | Company | Address | Activity | Category |
|----|----------|-------------------------|---|---------------------------------|-------------------------------|
| 1 | 36m SE | Sam Dowden Ltd | 33, Mount Road, Sunderland, Tyne & Wear, SR4 7PX | Cleaning Equipment and Supplies | Industrial Products |
| 2 | 40m N | Electricity Sub Station | Tyne & Wear, SR4 | Electrical Features | Infrastructure and Facilities |
| 3 | 142m NE | Ace Alarms | 151, Cleveland Road, Sunderland, Tyne & Wear, SR4 7JT | Electronic Equipment | Industrial Products |

| ID | Location | Company | Address | Activity | Category |
|----|----------|-------------------------|---|----------------------|-------------------------------|
| 4 | 173m SW | Crown Alarms | 160, Mount Road, Sunderland, Tyne & Wear, SR4 7QD | Electronic Equipment | Industrial Products |
| 5 | 180m SW | Electricity Sub Station | Tyne & Wear, SR3 | Electrical Features | Infrastructure and Facilities |

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m **0**

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m **0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m **0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m **0**

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.



4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m 0

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m 0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m 0

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m 0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m 0

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m

0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m

0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m

0

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m

0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m

0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



4.21 Pollution inventory radioactive waste

Records within 500m

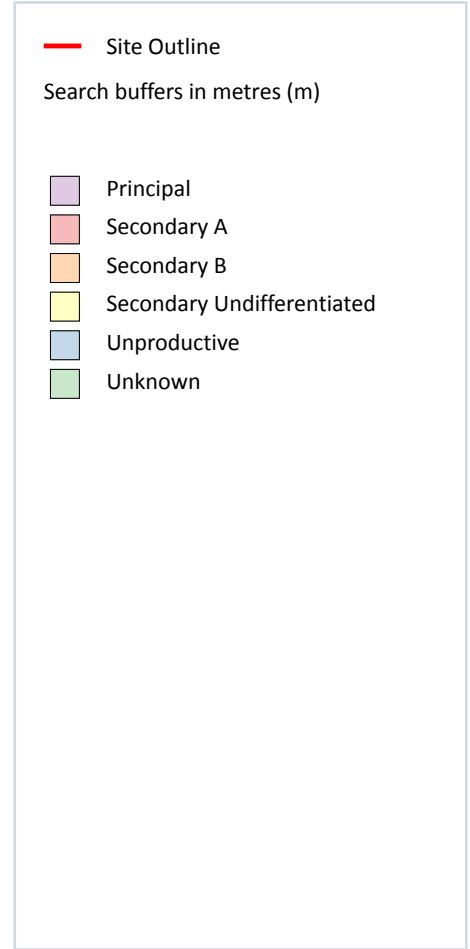
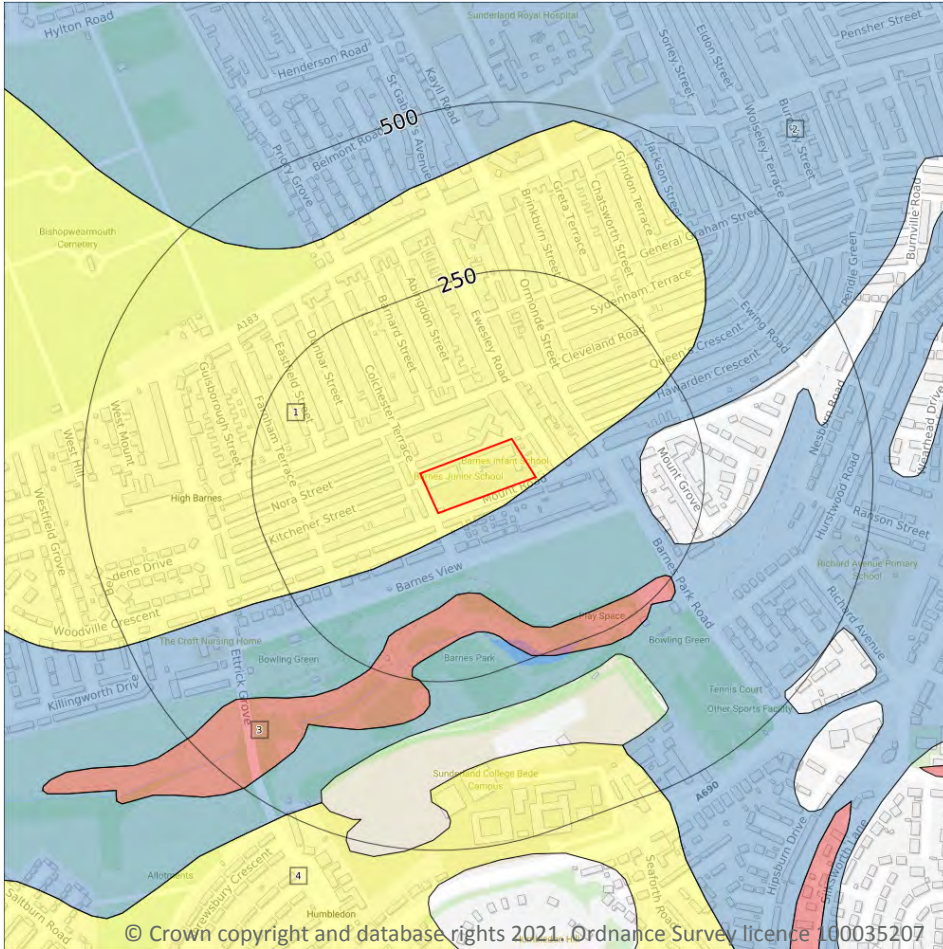
0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



5 Hydrogeology - Superficial aquifer



5.1 Superficial aquifer

Records within 500m

4

Aquifer status of groundwater held within superficial geology.

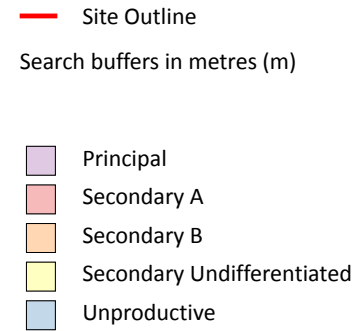
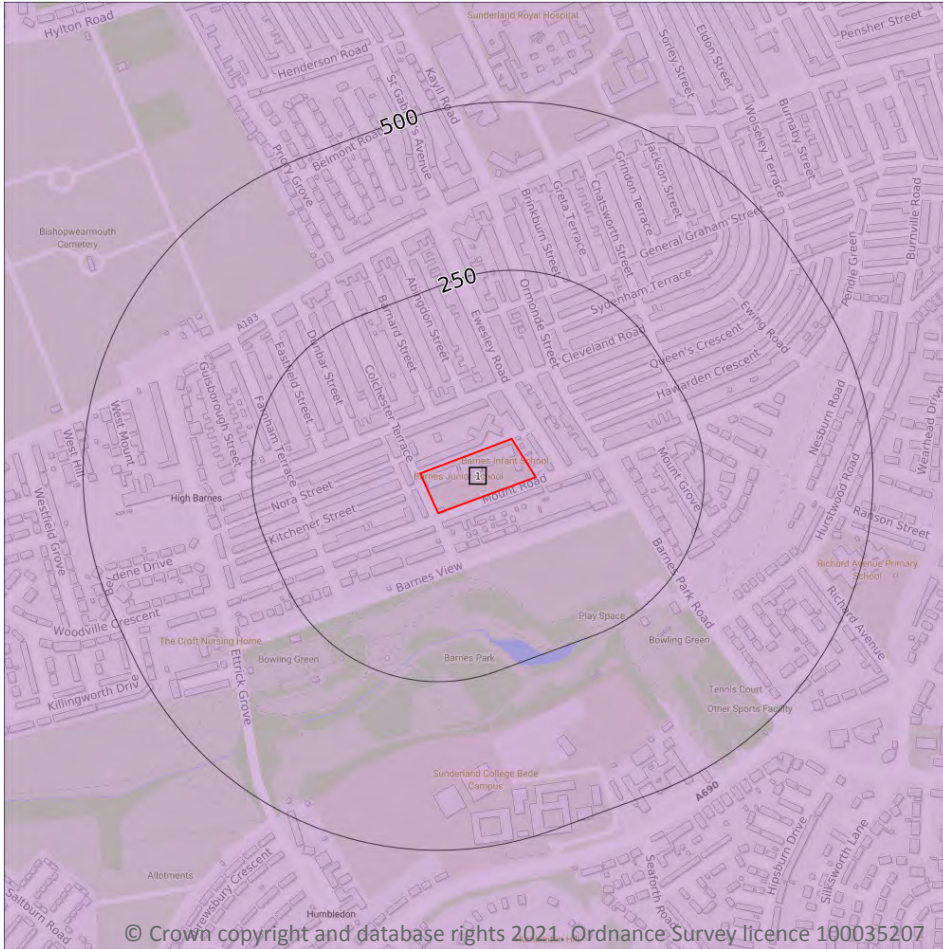
Features are displayed on the Hydrogeology map on **page 35**

| ID | Location | Designation | Description |
|----|----------|----------------------------|---|
| 1 | On site | Secondary Undifferentiated | Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type |
| 2 | 6m SE | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow |

| ID | Location | Designation | Description |
|----|----------|-------------------------------|---|
| 3 | 124m S | 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 |
| 4 | 374m S | Secondary Undifferentiated | Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type |

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

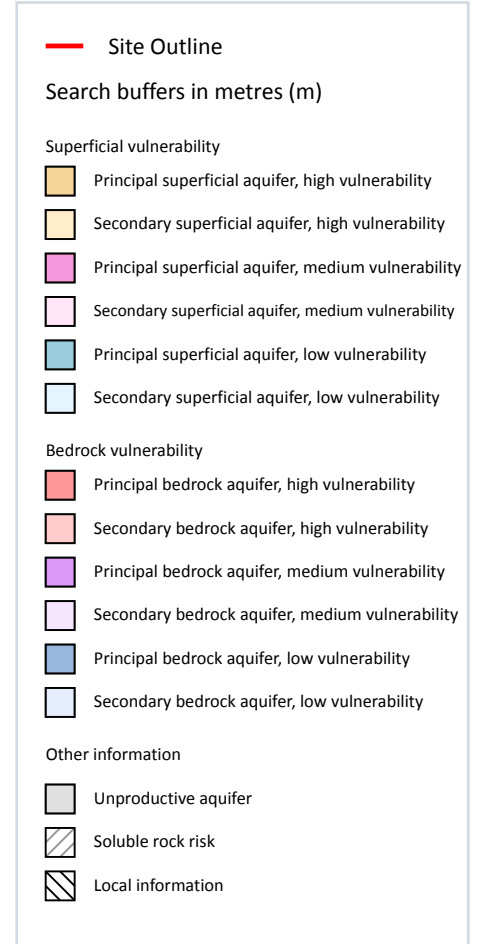
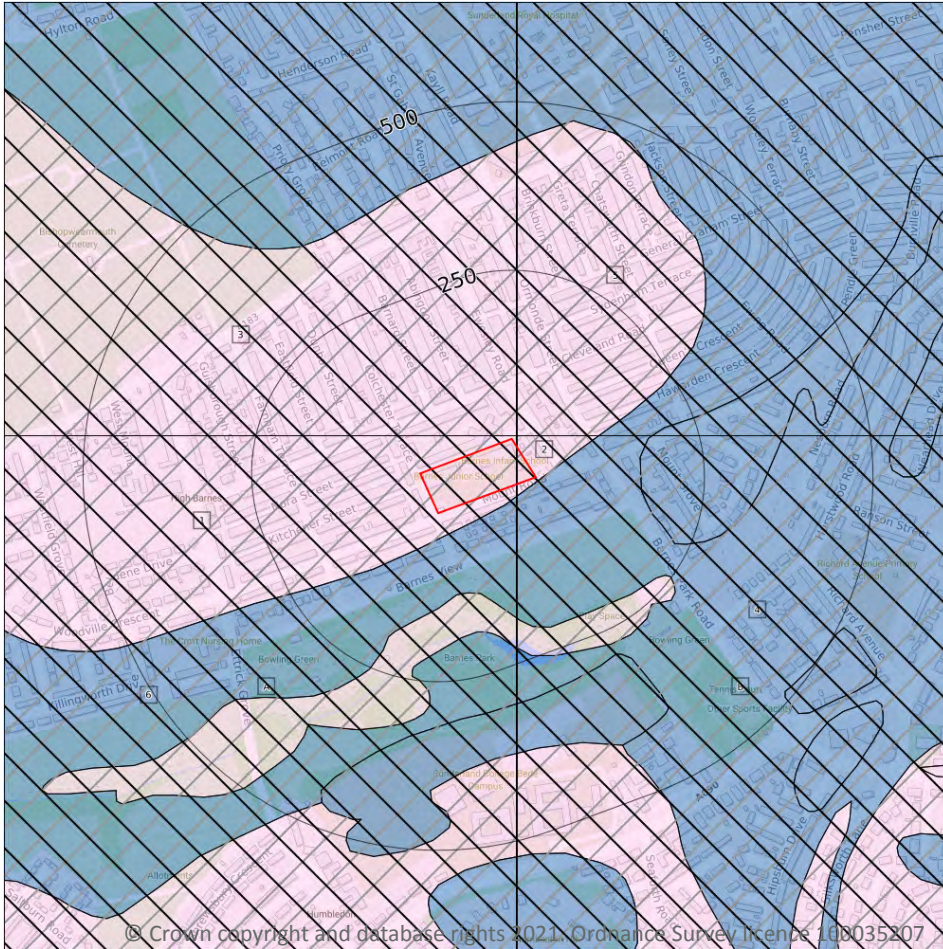
Features are displayed on the Bedrock aquifer map on **page 37**

| ID | Location | Designation | Description |
|----|----------|-------------|--|
| 1 | On site | 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 |

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

6

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 38**



| ID | Location | Summary | Soil / surface | Superficial geology | Bedrock geology |
|----|----------|--|---|---|--|
| 1 | On site | Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer | Leaching class: Low Infiltration value: >70% Dilution value: <300mm/year | Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low | Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures |
| 2 | On site | Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer | Leaching class: Low Infiltration value: >70% Dilution value: <300mm/year | Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low | Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures |
| 3 | 4m N | Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer | Leaching class: Low Infiltration value: >70% Dilution value: <300mm/year | Vulnerability: Medium Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low | Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures |
| 4 | 6m SE | Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer | Leaching class: Low Infiltration value: >70% Dilution value: <300mm/year | Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: >90% Recharge potential: Low | Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures |
| 5 | 8m NE | Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer | Leaching class: Low Infiltration value: >70% Dilution value: <300mm/year | Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low | Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures |
| 6 | 16m S | Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Unproductive Superficial Aquifer | Leaching class: Low Infiltration value: >70% Dilution value: <300mm/year | Vulnerability: Unproductive Aquifer type: Unproductive Thickness: 3-10m Patchiness value: >90% Recharge potential: Low | Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures |

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



5.4 Groundwater vulnerability- soluble rock risk

Records on site

2

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

| ID | Maximum soluble risk category | Percentage of grid square covered by maximum risk |
|----|---|---|
| A | Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow. | 100.0% |
| B | Significant soluble rocks are likely to be present. Problems unlikely except with considerable surface or subsurface water flow. | 100.0% |

This data is sourced from the British Geological Survey and the Environment Agency.

5.5 Groundwater vulnerability- local information

Records on site

2

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

| ID | Summary | Additional information |
|----|---|---|
| A | Limited protection of aquifers by superficial deposits | Local studies show that thin superficial deposits offer limited protection to the aquifers beneath |
| B | Limited protection of aquifers by superficial deposits | Local studies show that thin superficial deposits offer limited protection to the aquifers beneath |

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones

5.6 Groundwater abstractions

| | |
|----------------------|---|
| Records within 2000m | 0 |
|----------------------|---|

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

| | |
|----------------------|---|
| Records within 2000m | 0 |
|----------------------|---|

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

| | |
|----------------------|---|
| Records within 2000m | 0 |
|----------------------|---|

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

| | |
|---------------------|---|
| Records within 500m | 0 |
|---------------------|---|

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.



5.10 Source Protection Zones (confined aquifer)

Records within 500m

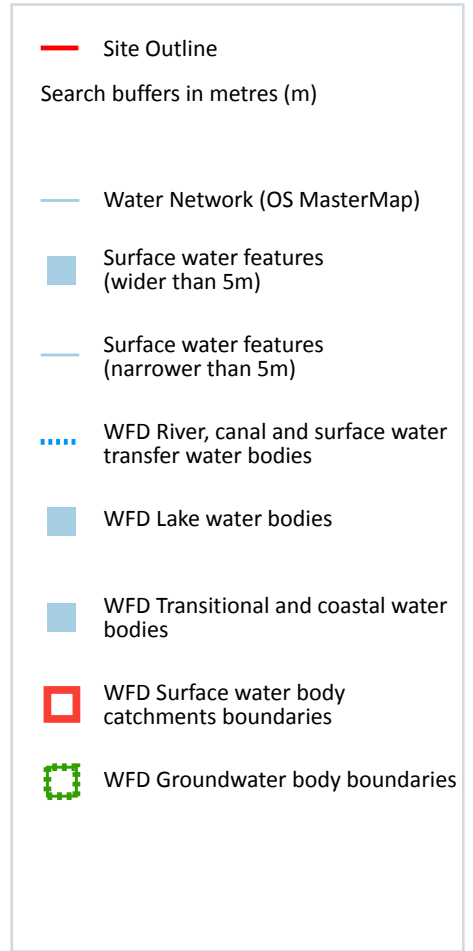
0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.



6 Hydrology



6.1 Water Network (OS MasterMap)

Records within 250m

7

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on **page 43**

| ID | Location | Type of water feature | Ground level | Permanence | Name |
|----|----------|---|-------------------|---|-------------|
| 3 | 179m S | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | Barnes Burn |

| ID | Location | Type of water feature | Ground level | Permanence | Name |
|----|----------|---|-------------------|---|-------------|
| A | 188m S | Lake, loch or reservoir. | On ground surface | Watercourse contains water year round (in normal circumstances) | Barnes Burn |
| 4 | 216m SE | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | Barnes Burn |
| A | 216m S | Lake, loch or reservoir. | On ground surface | Watercourse contains water year round (in normal circumstances) | Barnes Burn |
| A | 216m S | Lake, loch or reservoir. | On ground surface | Watercourse contains water year round (in normal circumstances) | Barnes Burn |
| A | 244m S | Lake, loch or reservoir. | On ground surface | Watercourse contains water year round (in normal circumstances) | Barnes Burn |
| A | 248m S | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | Barnes Burn |

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

1

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on **page 43**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 43**



| ID | Location | Type | Water body catchment | Water body ID | Operational catchment | Management catchment |
|----|----------|-------------------|----------------------------------|---------------|------------------------|----------------------|
| 2 | On site | Coastal Catchment | Not part of a river WB catchment | 9 | Wear Lower and Estuary | Wear |

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

| | |
|---------------------------|----------|
| Records identified | 0 |
|---------------------------|----------|

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

| | |
|------------------------|----------|
| Records on site | 1 |
|------------------------|----------|

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 43**

| ID | Location | Name | Water body ID | Overall rating | Chemical rating | Quantitative | Year |
|----|----------|--------------------------|---------------------------------------|----------------|-----------------|--------------|------|
| 1 | On site | Wear Magnesian Limestone | <u>GB40301G703900</u> | Poor | Poor | Good | 2015 |

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m

0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m

0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m

0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.



7.5 Flood Storage Areas

Records within 250m

0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.



River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m

0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

Records within 50m

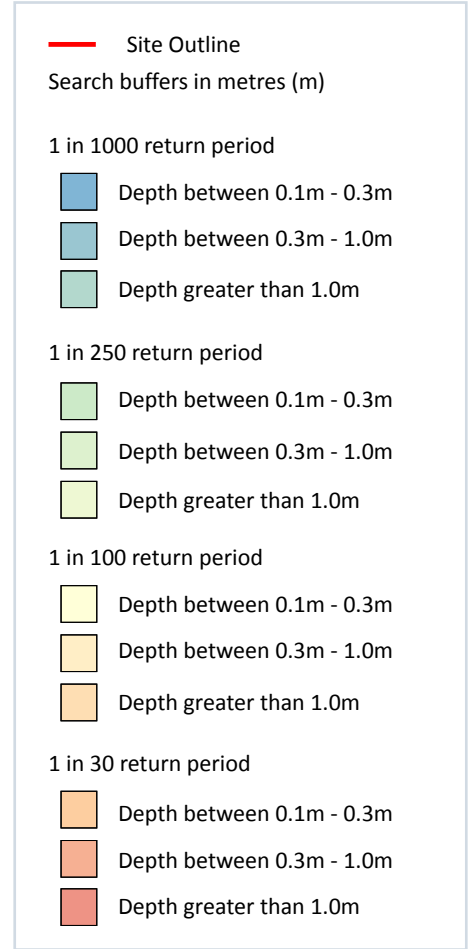
0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.



8 Surface water flooding



8.1 Surface water flooding

Highest risk on site

Negligible

Highest risk within 50m

1 in 30 year, Greater than 1.0m

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 49**

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

| Return period | Maximum modelled depth |
|----------------|------------------------|
| 1 in 1000 year | Negligible |
| 1 in 250 year | Negligible |
| 1 in 100 year | Negligible |
| 1 in 30 year | Negligible |

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

Low

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 51**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)
- + Local Nature Reserves (LNR)

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

5

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

Features are displayed on the Environmental designations map on **page 52**

| ID | Location | Name | Data source |
|----|----------|-----------------------|-----------------|
| 1 | 615m S | Humbledon Hill Quarry | Natural England |



| ID | Location | Name | Data source |
|----|----------|--|-----------------|
| A | 1587m SE | Tunstall Hills and Ryhope Cutting | Natural England |
| - | 1782m SE | Tunstall Hills and Ryhope Cutting | Natural England |
| - | 1892m SE | Tunstall Hills and Ryhope Cutting | Natural England |
| - | 1916m NW | Claxheugh Rock & Ford Limestone Quarry | Natural England |

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

| | |
|-----------------------------|----------|
| Records within 2000m | 0 |
|-----------------------------|----------|

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

| | |
|-----------------------------|----------|
| Records within 2000m | 0 |
|-----------------------------|----------|

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

| | |
|-----------------------------|----------|
| Records within 2000m | 0 |
|-----------------------------|----------|

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m

0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m

2

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

Features are displayed on the Environmental designations map on **page 52**

| ID | Location | Name | Data source |
|----|----------|----------------|-----------------|
| A | 1587m SE | Tunstall Hills | Natural England |
| - | 1782m SE | Tunstall Hills | Natural England |

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m

0

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m

0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.



10.9 Forest Parks

Records within 2000m

0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m

0

Areas designated to prevent urban sprawl by keeping land permanently open.

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m

0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.



10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

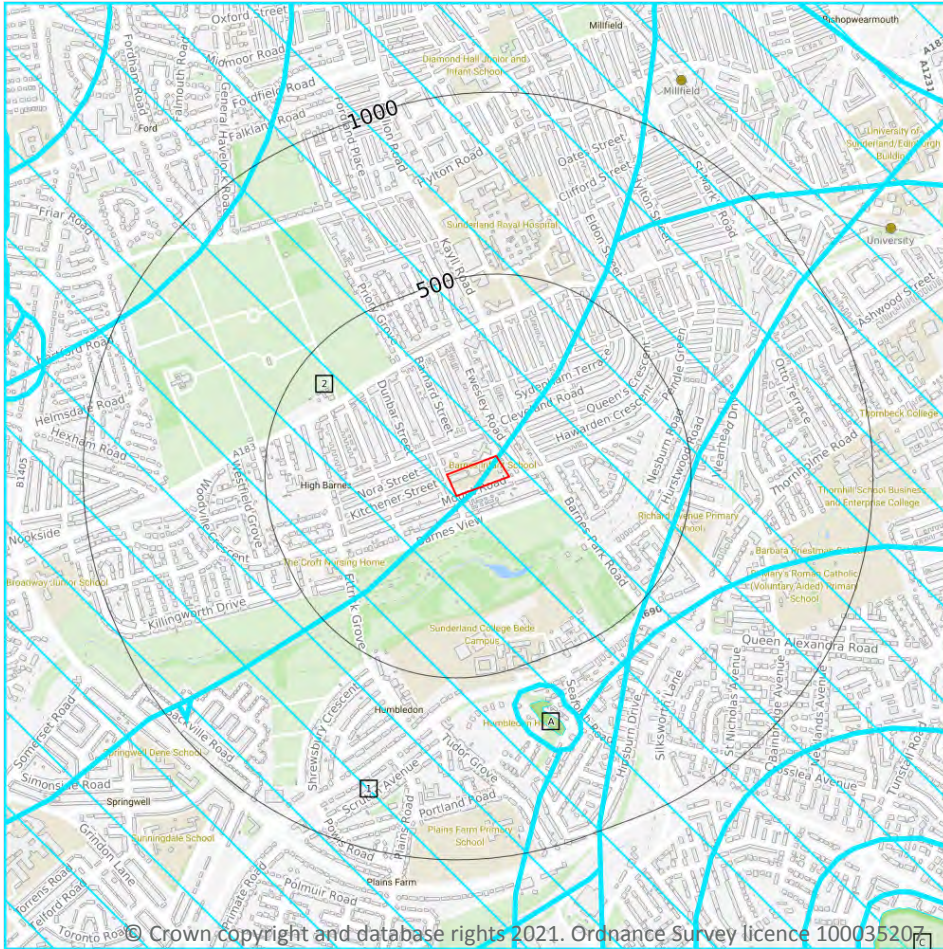
Records within 2000m

0

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

This data is sourced from Natural England and Natural Resources Wales.

SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

2

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 57**

| ID | Location | Type of developments requiring consultation |
|----|----------|---|
| 1 | On site | <p>Infrastructure - Airports, helipads and other aviation proposals.</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Residential - Residential development of 10 units or more.</p> <p>Rural residential - Any residential development of 10 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t).</p> <p>Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management</p> |
| 2 | On site | <p>Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals</p> <p>Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.</p> <p>Residential - Residential development of 10 units or more.</p> <p>Rural residential - Any residential development of 10 or more houses outside existing settlements/urban areas.</p> <p>Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t).</p> <p>Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion</p> <p>Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.</p> <p>Composting - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management</p> <p>Water supply - Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m² or more.</p> |

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

5

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

Features are displayed on the SSSI Impact Zones and Units map on **page 57**



ID: A
 Location: 615m S
 SSSI name: Humbledon Hill Quarry
 Unit name: 1
 Broad habitat: Earth Heritage
 Condition: Favourable
 Reportable features:

| Feature name | Feature condition | Date of assessment |
|---------------------|-------------------|--------------------|
| ED - Marine Permian | Favourable | 13/05/2013 |

ID: C
 Location: 1587m SE
 SSSI name: Tunstall Hills and Ryhope Cutting
 Unit name: 1
 Broad habitat: Calcareous Grassland - Lowland
 Condition: Favourable
 Reportable features:

| Feature name | Feature condition | Date of assessment |
|------------------------------------|-------------------|--------------------|
| ED - Marine Permian | Favourable | 18/07/2012 |
| EO - Marine Permian | Favourable | 18/07/2012 |
| ER - Marine Permian | Favourable | 18/07/2012 |
| Lowland calcareous grassland (CG6) | Favourable | 18/07/2012 |
| Lowland calcareous grassland (CG8) | Favourable | 18/07/2012 |

ID: -
 Location: 1782m SE
 SSSI name: Tunstall Hills and Ryhope Cutting
 Unit name: 1
 Broad habitat: Calcareous Grassland - Lowland
 Condition: Favourable
 Reportable features:

| Feature name | Feature condition | Date of assessment |
|---------------------|-------------------|--------------------|
| ED - Marine Permian | Favourable | 18/07/2012 |
| EO - Marine Permian | Favourable | 18/07/2012 |
| ER - Marine Permian | Favourable | 18/07/2012 |

| Feature name | Feature condition | Date of assessment |
|------------------------------------|-------------------|--------------------|
| Lowland calcareous grassland (CG6) | Favourable | 18/07/2012 |
| Lowland calcareous grassland (CG8) | Favourable | 18/07/2012 |

ID: -
 Location: 1892m SE
 SSSI name: Tunstall Hills and Ryhope Cutting
 Unit name: 1
 Broad habitat: Calcareous Grassland - Lowland
 Condition: Favourable
 Reportable features:

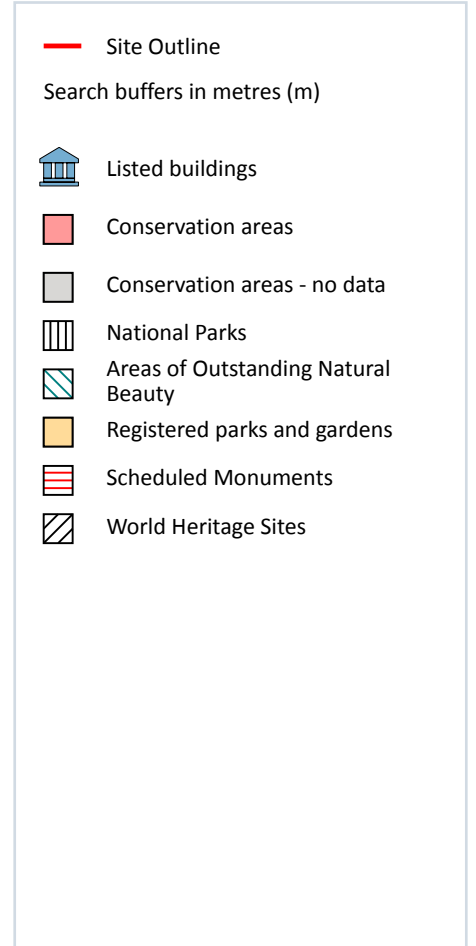
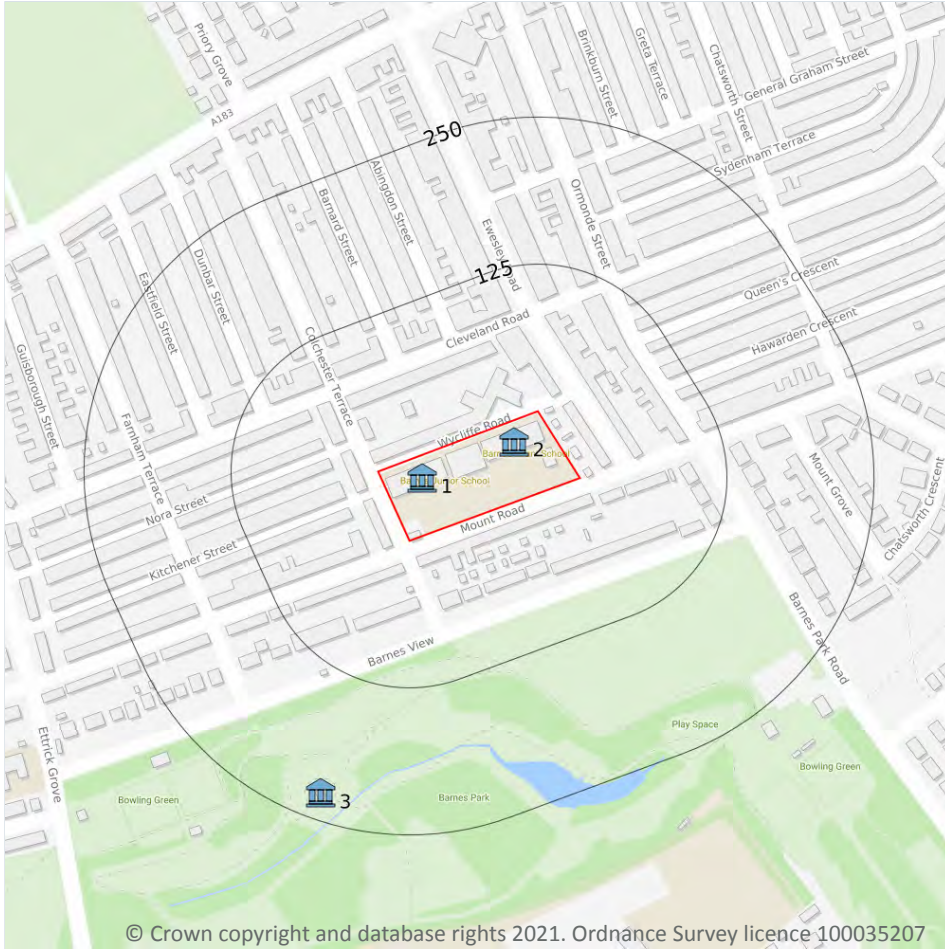
| Feature name | Feature condition | Date of assessment |
|------------------------------------|-------------------|--------------------|
| ED - Marine Permian | Favourable | 18/07/2012 |
| EO - Marine Permian | Favourable | 18/07/2012 |
| ER - Marine Permian | Favourable | 18/07/2012 |
| Lowland calcareous grassland (CG6) | Favourable | 18/07/2012 |
| Lowland calcareous grassland (CG8) | Favourable | 18/07/2012 |

ID: -
 Location: 1916m NW
 SSSI name: Claxheugh Rock & Ford Limestone Quarry
 Unit name: Claxheugh Rock: Geological Interest
 Broad habitat: Earth Heritage
 Condition: Unfavourable - Declining
 Reportable features:

| Feature name | Feature condition | Date of assessment |
|---------------------|--------------------------|--------------------|
| ED - Marine Permian | Unfavourable - Declining | 14/11/2013 |
| EO - Marine Permian | Favourable | 14/11/2013 |
| ER - Marine Permian | Favourable | 14/11/2013 |

This data is sourced from Natural England and Natural Resources Wales.

11 Visual and cultural designations



11.1 World Heritage Sites

Records within 250m

0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m

0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m

3

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

Features are displayed on the Visual and cultural designations map on **page 61**

| ID | Location | Name | Grade | Reference Number | Listed date |
|----|----------|--|-------|------------------|-------------|
| 1 | On site | West Building Of Barnes School, Sunderland, SR4 | II | 1207105 | 10/11/1978 |
| 2 | On site | East Building Of Barnes School, Sunderland, SR4 | II | 1208910 | 10/11/1978 |
| 3 | 227m S | Bandstand Near North Boundary At Nz 3781 5567, Sunderland, SR4 | II | 1207781 | 10/11/1978 |

This data is sourced from English Heritage, Cadw and Historic Environment Scotland.



11.5 Conservation Areas

Records within 250m

0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from English Heritage, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m

0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from English Heritage, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

Records within 250m

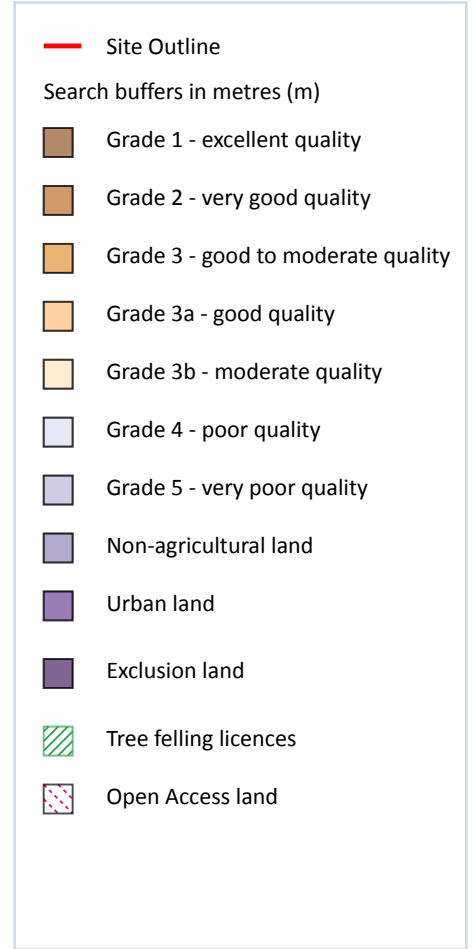
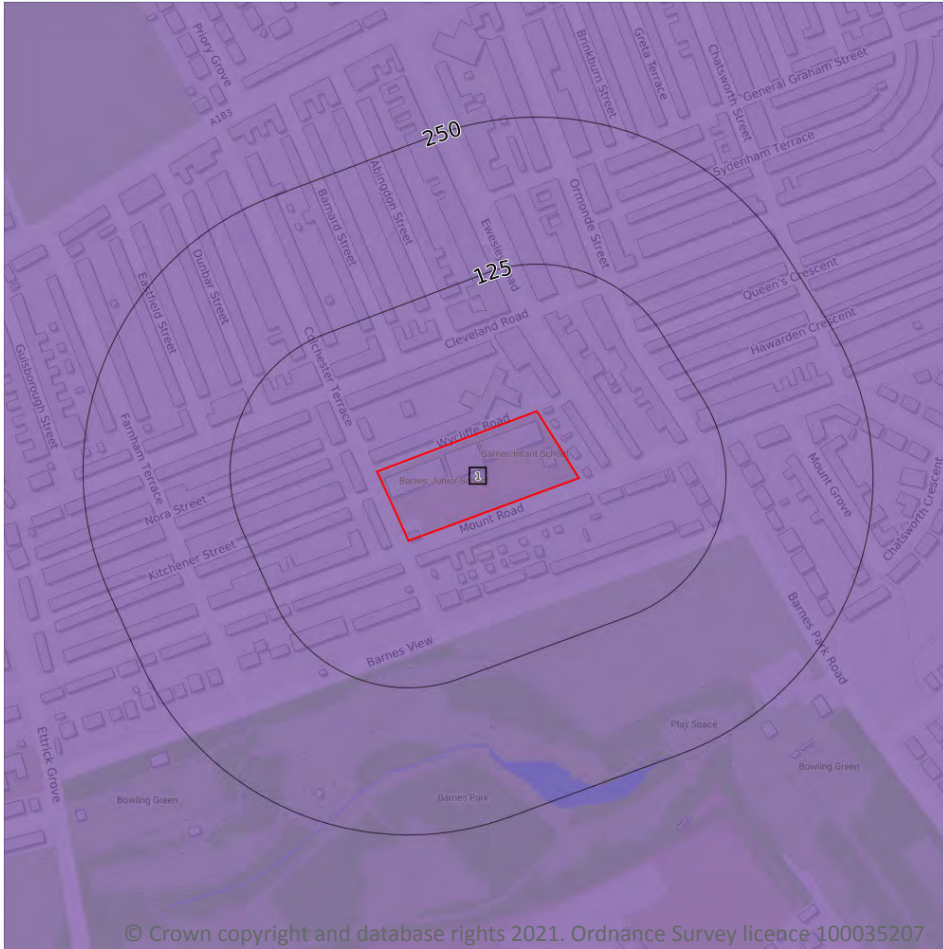
0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from English Heritage, Cadw and Historic Environment Scotland.



12 Agricultural designations



12.1 Agricultural Land Classification

Records within 250m

1

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 64**

| ID | Location | Classification | Description |
|----|----------|----------------|-------------|
|----|----------|----------------|-------------|

| | | | |
|---|---------|-------|---|
| 1 | On site | Urban | - |
|---|---------|-------|---|

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m

0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.

13 Habitat designations



- Site Outline
- Search buffers in metres (m)
- Priority Habitat Inventory
- Open Mosaic Habitat
- Limestone Pavement Orders
- Habitat Networks
- Primary Habitat
- Restorable Habitat
- Associated Habitats
- Habitat Restoration-Creation
- Network Enhancement Zone 1
- Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

8

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on **page 66**

| ID | Location | Main Habitat | Other habitats |
|----|----------|--------------------|---------------------------------|
| 1 | 125m S | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |
| 2 | 159m S | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |
| 3 | 175m S | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |
| 4 | 192m S | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |



| ID | Location | Main Habitat | Other habitats |
|----|----------|--------------------|---------------------------------|
| 5 | 200m SW | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |
| 6 | 205m SW | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |
| 7 | 210m SW | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |
| 8 | 211m S | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |

This data is sourced from Natural England.

13.2 Habitat Networks

| | |
|----------------------------|----------|
| Records within 250m | 0 |
|----------------------------|----------|

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

| | |
|----------------------------|----------|
| Records within 250m | 0 |
|----------------------------|----------|

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

| | |
|----------------------------|----------|
| Records within 250m | 0 |
|----------------------------|----------|

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
 Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

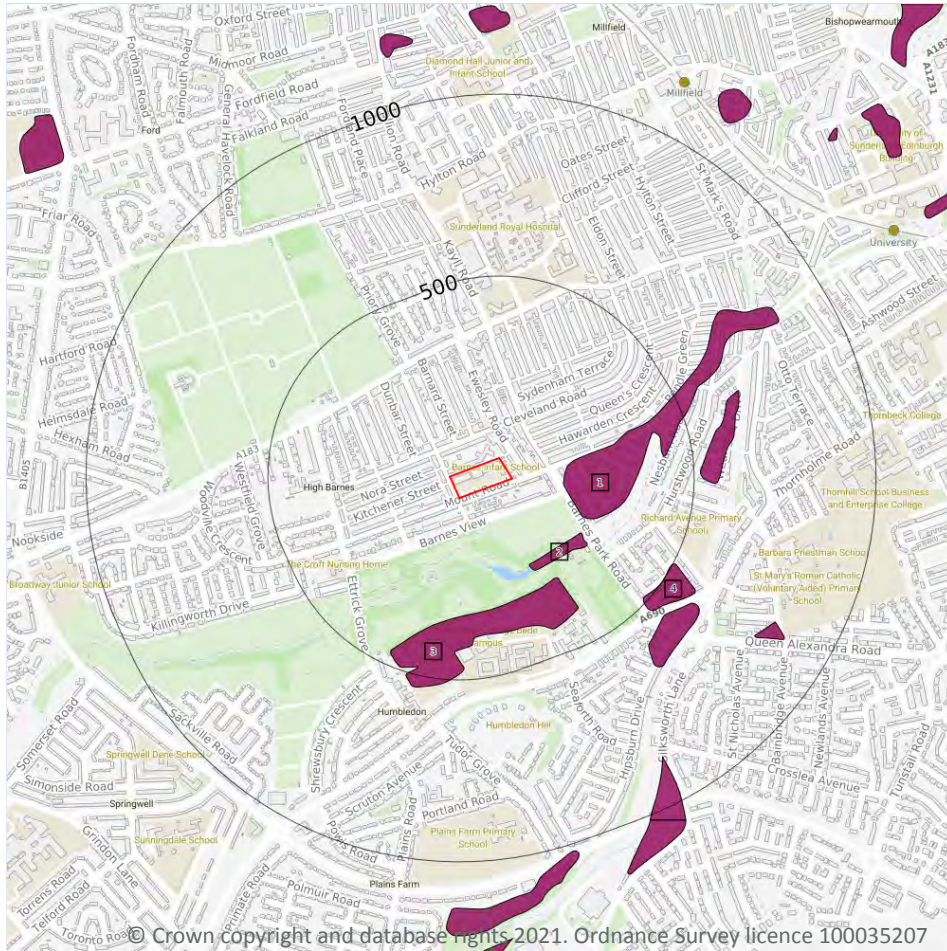
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 68**

| ID | Location | Artificial | Superficial | Bedrock | Mass movement | Sheet No. |
|----|----------|------------|-------------|---------|---------------|-----------|
| 1 | On site | Full | Full | Full | No coverage | NZ35NE |

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground



- Site Outline
- Search buffers in metres (m)
- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m

4

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 69**

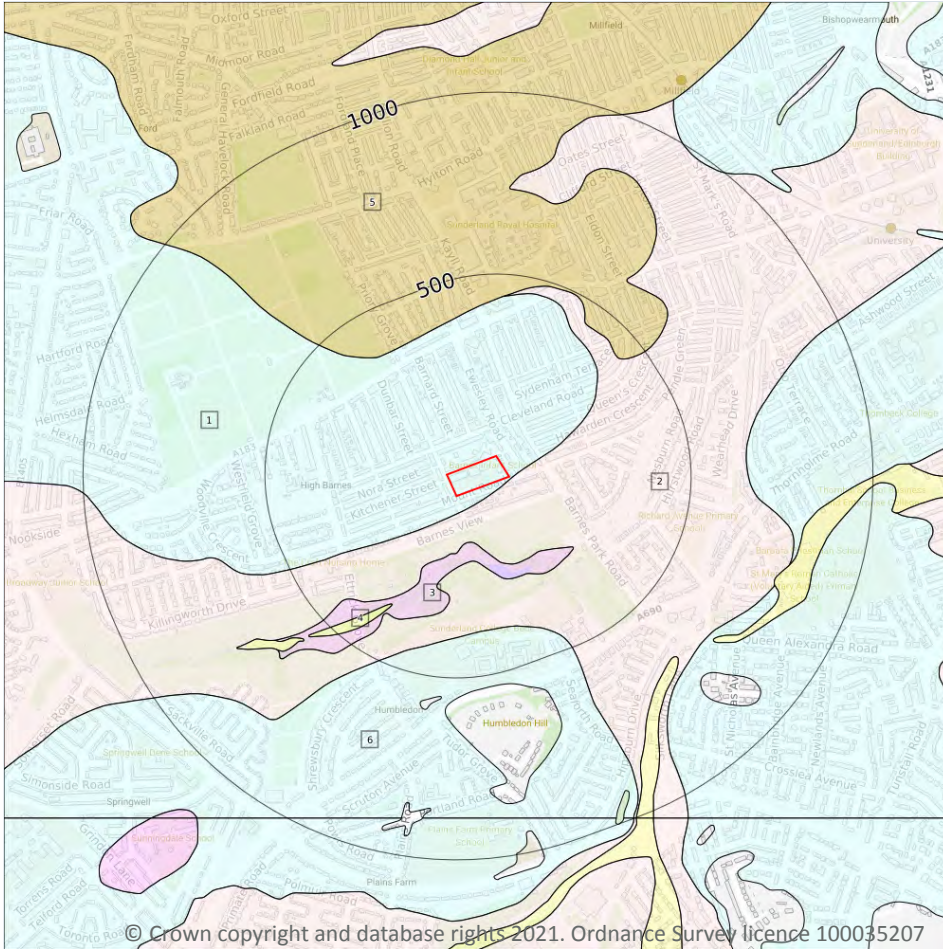
| ID | Location | LEX Code | Description | Rock description |
|----|----------|-----------|-------------------------|--------------------|
| 1 | 142m E | MGR-ARTDP | Made Ground (Undivided) | Artificial Deposit |
| 2 | 226m SE | MGR-ARTDP | Made Ground (Undivided) | Artificial Deposit |
| 3 | 298m SE | MGR-ARTDP | Made Ground (Undivided) | Artificial Deposit |
| 4 | 488m SE | MGR-ARTDP | Made Ground (Undivided) | Artificial Deposit |




This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



- Site Outline
- Search buffers in metres (m)
-  Landslip (10k)
- Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m

6

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 71**

| ID | Location | LEX Code | Description | Rock description |
|----|----------|------------|--|------------------|
| 1 | On site | TILLD-DMTN | Till, Devensian - Diamicton | Diamicton |
| 2 | 7m SE | GLLDD-XCZ | Glaciolacustrine Deposits, Devensian - Clay And Silt | Clay And Silt |
| 3 | 132m S | GFDUD-XSV | Glaciofluvial Deposits, Devensian - Sand And Gravel | Sand And Gravel |

| ID | Location | LEX Code | Description | Rock description |
|----|----------|------------|--|-----------------------------|
| 4 | 346m SW | ALV-XCZSV | Alluvium - Clay, Silt, Sand And Gravel | Clay, Silt, Sand And Gravel |
| 5 | 371m NW | PELC-C | Pelaw Clay Member - Clay | Clay |
| 6 | 378m S | TILLD-DMTN | Till, Devensian - Diamicton | Diamicton |

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

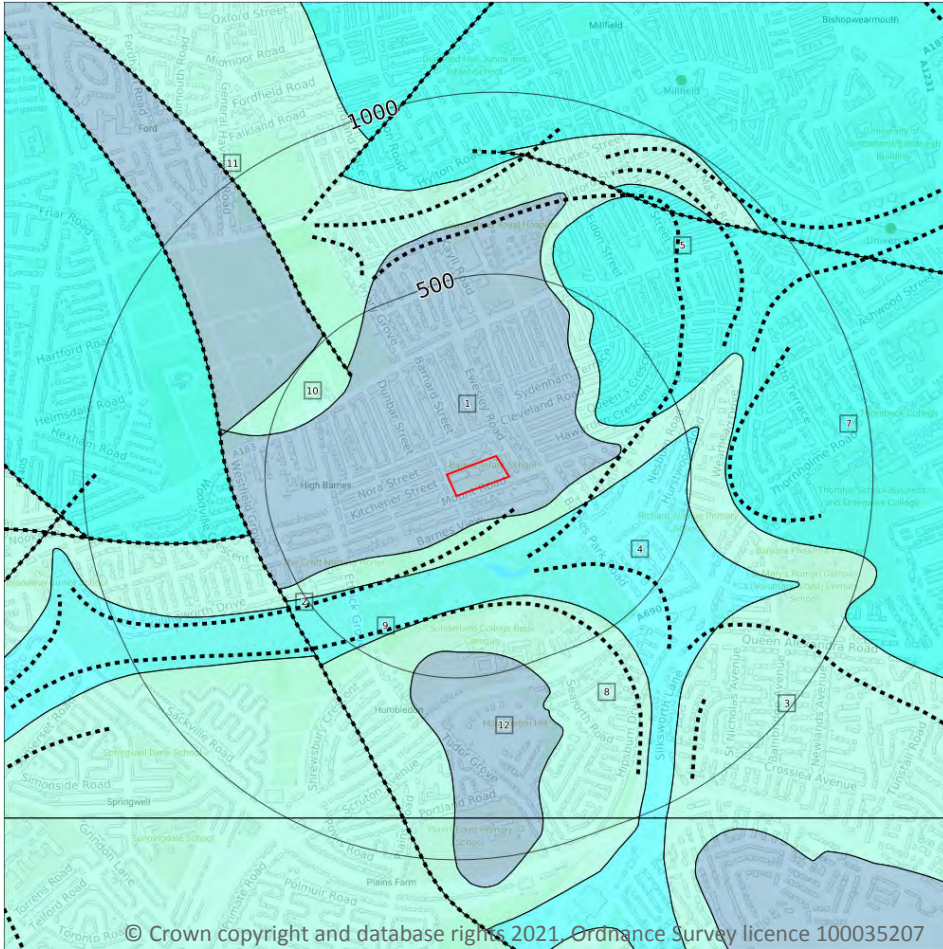
0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



- Site Outline
- Search buffers in metres (m)
- Bedrock faults and other linear features (10k)
- Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

7

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 73**

| ID | Location | LEX Code | Description | Rock age |
|----|----------|-----------|--|------------------------------------|
| 1 | On site | FMLS-DOLO | Ford Formation (shelf-edge Reef) - Dolostone | Late Permian Epoch [Obsolete name] |
| 3 | 89m S | FML-DOLO | Ford Formation - Dolostone | Late Permian Epoch [Obsolete name] |

| ID | Location | LEX Code | Description | Rock age |
|----|----------|-----------|--|------------------------------------|
| 4 | 166m SE | RML-DOLO | Raisby Formation - Dolostone | Late Permian Epoch [Obsolete name] |
| 7 | 289m NE | ROD-DOLO | Roker Formation - Dolostone | Late Permian Epoch [Obsolete name] |
| 8 | 301m S | FML-DOLO | Ford Formation - Dolostone | Late Permian Epoch [Obsolete name] |
| 10 | 361m NW | FML-DOLO | Ford Formation - Dolostone | Late Permian Epoch [Obsolete name] |
| 12 | 428m S | FMLS-DOLO | Ford Formation (shelf-edge Reef) - Dolostone | Late Permian Epoch [Obsolete name] |

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

5

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 73**

| ID | Location | Category | Description |
|----|----------|----------|--|
| 2 | 88m S | LANDFORM | Buried channel or valley margin |
| 5 | 208m SE | LANDFORM | Buried channel or valley margin |
| 6 | 266m S | LANDFORM | Buried channel or valley margin |
| 9 | 310m S | LANDFORM | Buried channel or valley margin |
| 11 | 378m NW | FAULT | Normal fault, inferred; crossmarks on downthrow side |

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline
 Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

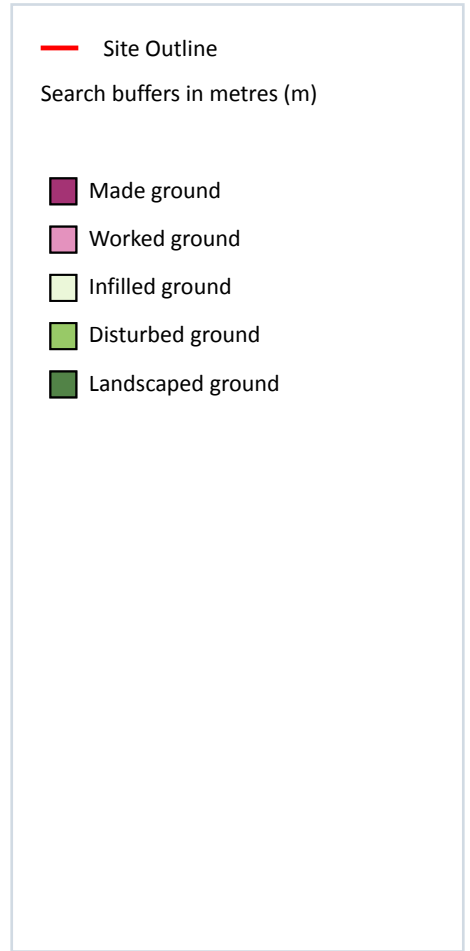
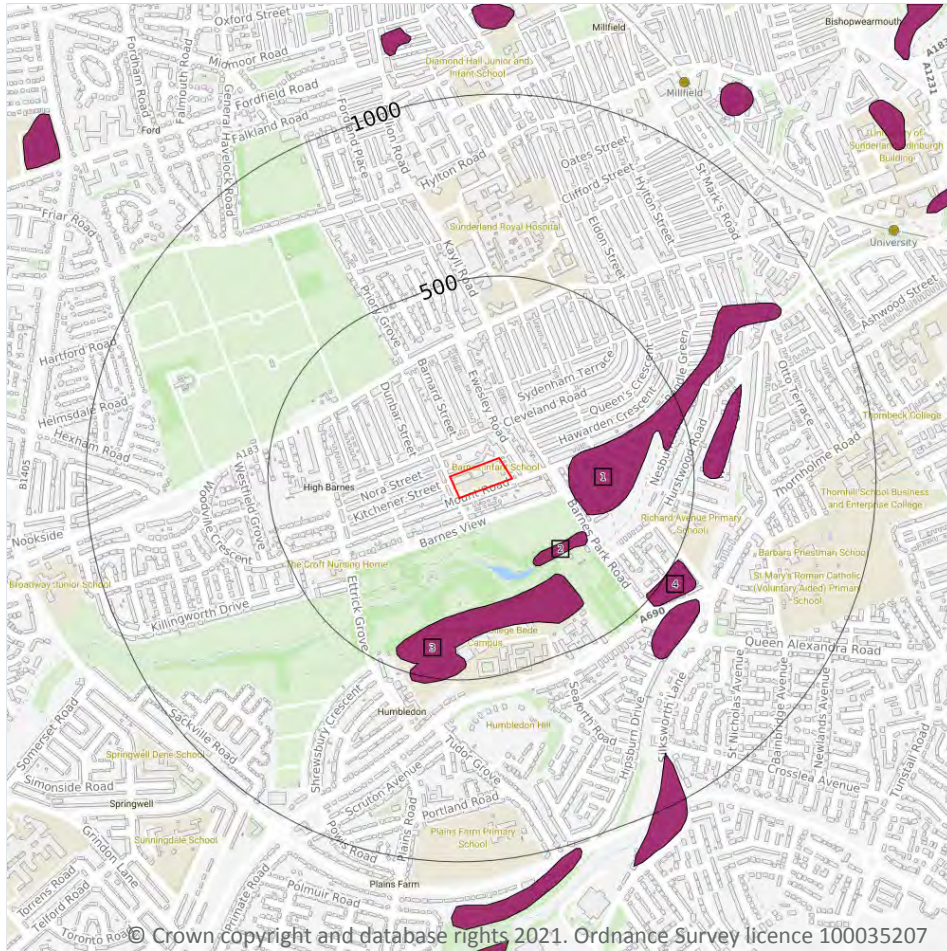
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 75**

| ID | Location | Artificial | Superficial | Bedrock | Mass movement | Sheet No. |
|----|----------|------------|-------------|---------|---------------|---------------------|
| 1 | On site | Full | Full | Full | Full | EW021_sunderland_v4 |

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground



15.2 Artificial and made ground (50k)

Records within 500m

4

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 76**

| ID | Location | LEX Code | Description | Rock description |
|----|----------|-----------|-------------------------|--------------------|
| 1 | 156m E | MGR-ARTDP | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |
| 2 | 215m SE | MGR-ARTDP | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |
| 3 | 288m SE | MGR-ARTDP | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |
| 4 | 487m SE | MGR-ARTDP | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

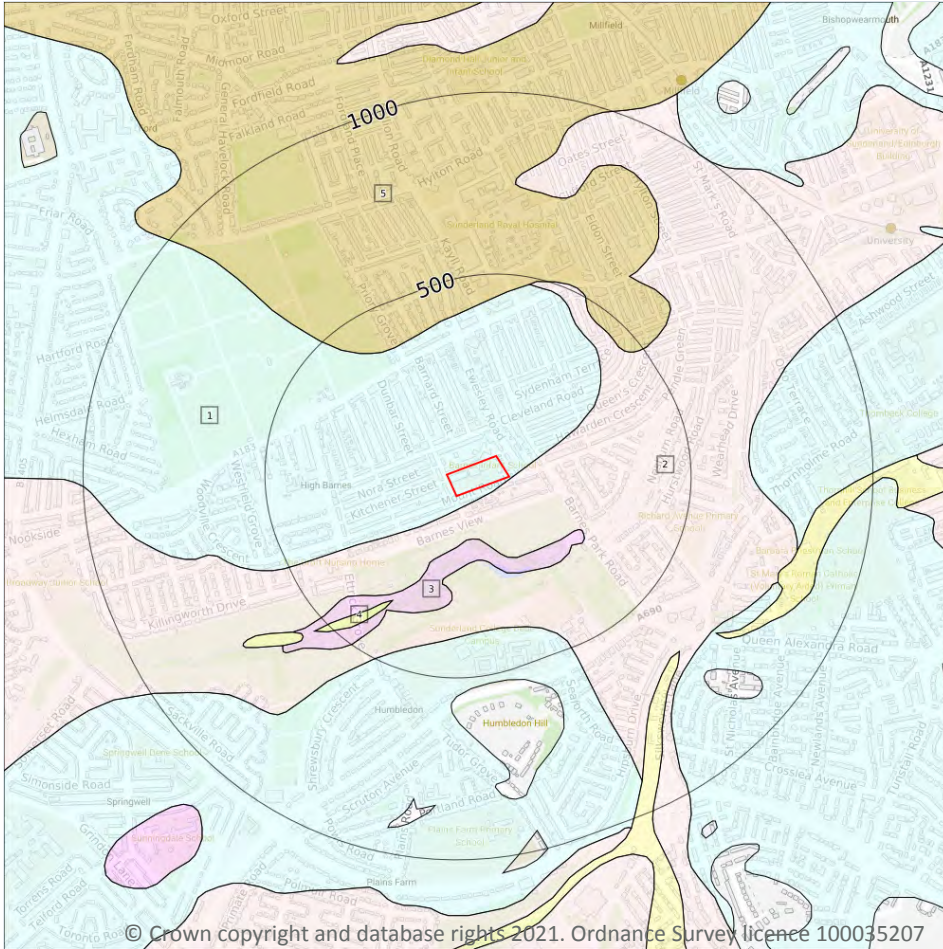
Records within 50m


0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



- Site Outline
- Search buffers in metres (m)
-  Landslip (50k)
- Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m

5

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 78**

| ID | Location | LEX Code | Description | Rock description |
|----|----------|------------|--------------------------------------|------------------|
| 1 | On site | TILLD-DMTN | TILL, DEVANSIAN | DIAMICTON |
| 2 | 6m SE | GLLDD-XCZ | GLACIOLACUSTRINE DEPOSITS, DEVANSIAN | CLAY AND SILT |
| 3 | 124m S | GFDUD-XSV | GLACIOFLUVIAL DEPOSITS, DEVANSIAN | SAND AND GRAVEL |



| ID | Location | LEX Code | Description | Rock description |
|----|----------|-----------|-------------------|-----------------------------|
| 4 | 337m SW | ALV-XCZSV | ALLUVIUM | CLAY, SILT, SAND AND GRAVEL |
| 5 | 377m N | PELC-C | PELAW CLAY MEMBER | CLAY |

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m **2**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

| Location | Flow type | Maximum permeability | Minimum permeability |
|----------------|--------------|----------------------|----------------------|
| On site | Mixed | High | Low |
| 6m W | Mixed | Low | Very Low |

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m **0**

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

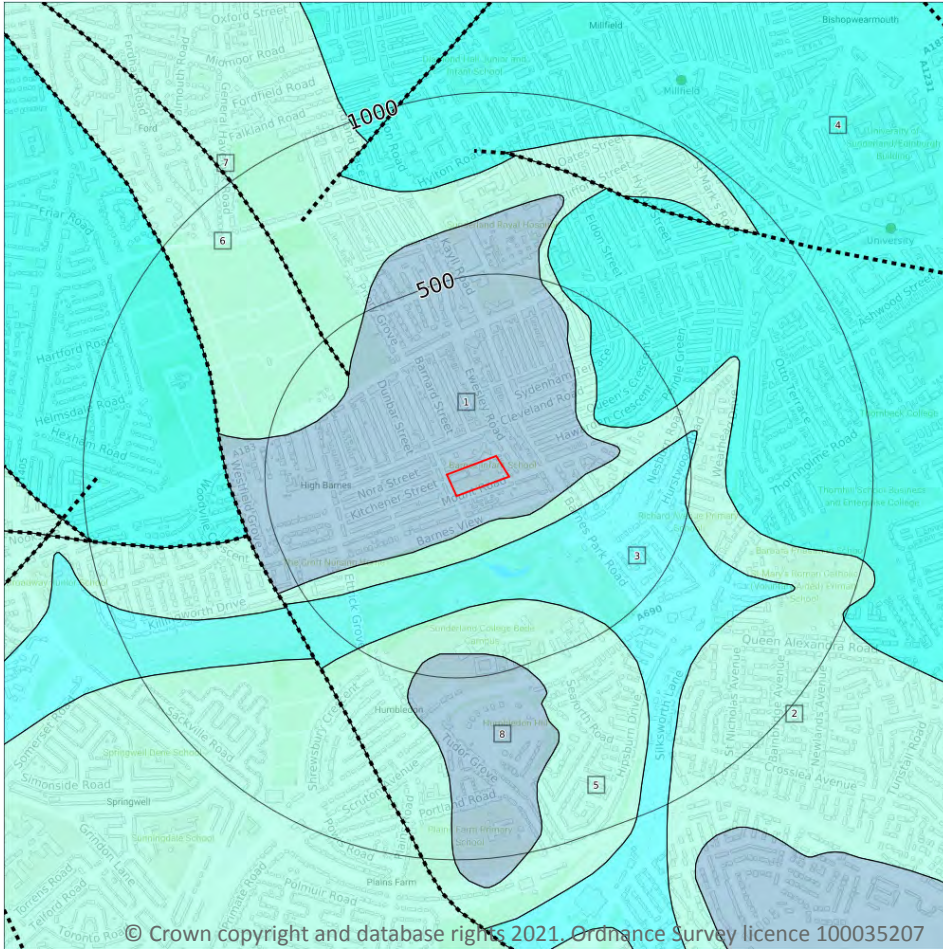
15.7 Landslip permeability (50k)

Records within 50m **0**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

..... Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

7

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 80**

| ID | Location | LEX Code | Description | Rock age |
|----|----------|-----------|--|----------|
| 1 | On site | FMLS-DOLO | FORD FORMATION (SHELF-EDGE REEF) - DOLOSTONE | - |
| 2 | 97m S | FML-DOLO | FORD FORMATION - DOLOSTONE | - |
| 3 | 168m SE | RML-DOLO | RAISBY FORMATION - DOLOSTONE | - |
| 4 | 283m NE | ROD-DOLO | ROKER FORMATION - DOLOSTONE | - |

| ID | Location | LEX Code | Description | Rock age |
|----|----------|-----------|--|----------|
| 5 | 306m S | FML-DOLO | FORD FORMATION - DOLOSTONE | - |
| 6 | 356m NW | FML-DOLO | FORD FORMATION - DOLOSTONE | - |
| 8 | 434m S | FMLS-DOLO | FORD FORMATION (SHELF-EDGE REEF) - DOLOSTONE | - |

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

| | |
|---------------------------|----------|
| Records within 50m | 1 |
|---------------------------|----------|

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

| Location | Flow type | Maximum permeability | Minimum permeability |
|----------------|-----------------|----------------------|----------------------|
| On site | Fracture | Very High | High |

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

| | |
|----------------------------|----------|
| Records within 500m | 1 |
|----------------------------|----------|

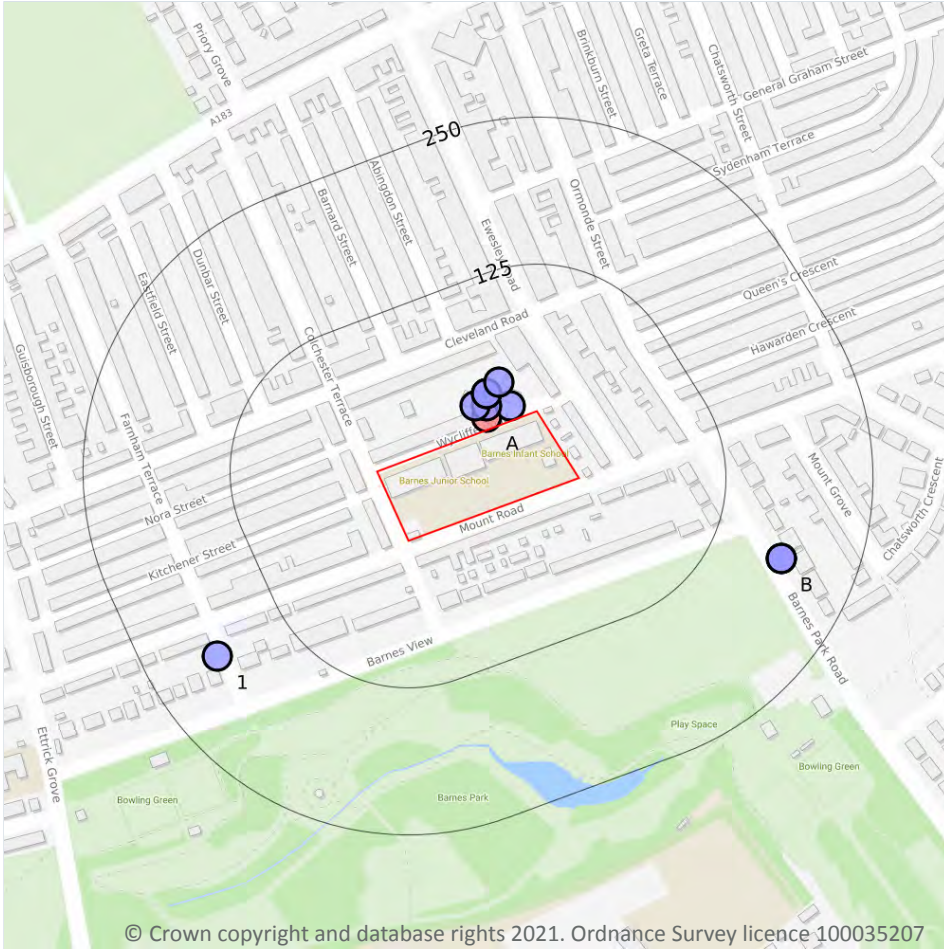
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 80**

| ID | Location | Category | Description |
|----|----------|----------|---------------------------------------|
| 7 | 384m NW | FAULT | Fault, inferred, displacement unknown |

This data is sourced from the British Geological Survey.

16 Boreholes



— Site Outline
 Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

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16.1 BGS Boreholes

Records within 250m

10

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on **page 82**

| ID | Location | Grid reference | Name | Length | Confidential | Web link |
|----|----------|----------------|--|--------|--------------|--------------------------|
| A | 10m N | 437950 555990 | COUNTY LAUNDRY | 88.39 | N | 919097 |
| A | 12m N | 437970 556000 | PROPOSED NURSING HOME WYCLIFFE ROAD SUNDERLAND BH1 | 6.0 | N | 16188226 |

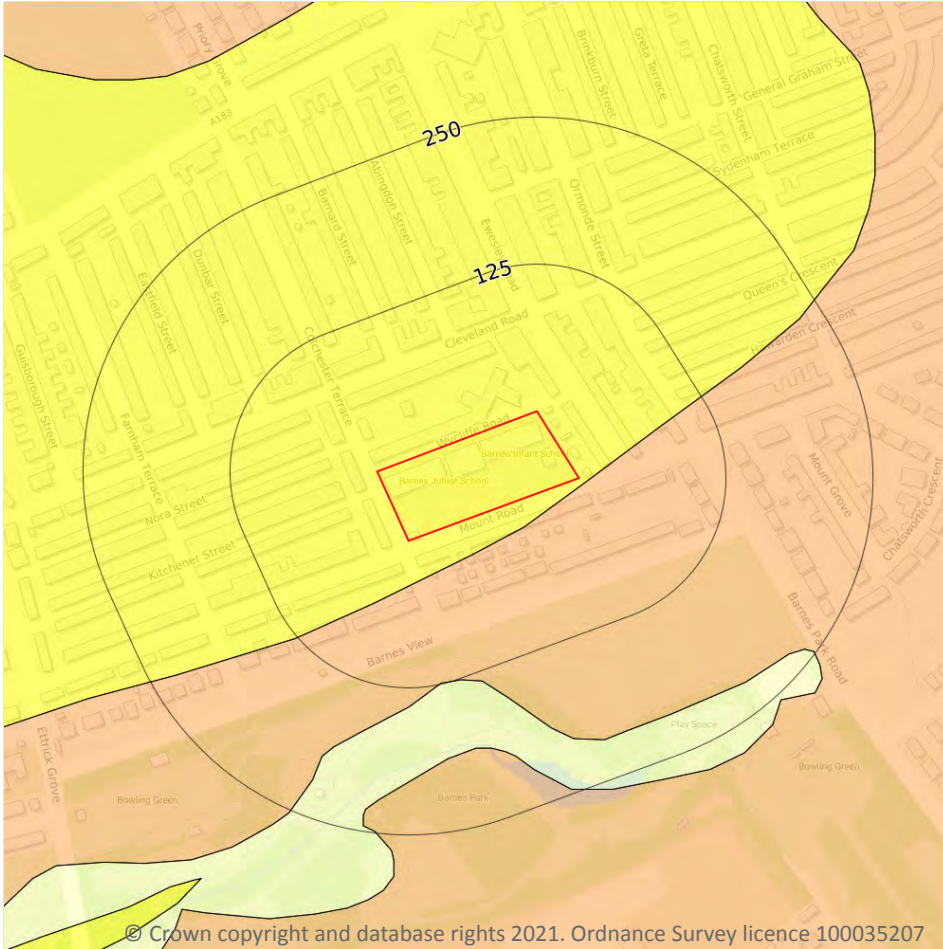


| ID | Location | Grid reference | Name | Length | Confidential | Web link |
|----|----------|----------------|---|--------|--------------|--------------------------|
| A | 19m N | 437950 556000 | PROPOSED NURSING HOME WYCLIFFE ROAD SUNDERLAND BH4 | 5.0 | N | 16189401 |
| A | 23m N | 437940 556000 | PROPOSED NURSING HOME WYCLIFFE ROAD SUNDERLAND BH5 | 4.75 | N | 16189402 |
| A | 29m N | 437950 556010 | PROPOSED NURSING HOME WYCLIFFE ROAD SUNDERLAND BH3 | 0.7 | N | 16189052 |
| A | 29m N | 437950 556010 | PROPOSED NURSING HOME WYCLIFFE ROAD SUNDERLAND BH3/3A | 4.75 | N | 16189339 |
| A | 35m N | 437960 556020 | PROPOSED NURSING HOME WYCLIFFE ROAD SUNDERLAND BH2 | 5.0 | N | 16189037 |
| B | 185m E | 438200 555870 | 64, BARNES PARK ROAD, SUNDERLAND 1. | 2.0 | N | 17632455 |
| B | 185m E | 438200 555870 | 64, BARNES PARK ROAD, SUNDERLAND TP1. | 0.75 | N | 17632456 |
| 1 | 190m SW | 437721 555787 | 37 BARNES VIEW SUNDERLAND | -2.0 | N | 19906909 |

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



— Site Outline
Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m

2

The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

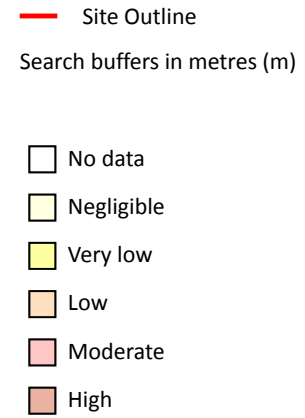
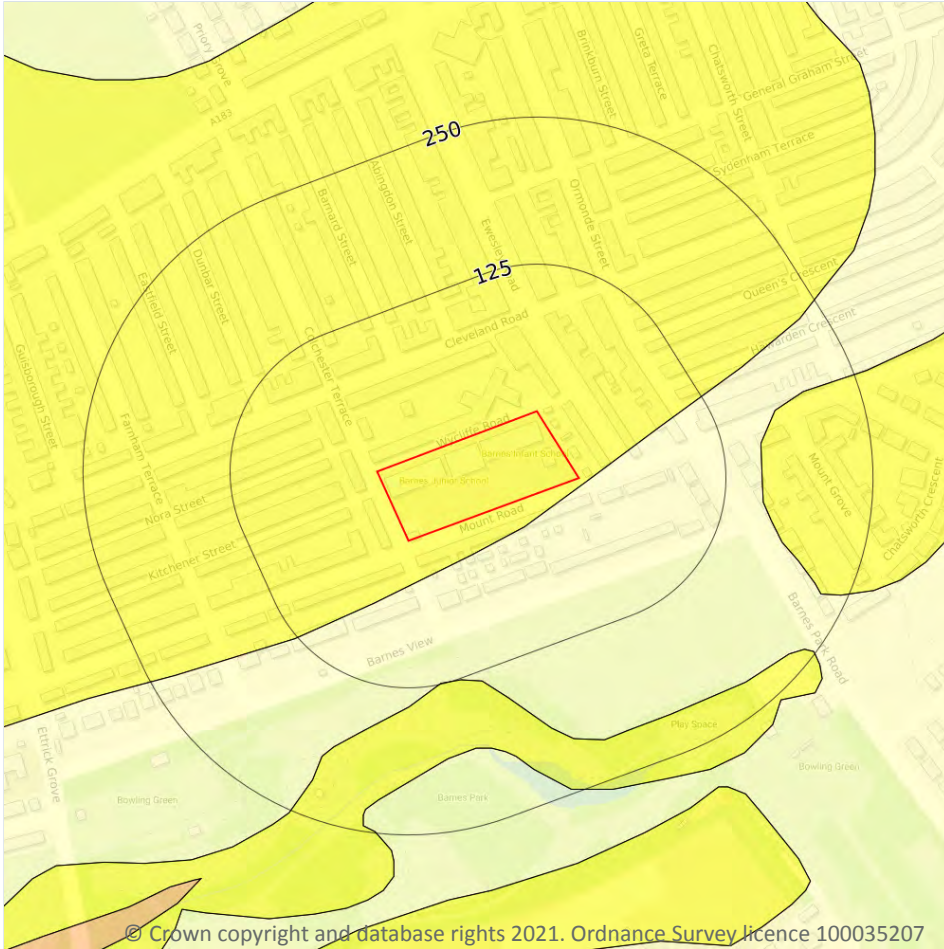
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 84**

| Location | Hazard rating | Details |
|----------|---------------|--|
| On site | Very low | Ground conditions predominantly low plasticity. |
| 6m SE | Low | Ground conditions predominantly medium plasticity. |

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m

2

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

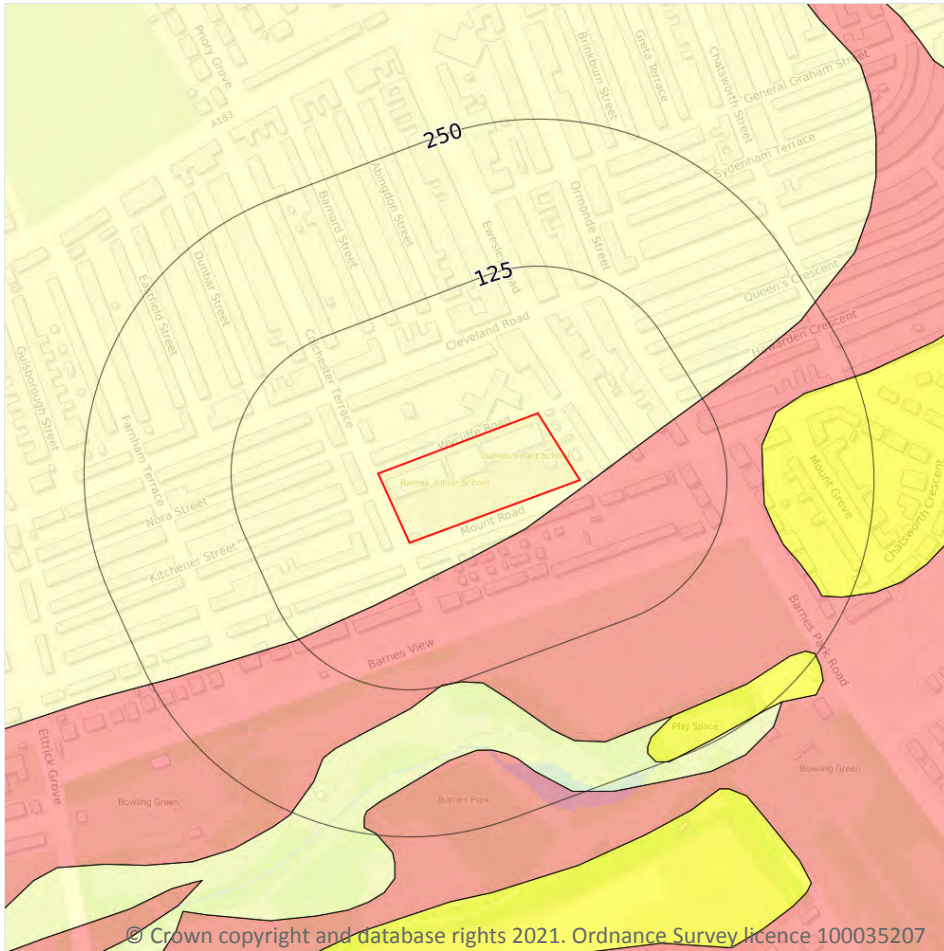
Features are displayed on the Natural ground subsidence - Running sands map on **page 85**

| Location | Hazard rating | Details |
|----------|---------------|---|
| On site | Very low | Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly. |

| Location | Hazard rating | Details |
|----------|---------------|--|
| 6m SE | Negligible | Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions. |

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



— Site Outline
Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

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17.3 Compressible deposits

Records within 50m

2

The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 87**

| Location | Hazard rating | Details |
|----------|---------------|--|
| On site | Negligible | Compressible strata are not thought to occur. |
| 6m SE | Moderate | Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site. |

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m

1

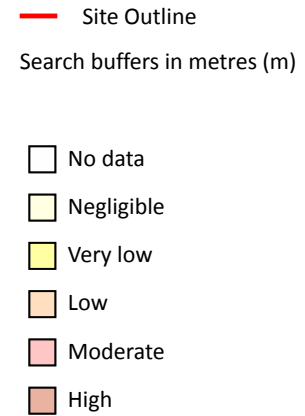
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 89**

| Location | Hazard rating | Details |
|----------|---------------|---|
| On site | Very low | Deposits with potential to collapse when loaded and saturated are unlikely to be present. |

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



17.5 Landslides

Records within 50m

1

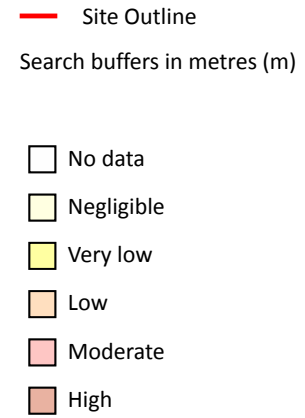
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 90**

| Location | Hazard rating | Details |
|----------|---------------|---|
| On site | Very low | Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered. |

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

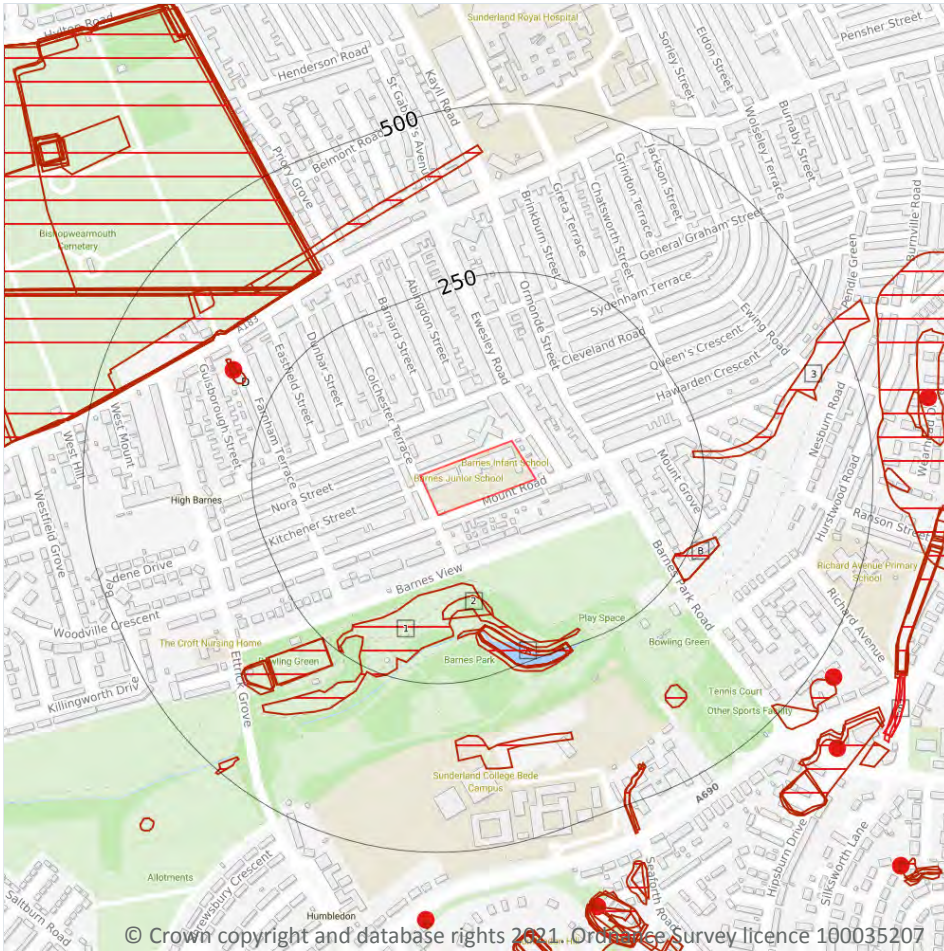
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 91**

| Location | Hazard rating | Details |
|----------|---------------|---|
| On site | Very low | Soluble rocks are present within the ground. Few dissolution features are likely to be present. Potential for difficult ground conditions or localised subsidence are at a level where they need not be considered. |

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



18.1 Natural cavities

Records within 500m

0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Peter Brett Associates (PBA).

18.2 BritPits

Records within 500m

1

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining, ground workings and natural cavities map on **page 93**

| ID | Location | Details | Description |
|----|----------|---|--|
| D | 317m NW | Name: High Barnes Address: Pennywell, SUNDERLAND, Tyne and Wear Commodity: Dolomite Status: Ceased | Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority |

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

12

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 93**

| ID | Location | Land Use | Year of mapping | Mapping scale |
|----|----------|-----------------------------|-----------------|---------------|
| 1 | 107m S | Unspecified Ground Workings | 1914 | 1:10560 |
| 2 | 129m S | Unspecified Pit | 1974 | 1:10000 |
| A | 177m S | Pond | 1914 | 1:10560 |
| A | 178m S | Pond | 1951 | 1:10560 |
| A | 178m S | Pond | 1985 | 1:10000 |
| A | 178m S | Pond | 1992 | 1:10000 |
| A | 178m S | Pond | 1974 | 1:10000 |
| A | 178m S | Pond | 1967 | 1:10560 |
| A | 183m S | Pond | 1921 | 1:10560 |
| B | 235m SE | Unspecified Pit | 1951 | 1:10560 |



| ID | Location | Land Use | Year of mapping | Mapping scale |
|----|----------|-----------------------------|-----------------|---------------|
| B | 235m SE | Unspecified Pit | 1967 | 1:10560 |
| 3 | 237m E | Unspecified Ground Workings | 1921 | 1:10560 |

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

4

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining, ground workings and natural cavities map on **page 93**

| ID | Location | Land Use | Year of mapping | Mapping scale |
|----|----------|----------|-----------------|---------------|
| S | 613m SE | Tunnel | 1921 | 1:10560 |
| S | 613m SE | Tunnel | 1940 | 1:10560 |
| S | 613m SE | Tunnel | 1974 | 1:10000 |
| S | 613m SE | Tunnel | 1967 | 1:10560 |

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.



18.7 Mining cavities

Records within 1000m

0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Peter Brett Associates (PBA).

18.8 JPB mining areas

Records on site

0

Areas which could be affected by former coal mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site

1

Areas which could be affected by past, current or future coal mining.

| Location | Details |
|----------|---|
| On site | The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider. |

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site

0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.11 Gypsum areas

| | |
|-----------------|---|
| Records on site | 0 |
|-----------------|---|

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

| | |
|-----------------|---|
| Records on site | 0 |
|-----------------|---|

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

18.13 Clay mining

| | |
|-----------------|---|
| Records on site | 0 |
|-----------------|---|

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Radon



— Site Outline
 Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

19.1 Radon

Records on site

1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on [page 98](#)

| Location | Estimated properties affected | Radon Protection Measures required |
|----------|-------------------------------|------------------------------------|
| On site | Less than 1% | None** |

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

6

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

| Location | Arsenic | Bioaccessible Arsenic | Lead | Bioaccessible Lead | Cadmium | Chromium | Nickel |
|----------|----------|-----------------------|-----------------|--------------------|-----------|---------------|---------------|
| On site | 15 mg/kg | No data | 100 - 200 mg/kg | 60 - 120 mg/kg | 1.8 mg/kg | 60 - 90 mg/kg | 15 - 30 mg/kg |
| On site | 15 mg/kg | No data | 100 - 200 mg/kg | 60 - 120 mg/kg | 1.8 mg/kg | 60 - 90 mg/kg | 15 - 30 mg/kg |
| 5m NW | 15 mg/kg | No data | 100 - 200 mg/kg | 60 - 120 mg/kg | 1.8 mg/kg | 60 - 90 mg/kg | 15 - 30 mg/kg |
| 6m E | 15 mg/kg | No data | 100 - 200 mg/kg | 60 - 120 mg/kg | 1.8 mg/kg | 60 - 90 mg/kg | 15 - 30 mg/kg |
| 9m NE | 15 mg/kg | No data | 100 - 200 mg/kg | 60 - 120 mg/kg | 1.8 mg/kg | 60 - 90 mg/kg | 15 - 30 mg/kg |
| 17m SW | 15 mg/kg | No data | 100 - 200 mg/kg | 60 - 120 mg/kg | 1.8 mg/kg | 60 - 90 mg/kg | 15 - 30 mg/kg |

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

This data is sourced from the British Geological Survey.



20.3 BGS Measured Urban Soil Chemistry

Records within 50m

0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m 0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m 0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m 0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m 0

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m 0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.



This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

| | |
|----------------------------|----------|
| Records within 250m | 0 |
|----------------------------|----------|

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

21.7 Railways

| | |
|----------------------------|----------|
| Records within 250m | 0 |
|----------------------------|----------|

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

| | |
|----------------------------|----------|
| Records within 500m | 0 |
|----------------------------|----------|

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

| | |
|----------------------------|----------|
| Records within 500m | 0 |
|----------------------------|----------|

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

21.10 HS2

| | |
|----------------------------|----------|
| Records within 500m | 0 |
|----------------------------|----------|

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 Ltd.



Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see <https://www.groundsure.com/sources-reference>.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: <https://www.groundsure.com/terms-and-conditions-jan-2020/>.



STAGE 1 PRELIMINARY UXO RISK ASSESSMENT

REPORT REF: PRA-21-1412 | Revision: 0



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Client: Dunelm Geotechnical and Environnemental

Project: Barnes Schools, Sunderland

Date: 09/03/2021

INTRODUCTION

The Stage 1 Preliminary Risk Assessment is an initial screening assessment designed to highlight any sources of unexploded ordnance (UXO) with the potential to contaminate a given site.

The aim of the Stage 1 assessment is to identify or discount the need for further detailed research - a Stage 2 Detailed UXO Risk Assessment.

This desktop assessment has been researched and written by a dedicated Researcher / Risk Assessor and produced in accordance with the CIRIA C681 Guidelines: 'Unexploded Ordnance, a Guide for the Construction Industry' (published in 2009).

In preparation for this assessment, original wartime records, historic OS mapping and the *Brimstone UXO Sources Database* have been reviewed. The latter incorporates multiple datasets plotting the positions of a variety of domestic military sites and confirmed historic German bombing targets.

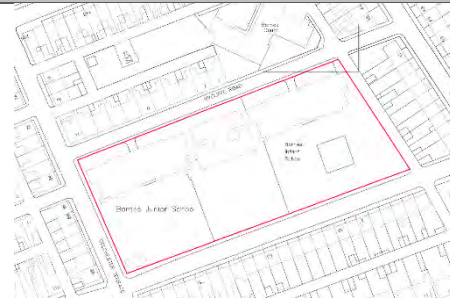
The Stage 1 Preliminary Risk Assessment considers the following:

1. The Proposed Works
2. Enemy Action during WWI and WWII
3. British / Allied Military Activity
4. Historic Site Occupancy
5. Risk Mitigating Factors

THE SITE

The Site (centred on the National Grid Ref: NZ 37939 55939) is located in Sunderland, in the north-east of England, approximately 2km south-west of Sunderland railway station.

The Site comprises Barnes Infant and Junior Schools. A three-storey structure is present in the northern section of the Site, with smaller structures on either side. Low-rise structures are situated in the east and south-west. A car park is situated in the south, while the remainder of the Site is composed of hardstanding. Vegetation is present in the south-west and east.



THE PROPOSED WORKS

An SI is proposed, comprising an unknown amount of trial pits and boreholes to 5m bgl.

Developmental works will comprise the clearing of a dining hall structure in the centre of the Site. This will then be rebuilt, with foundations expected to reach 3-4m bgl.

ENEMY ACTION DURING WWI AND WWII

| Potential Source of UXO | Significant? | Details | |
|-------------------------|--------------|--|--|
| WWI German Bombing | x/✓ | Sunderland experienced at least one air raid during WWI. | |
| WWII German Bombing | ✓ | British District Bombing Density Statistics | The Site is located in the WWII-era County Borough of Sunderland, which sustained 66.9 bombs / 1,000 acres, a moderate bombing density. |
| | | Evidence of bomb strikes / damage | Anecdotal evidence of bombing identified on Colchester Terrace. N.B. It is conceivable that these strikes occurred approximately 50m north of the Site. Structural alterations approximately 50m north of the Site by the 1950s, possible evidence of bomb damage. |

| | | | |
|---|--|--|--|
| | | Local Bombing Decoy Sites | None within a significant distance of the Site. The closest was located approximately 3.5km south-west of the Site. |
| | | Local German Bombing Targets | Luftwaffe target records indicate that a shipbuilding factory, approximately 2.2km north-east, was identified as a primary target. Hudson Dock, approximately 3km north-east of the Site, was also identified as a primary target. |
| WWII German Cross Channel Artillery Shelling | ✘ | n/a | |
| BRITISH / ALLIED MILITARY ACTIVITY | | | |
| Potential Source of UXO | Significant? | Details | |
| WWII Home Guard (HG) activity | ✘ | Soldiers of the 9 th and 24 th County of Durham (Sunderland) HG Battalions will have been active locally during WWII. However, they are unlikely to have accessed the Site or utilized it in any significant way. | |
| Site requisitioned for wartime military use | ✘ | n/a | |
| Existing or historic Army or RAF training area / weapons range | ✘ | n/a | |
| Existing or historic military bases and other installations | ✘ | n/a | |
| Existing or historic munitions or explosives factories | ✘ | n/a | |
| Existing or historic military storage depots | ✘ | n/a | |
| Existing or historic military defensive fortifications | ✘ | n/a | |
| WWII light and / or heavy anti-aircraft (LAA and HAA) fire | ✓ | 25 permanent HAA batteries were active within range of the Site during WWII. LAA guns likely defended vulnerable points within the city too. Luftwaffe activity in the region was relatively frequent. It is possible that an unexploded AA shell struck the Site. | |
| WWII pipe-mined locations and beach minefields | ✘ | n/a | |
| SITE HISTORY | | | |
| What was the Site occupancy historically, especially during WWI and WWII? | During WWII, the Site was occupied by two schools. Large structures were present in the north-east and north-west. Further structures associated with the schools were situated along the southern boundary and in the centre. Access roads encroached into the north of the Site from Wycliffe Road. | | |
| RISK MITIGATING FACTORS | | | |
| Post-conflict ground works | By 1956, a large new structure had been constructed in the north. Further structures had been constructed in the south and south-west. By 1987, the structures in the south of the Site had been cleared. More recently, the structure in the east has been cleared, replaced by a low-rise structure. The large structure in the north of the Site may have required piled foundations. | | |
| Likelihood of UXO remaining | The risk associated with (any) very shallow or shallow UXO will have been partially mitigated. The risk associated with (any) deep buried UXO largely remains unmitigated. | | |

CONCLUSIONS

German UXO:

- Sunderland was targeted multiple times by the Luftwaffe as it was an important shipbuilding city and port. The Site was situated relatively centrally and therefore suffered multiple bombing raids. Consequently, the study area experienced an elevated bombing density, as indicated by the wartime figures.
- A shipbuilding factory, 2.2km north-east, was identified as a primary target. North Hudson Dock, 3km north-east, was also targeted.
- Therefore, it is quite possible that bombs (potential UXBs) were dropped in the immediate vicinity of the Site.
- A comparison of historical OS maps indicates that parts of the Site were occupied by school buildings. N.B. No evidence has been found to suggest that the schools were shut during WWII. These structures appear to have survived the war externally intact. Any evidence of a UXB strike within these areas of the Site will therefore almost certainly have been observed and reported at the time.
- The possibility cannot be entirely discounted that these structures sustained minor or moderate (but repairable) HE blast damage or fire damage due to incendiary bombs. Any such damage could have caused teachers/students to temporarily evacuate pending repairs. Any subsequent UXB strike to such a location could then have fallen unnoticed.
- The remaining sections of the Site are thought likely to have been hard surfaced. Like the aforementioned structures, a UXB in these areas would likely have caused incontrovertible evidence of its occurrence.
- The proposed SI works will disturb a relatively small volume of soil, significantly limiting the likelihood of a UXB encounter.

British / Allied UXO:

- No evidence of significant military activity specifically on Site has been found and none is likely to have occurred.
- It is quite possible that an unexploded British AA shell struck the Site during WWII, however for the same reasons as above, any such incident is highly unlikely to have been overlooked.
- The proposed SI works will disturb a relatively small volume of soil, significantly limiting the likelihood of a UXO encounter.

RECOMMENDATION(S)

| | |
|--------------------------|---|
| SI Works | A Stage 2 Detailed Risk Assessment is not considered necessary prior to works commencing. However, the possibility of shallow buried UXO remaining on Site cannot be completely ruled out at desktop stage. Therefore, a UXO Safety Awareness Briefing to all personnel conducting ground works would be considered prudent. |
| Development Works | |

APPENDIX D

DUNELM CONDITIONS OF OFFER, NOTES ON LIMITATIONS & BASIS FOR CONTRACT





Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract

These conditions accompany our tender and supercede any previous conditions issued. The firm will prepare a report solely for the use of the Client (the party invoiced) and its agent(s). No reliance should be placed on the contents of this report, in whole or in part by 3rd parties. The report, its content and format and associated data are copyright, and the property of the firm. Photocopying of part or all of the contents, transfer or reproduction of any kind is forbidden without written permission from the firm. A charge may be levied against such approval, the same to be made at the discretion of the firm.

Site investigation is a process of sampling. The scope and size of an investigation may be considered proportional to levels of confidence regarding the ground and groundwater conditions. The exploratory holes undertaken investigate only a small volume of the ground in relation to the overall size of the site, and can only provide a general indication of site conditions. The opinions provided and recommendations given in this report are based on the ground conditions as encountered within each of the exploratory holes. There may be different ground conditions elsewhere on the site which have not been identified by this investigation and which therefore have not been taken into account in this report. Reports are generally subject to the comments of the local authority and Environment Agency. The comments made on groundwater conditions are based on observations made at the time that site work was carried out. It should be noted that mobile contamination, soil gas levels and groundwater levels may vary owing to seasonal, tidal and/or weather related effects. Unrecorded ancient mining may occur anywhere where seams that have been worked and influence the rock and soil above. Dissolution cavities can occur where gypsum or chalk is present. Rotary drilling is the recommended technique to prove the integrity of the rock.

Where the scope of the investigation is limited via access to information, time constraints, equipment limitations, testing, interpretation or by the client or his agents budgetary constraints, elements not set out in the proposal and excluded from the report are deemed to be omitted from the scope of the investigation.

The firm cannot be held liable and do not warrant, or otherwise guarantee the validity of information provided by third parties and subsequently used in our reports. The firm are not responsible for the action negligent or otherwise of subcontractors or third parties.

Desk studies are generally prepared in accordance with RICS guidelines. Environmental site investigations are generally undertaken as 'exploratory investigations' in accordance with the definitions provided in paragraph 5.2.7 of BS 10175:2011 +A2:2017 in order to confirm the conceptual assumptions, and in accordance with BS5930:2015+A1:2020. You are advised to familiarize yourself with the typical scope of such an investigation. No pumping of water will be undertaken unless a licence or facilities/equipment have been arranged by others.

Where the type, number or/and depth of exploratory hole is specified by others, the firm cannot and will not be responsible for any subsequent shortfall or inadequacy in data, and any consequent shortfall in interpretation of environmental and geotechnical aspects which may be required at a later date in order to facilitate the design of permanent or temporary works.

All information acquired by the firm in the course of investigation is the property of the firm, and, only also becomes the joint property of the Client only on the complete settlement of all invoices relating to the project. The firm reserves the right to use the information in commercial tendering and marketing, unless the Client expressly wishes otherwise in writing. The quoted rates do not include VAT, and payment terms are 30 days from dispatch of invoice from our offices. Quotes are subject to a site visit.

We have allowed for 1 mobilisation and normal working hours unless otherwise stated. The scope of the investigation may be reviewed following the desk study and/or fieldwork. We have not allowed for acquiring services information, and cannot be responsible for damage to underground services or pipes not shown to us or not clearly shown on plans. Costs incurred will be passed on to you, and in commissioning the firm, you understand and accept that you/your agent have a contractual relationship with the firm & you accept this. Our rates assume unobstructed, reasonably level and firm access to the exploratory positions and adequate clear working areas and headroom. We have priced on the basis that you or your client have the necessary permissions, wayleaves and approvals to access land. All boreholes and pits are backfilled with arisings except where gas monitoring pipes are installed with stopcock covers. Dunelm are not responsible for any uneven surfaces as a result of siteworks and rutting and backfilled excavations may require re-levelling and/or making good by others after fieldwork is complete. Dunelm have not allowed for subsequent reinstatement as a result of settlement. No price has been provided or requested for a return visit to remove pipework and covers. No price has been provided or requested for a return visit to remove pipework and covers. Hourly rates apply to consultancy only and do not include expenses unless otherwise shown. If warranties are required, legal costs incurred will be passed on to you assuming the firm agree to complete such warranties, modified or otherwise and you understand and agree to pay all costs.

We reserve the right to pursue full payment of the invoice prior to release of any information including reports. We advise you/your client that we may elect to pursue our statutory rights under late payment legislation, and will apply 8% to the base rate for unreasonably late payments. We will also apply the right to claim any associated legal costs incurred with recovery of late payments. The firm is exempt from the CIS Scheme. The firm offer to undertake work only in strict accordance with conditions covered by our current insurances, which are available for inspection. The company are not responsible for acts, negligent or otherwise of subcontractors and as a matter of policy cannot indemnify any other parties. Professional indemnity Insurance is limited to ten times the invoice net total except where stated otherwise by the firm, and we give notice that consequential loss as a direct or indirect result of the firm's activities or omission of the same are excluded.