



**COMBINED STAGE 1/STAGE 2
GEO-ENVIRONMENTAL REPORT**

ON
**MOUNT VERNON HOSPITAL
BARNSELY**
ON BEHALF OF
**SOUTH WEST YORKSHIRE
PARTNERSHIP
NHS FOUNDATION TRUST**

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1.0 EXECUTIVE SUMMARY

The pertinent conclusions of the report are tabulated below. However, the information below is not exhaustive, and it is recommended the report is read in its entirety.

Proposed Development	Residential dwellings, including private gardens.
Existing Site Description	Occupied by Mount Vernon Hospital, with several buildings and car parks. Steep wooded slope on southwest of site.
Site History	Prior to the hospital, occupied by a small number of buildings possibly comprising a large residential property and grounds.
Geology	Woolley Edge Rock (sandstone). Coal seam outcrops just inside southwestern boundary, with undifferentiated strata beyond.
Coal Mining	Shallow worked coal seams - rotary drilling investigation required. Risk of unrecorded mine entries. Risk of bell pits.
Harmful Gases	Basic radon protection measures recommended. No landfills within 250m of the site, but risk of coal/mine gas. Monitoring is ongoing, to be reported on completion.
Ground Conditions	Made ground in 9 out of 16 boreholes, mostly less than 1m depth, but locally up to 4.45m. Sandstone present from depths of between 0.6m and 4.45m. No groundwater encountered.
Contamination	Elevated lead at WS15 and several PAH compounds at WS17, both within made ground. No contamination within the topsoils.
Remediation Strategy	Retention below hard areas and/or clean cover soils in gardens/landscaping. Sampling on a smaller grid would determine the extent more accurately. Asbestos survey required of buildings.
Foundations	Strip/trench fill foundations onto sandstone applicable for majority of site. Will need to be reinforced if any shallow coal workings below the site need treatment. Localised deep made ground may require alternative founding solutions such as piles.
Excavations	Probably unstable within made ground. Groundwater unlikely.
Concrete	GEN1 designation for unreinforced foundations. For any reinforced concrete, other design-specific mixes will apply.
Soakaways	Soakaways not considered to be practical for use on the site. A drainage feasibility design will need to be carried out to determine the appropriate solution.
Slope Stability	Construction of buildings or roads should be excluded from within an 8m zone from the crest of the steep slope in the southwest. Any proposed construction within this zone will result in a requirement for slope stability assessment, which is likely to conclude that slope stabilisation measures will be required

2.0 TERMS OF REFERENCE

- 2.1 South West Yorkshire Partnership NHS Foundation Trust is considering selling trust land at Mount Vernon Hospital for residential development. It was considered appropriate to implement a desk study and ground investigation to provide information to aid the planning process, viability assessment, and design of any subsequent development.
- 2.2 ARP Geotechnical Ltd (ARP) was appointed by South West Yorkshire Partnership NHS Foundation Trust to carry out the investigation, which involved a desk study assessment of the geological and coal mining aspects, Ordnance Survey archive maps, radon gas, indicative flood risk, hydrogeology, landfill, and other environmental issues, primarily by assessment of a Landmark Envirocheck Report. This was supplemented by an intrusive investigation to assess the ground conditions.
- 2.3 The investigation was implemented generally in accordance with BS 5930 : 2015 "Code of practice for site investigations", NHBC Standard Chapter 4.1 "Land quality - managing ground conditions", Environment Agency CLR 11 "Model Procedures for the Management of Land Contamination" and BS10175 : 2011 + A1 : 2013 "Investigation of potentially contaminated sites - Code of practice". This report is limited to the data obtained as part of this investigation. It should be noted that there is a possibility of variation in ground conditions between test locations and interpretation of strata is given for guidance only. No liability is accepted for changes to site conditions, including groundwater levels, after the preparation of this report.
- 2.4 The general observation and assessment of the ground surface, and the identification/classification of vegetation is made in general terms only. It would be prudent for a specialist to undertake a more detailed survey, including for any invasive/harmful weeds.

- 2.5 The assessment of any topsoil is carried out in terms of potential chemical effects on human health only, and no account is taken of aesthetic or horticultural properties. Such considerations should be referred to a horticulturist or landscape architect.
- 2.6 The report has been prepared for the use and reliance of the Client only. The report shall not be relied upon or transferred to any other parties without the written agreement of ARP Geotechnical Ltd. For the avoidance of any doubt, where ARP Geotechnical Ltd enters into a letter of reliance for the benefit of a third party, that third party will be permitted to rely on the report. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party without ARP Geotechnical Ltd.'s consent.

3.0 SITE DESCRIPTION

Site Location

- 3.1 The site, which is centred on Ordnance Survey Grid Reference 434960, 404750 is located off Mount Vernon Road, in Barnsley.
- 3.2 A site location plan and aerial photograph are presented in Appendix A.

On - Site Features

- 3.3 The site is an irregular rectangular shaped piece of land extending to an area of 2.7 hectares, with overall dimensions of approximately 105m (northeast - southwest) by 215m (northwest - southeast).
- 3.4 The site is currently occupied by Mount Vernon Hospital. Most of the hospital operations have now been transferred to the nearby Kendray Hospital, but a small number of departments within the hospital remain open. The entrance to the site is located off Mount Vernon Road and is in the northeastern corner of the site.
- 3.5 The main hospital building covers the majority of the site and comprises a crescent shaped building with seven annexes. The building is mostly single storey (although a small portion of the building has two storeys) and is made of masonry brick with render and cladding with a flat roof. Between each of the annexes is an area of turf or raised flower beds. To the rear of the hospital there is a bitmac walkway with hand rails. Car parks are present to the north, east and southeast of the main hospital building. Towards the northern end of the hospital building a tall, corrugated metal extension is present. Close to the entrance of the site an older, two storey, masonry stone building is present. A fenced off enclosure with associated small, modern metal structure and insulated pipework is present in the northeast of the site, close to the site entrance. Its purpose is unclear, but the building does not have the

appearance of an electricity sub-station. There was no evidence of any leakage or contamination from the feature, which in any event would soon migrate off site.

- 3.6 A number of mature trees exist within the site boundary. A number of trees are present within the turfed traffic island at the front of the hospital and large trees are also present in the southeast of the site. The site boundary is mostly protected by tall security fencing and flood lights.
- 3.7 The majority of the site is relatively flat, but there are localised level variations within the site. The southeastern corner of the site is a low point and is several metres lower than the majority of the site. The far western corner of the site is a high point on the site and the land slopes fairly gently but progressively downwards back towards the hospital building. Level variations also exist in the turfed areas between the annexes located at the rear of the hospital. The southwestern edge of the site is formed by a relatively steep slope which slopes downwards to the southwest. This slope is heavily vegetated with mature trees. At the top of the slope, cracking and slumping of the bitmac footpath was observed, to the rear of a low retaining wall approximately 0.5m high. This is possibly as a result of the low retaining wall having inadequate foundations rather than as a result of larger scale movement associated with the nearby slope.

Site Boundaries and Surrounding Land Use

- 3.8 To the north of the site are residential buildings and a playing field. Both of these are at a similar level to the site. To the east is open ground with mature trees and a number of detached buildings. To the southwest, at the bottom of the slope which forms the southwestern boundary, are residential properties with associated gardens and access roads. To the northwest is Worsbrough Common Primary School.
- 3.9 The site is located on top of a hill, with the surrounding land sloping downwards to the north and south. As discussed above, the southwestern boundary of the site is formed by a relatively steep slope, sloping downwards to the southwest.

Site History

3.10 Ordnance Survey archive maps were obtained for the site. Copies of the maps are included in Appendix B, and a summary of the findings is given below.

Map Date	On-Site	Off-Site
1855	Most of the site is occupied by 'Mount Vernon', which comprises a curved line of buildings surrounded by gardens with trees. A section of the larger 'Highstone Plantation' woodland occupies the southwestern margins of the site.	Surrounded by fields. A sandstone quarry is indicated, with location indistinct, but probably just outside the western corner of the site. 'Highstone Sandstone Quarry' lies approximately 300m to the northwest and 'Well Quarry' is located approximately 300m to the southeast. There are several wells within 200m of the site boundary,
1892	No significant changes.	'Bank Top Colliery' is shown approximately 300m to the northeast. The three quarries are no longer shown.
1931	Mount Vernon is now 'Mount Vernon Sanatorium' with an additional building in the northwest of the site.	Extensive residential properties have been built in the surrounding area. Bank Top Colliery is now occupied by residential properties.
1960-1961	The site has been cleared of buildings, except for two nearest the southeastern boundary, and minor outbuildings against the northern boundary.	No significant changes.
1972-1978	Mount Vernon Sanatorium is now 'Mount Vernon Hospital'. New buildings have been constructed on the site (those on site currently) over this period.	Continued residential development in the surrounding area. A school is now present beyond the western boundary.
2017	No significant changes.	No significant changes.

3.11 In summary, prior to the current hospital buildings, the site was occupied by a small number of buildings possibly comprising a large residential property and grounds, later used as a sanatorium. There is evidence of coal mining and sandstone quarrying in the wider area. A small sandstone quarry was once indicated just outside the western boundary, but this is an area comprising a steep slope and is unlikely to have received any significant backfill.

4.0 ENVIRONMENTAL SETTING

Geology and Coal Mining

- 4.1 Extracts from the British Geological Survey 1:50,000 Series Geology Maps are included within the Envirocheck Geology Report in Appendix C. In addition, the British Geological Survey (BGS) 1:50,000 scale map, referenced Sheet 87 ("Barnsley"), and the 1:10,000 scale map referenced SE30SE, have been assessed. The maps show no drift deposits to be present on the site. The solid strata beneath the site comprise sandstone of the Woolley Edge Rock (WER) Formation, of Carboniferous age.
- 4.2 A coal seam outcrop (the Meltonfield Coal) is indicated to run almost parallel to, and just inside, the southwestern site boundary, and underlies the WER. Undifferentiated strata of the Pennine Middle Coal Measures are present beyond, to the southwest, containing several coal seam outcrops parallel to the Meltonfield Coal. These seams will underlie the site. There are no faults shown to adversely affect the site.
- 4.3 The Meltonfield Coal is shown to have a thickness of between 1.07m and 1.30m. The strata dip in the fault block is indicated to be 4 degrees towards the northeast and, therefore, the Meltonfield Coal will underlie the site at shallow depth. The generalised vertical section and the local topography indicates the Two Foot Coal (0.95m to 1.45m thick) is present approximately 15m to 20m beneath the Meltonfield Coal. The Winter Coal (0.79m to 0.86m thick) is likely to be present between 15m and 20m below the Two Foot Coal. Other seams will also underlie the site, at deeper levels. There are no mine entries indicated within the local area.
- 4.4 A coal mining report was obtained from The Coal Authority. A copy of the report is included in Appendix D, and a summary is given below.
- 4.5 The site is within an area that could be affected by (recorded) underground mining in eight seams of coal at shallow (less than 30m) to 520m depth, last worked in 1972. As there is no

comment relating to possible unrecorded workings in shallow seams, this indicates that the Authority holds records for workings in all the three shallowest seams, previously mentioned above.

- 4.6 The site is not within an area that could be affected by present or future underground coal mining. The Authority refers to reserves of coal in the local area which could be worked at some point in the future. However, this is considered highly unlikely given the abandonment of the coalfields in the area.
- 4.7 There are no known coal mine entries within, or within 20m of, the site. There is a risk of unrecorded mine entries in the local area.
- 4.8 The site is unaffected by past, present or future proposed opencast coal mining.
- 4.9 The Coal Authority Comments section of the Coal Mining Report states that "if development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site". This indicates that the Coal Authority views the risk of recorded and unrecorded mine workings beneath the site to be significant.
- 4.10 In view of the above, there is the possibility of shallow underground coal workings beneath the site, and this will need to be assessed by an intrusive investigation using a rotary drilling rig.

Coal Recovery

- 4.11 There is unlikely to be any arisings of coal during proposed development works, and given the presence of sandstone above any coal seams, it would be difficult to extract any coal from the site by open excavation before development. This will be confirmed by the rotary drilling investigation.

Hydrogeology

- 4.12 The Landmark Envirocheck Report, included in Appendix E, indicates the Bedrock Aquifer Designation to be a 'Secondary A' aquifer. These aquifers comprise "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".
- 4.13 There are no groundwater abstractions within 1km of the site.
- 4.14 The site is not within a groundwater Source Protection Zone .

Hydrology

- 4.15 The general area slopes to the south. The nearest downslope surface water is an unnamed stream located 214m to the south.
- 4.16 Any surface water run-off is likely to reach the surface water drainage of the surrounding public highway and residential areas.
- 4.17 The site is not in an area at risk from river flooding. The risks of flooding from other causes such as adverse topography or insufficient surface water drainage, are not considered here, and a separate specialist Flood Risk and Drainage Report should be commissioned if such risk needs to be quantified.
- 4.18 There are no surface water abstractions within 1km of the site.

Other Environmental Data

4.19 The Landmark Envirocheck Report, included in Appendix E, contains information on numerous environmental aspects. A summary of the pertinent findings, not already covered, with additional comments, is given below.

4.19.1 There are no Pollution Control Authorisations within 250m of the site.

4.19.2 There are no discharge consents relating to, or adjacent to, the site.

4.19.3 There are no closed or currently licenced landfills within 250m of the site.

4.19.4 No radon protective measures are stated to be necessary for new dwellings or extensions on the site. However, the site is in an intermediate probability radon area. In these circumstances of apparent conflict, it may be prudent to assume basic radon protection is required, to prevent conveyancing difficulties.

4.19.5 There are no contemporary trade directory entries relating to any activities which could have significant impact on the site, apart from the current use of the site as a hospital.

4.19.6 There are no fuel station entries within 200m of the site..

5.0 PRELIMINARY RISK ASSESSMENT AND CONCEPTUAL MODEL

5.1 Part II A of the Environmental Protection Act (EPA) 1990 became effective from 1st April 2000. The Regime was introduced by the Contaminated Land (England) Regulations 2000 (SI 2000, No. 227) along with the associated DEFRA Circular February 2000.

5.2 Section 78A (2) of the Act defines "Contaminated land is any land in such a condition, by reason of substances in, on or under that land that –

(a) significant harm is being caused or there is a significant possibility of such harm being caused; or

(b) pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused".

From S78A (4) "Harm" : means harm to the health of living organisms or other interference with the ecological systems of which they form part and, in the case of man, includes harm to his property.

Controlled waters are defined as "...the waters in any relevant lake or pond, or of so much of any relevant river or watercourse as is above the freshwater limit, and ground waters, that is to say, any waters contained in underground strata". From the 1st October 2004, the definition of groundwater in relation to Part IIA was amended, by the Second Water Act Commencement Order SI 2004 No 2528. This makes clear that "ground waters" does not include waters above the saturation zone, i.e. does not include any soil water and pore water present in the unsaturated zone.

5.3 The objectives of the regime are to ensure that risks associated with contaminated land are reduced to an acceptable level, having regard to the costs of doing so. The costs should be proportionate, manageable and economically sustainable.

- 5.4 In assessing risk, it is necessary to consider the probability, or frequency, of occurrence of the hazard and the magnitude/seriousness of the consequences. Consequently, for land to be classified as contaminated, it must have, or be very likely to have, a detrimental effect on humans or the environment before it can be classified as contaminated land.
- 5.5 In establishing risk, the concept of the pollutant source/pathway/receptor linkage model, based on current and proposed site use, is to be considered. Therefore for a site to be deemed contaminated under the Regime, all three linkages must be in place i.e. the site must not only contain harmful substances, but the substances must have a pathway by which to leak out and cause significant harm to a receptor.
- 5.6 In September 2004, the Environment Agency published the Contaminated Land Report (CLR) 11, "Model Procedures for the Management of Land Contamination". The document is intended to provide the technical framework for structured decision making about land contamination, and is intended to assist all those involved in "managing" the land, in particular landowners, developers, financial service providers, planners and regulators. As the document currently provides the framework for best practice, the general principles are, therefore, followed in conducting the assessment below.
- 5.7 The categorisations of risk adopted in this report are adapted from CIRIA Report C552 (Contaminated Land Risk Assessment: A Guide to Good Practice, 2001). This approach assesses the potential severity of any pollution event and the probability of the event occurring, to arrive at a risk category, for the various potential source - pathway - receptor linkages. The relevant tables used, with the definitions, are presented in Appendix F.

Conceptual Site Model

- 5.8 It is known that the site is proposed for residential properties. The site is shown to be underlain by sandstone of the Woolley Edge Rock Formation, with a coal seam abutting the southwestern corner and undifferentiated strata (mudstones, siltstones and minor sandstones) beyond. The solid strata beneath the site are designated a 'Secondary A'

aquifer. There are no groundwater abstractions within 1km of the site. The nearest surface water is a stream approximately 215m to the south. There are no surface water abstractions within 1km of the site.

5.9 The site has been occupied by a hospital and former sanatorium. The most likely contamination sources are considered to be:

5.9.1 Possible made ground: – metals inorganics, total petroleum hydrocarbons (TPH), polyaromatic hydrocarbons (PAH), phenol, asbestos.

5.9.2 Possible asbestos within existing buildings.

5.9.3 Possible methane and carbon dioxide from shallow coal seams.

5.10 The conceptual model needs to consider sources of contamination, pathways along which contaminants could migrate and the receptors, which may become exposed. Guidance published by the Environment Agency has been consulted with regard to pathways and receptors. The potential sources, pathways, and receptors, applicable to the proposed development are identified on the table below. Any pathways in italics are deemed not to be viable, and the reason given.

Potential Source - Pathway - Receptor Matrix (Finished Development)

Contamination Sources	Pathways	Receptors	Severity of Consequence	Probability of Event	Risk
Possible made ground: - metals, inorganics, TPH, PAH, phenol	<ul style="list-style-type: none"> Inhalation, ingestion and dermal contact with soil and dust Fruit and vegetable intake, with soil Vapour inhalation outdoor Vapour inhalation indoor 	Humans:- <ul style="list-style-type: none"> Future occupants Maintenance workers Adjacent residents and general public 	Medium	Low Likelihood	Moderate/ Low
	<ul style="list-style-type: none"> Migration in surface water 	<ul style="list-style-type: none"> Surface water (nearest is 215m to south. No abstractions within 1km). 	Minor	Unlikely	Very Low
	<ul style="list-style-type: none"> Migration in groundwater 	<ul style="list-style-type: none"> Groundwater (Secondary A Aquifer, no abstractions within 1km) 	Minor	Unlikely	Very Low
	<ul style="list-style-type: none"> Root uptake 	Vegetation:- <ul style="list-style-type: none"> Landscape areas Private gardens 	Medium	Low Likelihood	Moderate/ Low
	<ul style="list-style-type: none"> Migration 	Services/Utilities:- <ul style="list-style-type: none"> Potable water supply 	Medium	Low Likelihood	Moderate/ Low
Possible shallow workings/coal:- methane and carbon dioxide	<ul style="list-style-type: none"> Asphyxiation Explosive risk 	<ul style="list-style-type: none"> Construction/de-molition workers Future occupants Buildings 	Severe	Low Likelihood	Moderate
Possible asbestos within existing buildings and soils	<ul style="list-style-type: none"> Inhalation 	<ul style="list-style-type: none"> Future occupants Maintenance workers Adjacent residents and general public 	Severe	Low Likelihood	Moderate

5.11 The above matrix indicates there are several potential source – pathway – receptor linkages applicable to the proposed development, ranging from moderate to very low risk.

5.12 The assessment was used to inform the design of the subsequent ground investigation. To fully characterise the site, in accordance with BS10175 : 2011 + A1 : 2013 "Investigation of potentially contaminated sites - Code of practice", and to address the above concerns, it was decided that, in addition to geotechnical information required, the site investigation should include:

- 5.12.1 Trial pits and windowless sample boreholes on a grid basis, preferably 25m spacing.
 - 5.12.2 Installation and monitoring of gas wells to determine gas risks from shallow coal seams.
 - 5.12.3 Samples of the made ground issued for testing for a broad suite of determinands, including metals, inorganics, asbestos, phenols, speciated PAH, and TPH.
 - 5.12.4 Upon receipt of contamination test results, any elevated TPH would be speciated to allow further risk assessment, and leachability testing undertaken on all elevated determinands, to give indication of mobility.
- 5.13 Following discussion with the client, the rotary borehole investigation was deferred until a later date. At the time of writing of this report, the rotary borehole investigation had not been carried out.

6.0 SITE INVESTIGATION

- 6.1 The purpose of the ground investigation, undertaken on Wednesday 15th November and Thursday 16th November 2017, was to produce an assessment of the site in accordance with BS10175 : 2011 + A1 : 2013 "Investigation of potentially contaminated sites - Code of practice", and to provide geotechnical information to aid design of the development.
- 6.2 The site was gridded on a maximum 25m spacing and sixteen windowless sampling boreholes and four hand-dug pits were undertaken and sampled on the grid, to satisfy the requirements of the British Standard. The windowless sample boreholes are referenced WS1 to WS13, WS15, WS16 & WS17 (WS14 was cancelled), and were excavated to depths of between 0.81m and 4.45m. The four hand-dug pits (HS1 to HS4) were excavated to depths of between 0.2m and 0.3m. The investigation was organised, supervised, and logged by an Engineer from ARP Geotechnical Ltd. All of the locations comprised part of a general grid across the site, adjusted where necessary to gain access and avoid buried services.
- 6.3 Four gas monitoring wells were installed, in WS2, WS5, WS8, and WS13, and subsequently monitored by ARP Geotechnical Ltd. In WS2, the well was installed to 2m depth, with the bottom 1m comprising slotted pipe with gravel surround, and the upper 1m comprising plain pipe with bentonite seal and lockable flush cover. In WS5 and WS13 the wells were installed to 1m depth, with the bottom 0.5m comprising slotted pipe with gravel surround, and the upper 0.5m comprising plain pipe with bentonite seal and lockable flush cover. In WS8 the well was installed to 1.4m depth, with the bottom 1m comprising slotted pipe with gravel surround, and the upper 0.4m comprising plain pipe with bentonite seal and lockable flush cover.
- 6.4 The windowless sampling boreholes and hand pit logs are included in Appendix G, along with the site investigation plan. It should be noted that the co-ordinates on the logs have not been surveyed in, but are automatically determined by the logging software (which incorporates mapping) following approximate positioning of each location by the Engineer.

- 6.5 Chemical analysis of 25 soil samples for metals, inorganics, speciated PAH, TPH, phenols, and asbestos was undertaken by the UKAS accredited DETS Laboratory in Consett. The test certificates are included in Appendix H.
- 6.6 Analysis for pH and water soluble sulphate was also undertaken by DETS, on both made ground and samples of natural strata. The results are included on the main test certificate in Appendix H.

7.0 SUMMARY OF GROUND CONDITIONS

Strata and Groundwater

- 7.1 All window sample boreholes revealed a covering layer of dark brown topsoil to a maximum depth of 0.4m, with the exception of WS12, WS13 and WS17, which had a covering layer of bituminous surfacing.
- 7.2 Below the surface materials, made ground was encountered in WS1, WS2, WS4, WS11, WS12, WS13, WS15, WS16 and WS17, to depths of between 0.5m (WS13) and 2.5m (WS4). The made ground comprised sand and gravel of mainly stone, with some brick content. Locally (WS13) the made ground was mainly of brick.
- 7.3 The natural strata, below any topsoil or made ground, were found to comprise very gravelly sand, over bedrock. In the case of WS16 the made ground terminated directly onto bedrock. In WS11, the upper layers of apparently natural strata were loose, and there was some variation in strength with depth. It is considered likely that this material comprises made ground, to a depth of 4.45m. This location corresponds with the position of a former building and may represent a backfilled basement.
- 7.4 Sandstone was encountered from depths of between 0.6m (WS7) and 4.45m (WS11). Further penetration was halted by the sandstone at depths of between 0.82m and 4.5m.
- 7.5 The four hand-dug excavation pits, excavated to between 0.2m and 0.3m depth, revealed dark brown slightly sandy topsoil.
- 7.6 All excavations remained stable for the short period of exposure and were backfilled with the arisings on completion, with the exception of WS2, WS5, WS8 and WS13 where gas monitoring wells were installed. No groundwater seepages were encountered.

8.0 CONTAMINATION ASSESSMENT

Screening Values - Soils

- 8.1 There is presently conflicting opinion with regard to the appropriate generic assessment criteria, or screening values, for soils which should be used in contamination assessment for proposed development. In March 2014, DEFRA published Category 4 Screening Levels (C4SLs) for six contaminants: arsenic, benzene, benzo(a)pyrene, cadmium, chromium VI and lead. The values are based on the toxicological benchmark of a "low level of toxicological concern" (LLTC) rather than the previous regulatory approach of "minimal or tolerable level of risk". As the C4SLs are less protective of health than the previous approach, the Chartered Institute of Environmental Health (CIEH) has advocated an alternative approach based on minimal risk, but with some adjustment of exposure parameters to more realistic scenarios than those previously used. To this end, the CIEH has collaborated with Land Quality Management to publish "Suitable 4 Use Levels" (S4ULs) "The LQM/CIEH S4ULs for Human Health Risk Assessment", November 2014 (LQM/CIEH). However, DEFRA has reiterated its intention that the C4SLs should be used in generic risk assessment for proposed development, and there is indication that other parties will collaborate, in the near future, to extend the range of C4SL determinands beyond the six published so far.
- 8.2 In the absence of a final resolution to the debate, soil contamination test results in this report have been compared first against the more conservative S4UL, and where a C4SL exists for the same determinand, consideration given to the use of the C4SL for any exceedences of the S4UL, within the site specific context. Where no S4UL exists for a determinand, for example lead, the C4SL has been used. The LQM/CIEH screening values have been calculated for soil organic matter contents of 1% and 2.5%, as well as 6%, and the appropriate screening value is used for the organic matter content of the soil. All the C4SL values published are for a soil organic matter content of 6%.
- 8.3 A table showing the screening values utilised is included in Appendix H.

Soils Analysis

- 8.4 Twenty-nine soil samples were issued to the UKAS accredited Derwentside Environmental Testing Services in Consett. Twenty-five were tested for a suite comprising: As, Cd, Cr (VI), Cr(III), Cu, Hg, Ni, Pb, Se, Zn, Total Sulphate, Water Soluble Sulphate, pH, Phenol-monohydric, Speciated PAH, Total TPH, Asbestos, and Organic Matter. The testing comprised:

Seventeen samples of topsoil from WS1 to WS11, WS15 and WS16, and HS1 to HS4

Eight samples of Made Ground from WS1, WS2, WS4, WS12, WS13, and WS15 to WS17

- 8.5 For each material, any determinands with exceedances of screening values were subjected to statistical analysis in accordance with the CIEH and CL:AIRE document "Guidance on Comparing Soil Contamination Data with Critical Concentrations". The spreadsheet package from the USEPA called "Pro UCL" (Version 4.00.05) was used to carry out the analysis. Each dataset was tested for outliers, and after removal of the outliers, assessed for "goodness of fit" to a normal distribution. Depending on the results, Upper Confidence Level (UCL) tests were carried out by either normal, gamma, log normal, or non-parametric methods.

Topsoil

- 8.6 The testing revealed all the determinands to be below screening values for topsoil. The topsoil can, therefore, be considered suitable to be retained on site, in terms of human health. There is no requirement for any remedial measures or further assessment with regard to contamination.

Made Ground

8.7 A results summary table for determinands within the made ground found to be above screening values is given on the following page.

Lead:

Location	Lead (mg/kg)
WS1	58
WS2	59
WS4	17
WS12	110
WS13	7.8
WS15	380
WS16	170
WS17	7.6
Screening Value	200
*95% UCL	160.9

Exceedance

Outlier (and above screening value)

Acceptable (on removal of any outliers)

* After removal of outliers

Benzo(a)anthracene (BaA), Chrysene, Benzo(b)fluoranthene (BbF), Benzo(a)pyrene (BaP), Indeno(1,2,3-c,d)pyrene (I123cdP) and Dibenzo(a,h)anthracene (DahA):

	BaA	Chrysene	BbF	BaP	I123cdP	DahA
WS1	0.2	0.2	0.2	0.3	0.2	0.01
WS2	0.4	0.4	0.3	0.5	0.4	0.01
WS4	0.01	0.01	0.01	0.01	0.01	0.01
WS12	0.8	0.7	0.5	0.8	0.6	0.01
WS13	1.5	0.3	0.3	0.5	0.3	0.01
WS15	0.8	0.6	0.5	0.8	0.5	0.01
WS16	0.6	0.6	0.4	0.8	0.5	0.01
WS17	74	69	57	80	53	8.7
Screening Value	11	22	3.3	2.7	36	0.28
*95% UCL	1.42	0.812	0.603	1.026	0.695	0.01

Exceedance

Outlier (and above screening value)

Acceptable (on removal of any outliers)

* After removal of outliers All values in mg/kg

- 8.8 It can be seen from the tables that lead at WS15, and several PAH compounds at WS17 will need to be considered further in the risk assessment.

Updated Risk Assessment and Conceptual Model

- 8.9 The updated source – pathway – receptor matrix is presented below, taking into account the findings of the investigation. Any pathways in italics are deemed not to be viable, and the reason given.

Potential Source - Pathway - Receptor Matrix (Finished Development)

Contamination Sources	Pathways	Receptors	Severity of Consequence	Probability of Event	Risk
Made ground: - Elevated Lead in WS15 and PAH in WS17	<ul style="list-style-type: none"> Inhalation, ingestion and dermal contact with soil and dust Fruit and vegetable intake, with soil Vapour inhalation outdoor (not applicable to the determinands) Vapour inhalation indoor (not applicable to the determinands) 	Humans:- <ul style="list-style-type: none"> Future occupants Maintenance workers Adjacent residents and general public 	Medium	Low Likelihood	Moderate/ Low
	<ul style="list-style-type: none"> Migration in surface water (not applicable – very small source volume) 	<ul style="list-style-type: none"> Surface water (nearest downslope is 215m to south. There are no abstractions within 1km. 	Not Applicable		
	<ul style="list-style-type: none"> Migration in groundwater (not applicable – very small source volume) 	<ul style="list-style-type: none"> Groundwater (Secondary A Aquifer, no abstractions within 1km) 	Not Applicable		
	<ul style="list-style-type: none"> Root uptake 	Vegetation:- <ul style="list-style-type: none"> Landscape areas Private gardens 	Medium	Unlikely	Low
	<ul style="list-style-type: none"> Migration 	Services/Utilities:- <ul style="list-style-type: none"> Potable water supply 	Medium	Unlikely	Low
Possible shallow workings/coal:- methane and carbon dioxide (mine gases)	<ul style="list-style-type: none"> Asphyxiation Explosive risk 	<ul style="list-style-type: none"> Construction/de-molition workers Future occupants Buildings 	Severe	Low Likelihood	Moderate
Possible asbestos within existing buildings and soils	<ul style="list-style-type: none"> Inhalation 	<ul style="list-style-type: none"> Future occupants Maintenance workers Adjacent residents and general public 	Severe	Low Likelihood	Moderate

8.10 It can be seen from the above matrix that several pathways to receptors are operative, with low to moderate risk applicable and this may affect users of the finished development. Some form of remedial action is, therefore, considered necessary to allow residential development without excess risk.

Risk Based Assessment of Remedial Options

Asbestos Within Existing Buildings

- 8.11 Provided an asbestos survey is carried out prior to any demolition or work on the existing buildings on the site, and any identified asbestos is removed and disposed to a licenced facility, then the risk to receptors is negligible. The work should be carried out by appropriately qualified Contractors.

Mine Gases

- 8.12 To address the potential risk from mine/coal gases, monitoring of borehole wells is in progress. This will determine whether or not protection measures are likely to be necessary. This will be confirmed by separate letter report on completion of the monitoring.

Made Ground - Ingestion, Dust Inhalation, Dermal Contact, Root Uptake, and Fruit and Vegetable Intake with Soil

- 8.13 This pathway is automatically blocked where buildings or hardstanding are present above the material. However, in garden areas, provision of a cover blanket of a minimum 600mm thickness can be used to reduce the risk to future users of the site to acceptable levels from these pathways. This assumes a worst case double dig scenario (i.e. 2 x spade depths). The contamination within the made ground is localised at two locations - WS15 and WS17, and made ground was only encountered in nine positions out of seventeen sampled. Therefore, further sampling on a grid basis around these areas may be beneficial, to confirm the limits of the affected material. It is feasible that the affected material could be retained below proposed hard areas, to avoid any requirement for a soil cover blanket to contamination.

Migration to Utilities

- 8.14 Any migration to utilities is unlikely to be significant. However, the local water company are likely to require details of the contaminants present on the site, to make a judgment on any requirement for protection of buried water supply pipes from chemical attack/ingress.

Risks During Construction Period

- 8.15 It is also necessary to consider the effects of the contamination present on the site in relation to the risks to adjacent residents, construction workers and the general public during construction. This is assessed in the following matrix.

Source	Pathway	Potential risk	Risk after employing suitable Health and Safety plan.
Existing made ground at WS15 and WS17	Inhalation	Low	Damping down of the site during dry periods and timely placement of the existing made ground below barriers should block this pathway and reduce the risk to negligible.
Existing made ground at WS15 and WS17	Ingestion	Low	Site fencing will exclude access to members of the public. Existing made ground will be contained within the site boundary, and placed below barriers as soon as possible. Washing facilities and a clean mess room should be provided. These measures should block this pathway and reduce the risk to negligible.
Existing made ground at WS15 and WS17	Contact	Low	Education of workers to use adequate hygiene and PPE should block this pathway and reduce the risk to negligible.
Asbestos in existing buildings	Inhalation	High	Provided an asbestos survey is carried out, and any identified asbestos is removed from site prior to any other works commencing, the source is no longer present and the risk is negligible.

- 8.16 Provision of all the above measures will ensure that all the identified pathways for the contamination will be blocked.

Summary of Contamination Identified and Remedial Options

- 8.17 Approximately half of the site is underlain by granular made ground, to depths of between 0.5m and 2.5m. Monitoring of ground gases, by means of borehole well installations, is in progress. This will determine whether or not gas protection measures are likely to be necessary. This will be confirmed by separate letter report on completion of the monitoring.
- 8.18 The made ground, at two locations only, was found to contain isolated elevated outlier concentrations of lead in WS15 (at 380mg/kg) and, several PAH compounds (including benzo(a)pyrene) at WS17. The PAH compounds have arisen as a result of inclusion of coal within the sample, probably an anomalous and non-representative inclusion. Further sampling at and around WS17, for PAH only, and at WS15, for lead only, would be beneficial in determining any significant presence of lead and PAH in these areas, and the extent of the affected material. The remedial measures required to render the risks acceptable from the detected concentrations are provided below.
- 8.18.1 An asbestos survey should be carried out prior to any demolition or work on the existing buildings on the site, and any identified asbestos should be removed and disposed to a licenced facility. The work should be carried out by appropriately qualified Contractors.
- 8.18.2 Where any garden or landscape areas overlie the affected made ground, a minimum 600mm thickness of uncontaminated soils (topsoil and subsoil) should be provided. In areas of hardstanding or building footprints, the cover blanket is not required. Further sampling on a grid basis around the areas of WS15 and WS17 may be beneficial to delineate the extent of the contamination identified. Without this, the affected area should be assumed to continue up to the nearest uncontaminated sampling location. These areas are indicated on the plan attached to the Contamination Remediation Statement in Appendix J.

- 8.18.3 Any topsoil or subsoil to be imported, and any soil cover blanket placed, will need to be verified as suitable by inspection and testing, in accordance with guidance supplied in the document produced by the Yorkshire and Lincolnshire Pollution Advisory Group (YALPAG): "Verification Requirements for Cover Systems".
- 8.19 The local water company are likely to require details of the contaminants present on the site, to make a judgment on any requirement for protection of buried water supply pipes from chemical attack/ingress.
- 8.20 A Contamination Remediation Statement is included in Appendix J.

9.0 GEOTECHNICAL TESTING

9.1 Geochemical testing (water soluble sulphate and pH) was undertaken on selected samples by DETS, comprising 21 samples of topsoil and natural strata and eight samples of made ground. In accordance with the BRE Special Digest 1 "Concrete in aggressive ground", the characteristic values for the two materials are given below:

Characteristic Values

Material	pH	SO₄
Made Ground	7.70	45
Natural Strata	6.80	50.5

SO₄ = Sulphate content in mg/l on a 2:1 water : soil extract pH = Acidity

9.2 The geochemical analyses show the topsoil, natural strata, and made ground, to have low water soluble sulphate content and near neutral pH. The Aggressive Chemical Environment for Concrete (ACEC) class is AC-1. Therefore, the use of GEN1 designated concrete will be satisfactory for unreinforced buried concrete, in accordance with BS 8500-1:2006. For any reinforced concrete, other design-specific mixes will apply.

10.0 COMMENTS AND CONCLUSIONS

Site Description

- 10.1 At the time of the investigation, the site was occupied by Vernon Mount Hospital; comprising a number of large buildings. Car parks are present to the north, east and southeast of the main hospital building. A number of trees are present within the turfed traffic island at the front of the hospital and large trees are also present in the southeast of the site.
- 10.2 The majority of the site is relatively flat, but there are localised level variations within the site. The southeastern corner is a low point several metres lower than the majority of the site. The far western corner of the site is a high point and the land slopes fairly gently but progressively downwards back towards the hospital building. The southwestern edge of the site is formed by a relatively steep slope which slopes downwards to the southwest.
- 10.3 To the north of the site are residential buildings and a playing field. Both of these are at a similar level to the site. To the east is open ground with mature trees and a number of detached buildings. To the southwest, at the bottom of the slope which forms the southwestern boundary, are residential properties with associated gardens and access roads. A school is present to the northwest, and Mount Vernon Road is present to the southeast.

Site History

- 10.4 Ordnance Survey archive maps show the site was occupied by a small number of buildings possibly comprising a large residential property and grounds, later used as a sanatorium. There is evidence of coal mining and sandstone quarrying in the wider area. A small sandstone quarry was once indicated just outside the western boundary, but this is an area comprising a steep slope and is unlikely to have received any significant backfill.

Geology and Coal Mining

- 10.5 The geological map shows the site to be underlain by sandstone of the Wooley Edge Rock formation. There are no faults shown to affect the site. A coal seam outcrops just inside the southwestern boundary, with undifferentiated strata and further coal seams beyond. The seams will underlie the site, some at shallow depth, and this is reinforced by the contents of the Coal Authority coal mining report. The possible presence of shallow underground coal workings will need to be assessed by an intrusive investigation using a rotary drilling rig. Abandonment plans may be available for the potential workings, and it is advisable that these are obtained before the drilling works. A permit will be required from The Coal Authority to carry out the investigation.
- 10.6 There are no known coal mine entries within, or within 20m of, the site. However, there is a risk of unrecorded mine entries in the local area. Bell pits may also be present.

Coal Recovery

- 10.7 There is unlikely to be any arisings of coal during proposed development works, and given the presence of sandstone above any coal seams, it would be difficult to extract any coal from the site by open excavation before development. This will be confirmed by the rotary investigation.

Environmental Data

- 10.8 The strata beneath the site are classed as a Secondary A Aquifer. There are no groundwater abstractions within 1km of the site.
- 10.9 The nearest surface water is a stream approximately 215m to the south. However, there are no surface water abstractions within 1km of the site.

- 10.10 No radon protective measures are stated to be necessary for new dwellings or extensions on the site. However, the site is in an intermediate probability radon area. In these circumstances of apparent conflict, it may be prudent to assume basic radon protection is required, to prevent conveyancing difficulties. This is usually achieved by incorporating an appropriate barrier within a solid floor system, and extending the barrier through the cavity wall.
- 10.11 There are no landfills within 250m of the site, but there are coal seams at shallow depth beneath the site, which are likely to have been worked. To address the potential risk from mine/coal gases, monitoring of borehole wells is in progress. This will determine whether or not protection measures are likely to be necessary. This will be confirmed by separate letter report on completion of the monitoring.
- 10.12 The site is not at risk from river flooding. The risks of flooding from other causes such as adverse topography or insufficient surface water drainage, are not considered here, and a separate specialist Flood Risk and Drainage Report should be commissioned if such risk needs to be quantified.

Ground Conditions Encountered

- 10.13 All window sample boreholes revealed a covering layer of dark brown topsoil to a maximum depth of 0.4m, with the exception of WS12, WS13 and WS17 which had a covering layer of bituminous surfacing. Below the surface materials, made ground was encountered in nine out of sixteen locations, to depths of between 0.5m (WS13) and 2.5m (WS4). The made ground comprised sand and gravel of mainly stone, with some brick content. Locally (WS13) the made ground was mainly of brick.
- 10.14 The natural strata, below any topsoil or made ground, were found to comprise very gravelly sand, over bedrock. Sandstone was encountered from depths of between 0.6m and 4.45m. Further penetration was halted by the sandstone at depths of between 0.82m and 4.5m.

- 10.15 All excavations remained stable for the short period of exposure and were backfilled with the arisings on completion, with the exception of WS2, WS5, WS8 and WS13 where gas monitoring wells were installed. No groundwater seepages were encountered.

Contamination Assessment

- 10.16 The contamination testing revealed the topsoil to be suitable for re-use on the site, in terms of human health risks. However, the made ground was found to contain elevated lead at WS15 and several PAH compounds at WS17. Further sampling at and around WS17, for PAH only, and at WS15, for lead only, would be beneficial in determining any significant presence of lead and PAH in these areas, and the extent of the affected material.
- 10.17 The contamination risk assessment confirmed that, provided remedial measures are implemented, risks from the detected concentrations can be reduced to acceptable levels. Further detail is provided in the Contamination Remediation Statement included in Appendix J.
- 10.18 This report should be issued to the local water company for it to make a judgment on any requirement for protection of buried water supply pipes from chemical attack/ingress.

Foundations

- 10.19 The existing made ground is not suitable for support of foundation loads, due to variability. The underlying natural gravelly sand (completely weathered sandstone) is only around 0.3m to 0.4m thick in most cases, and locally absent. Therefore, it is recommended that foundations are taken to the less weathered sandstone beneath. A table showing the depths at which sandstone was encountered or inferred is given below. An allowable bearing pressure of 300kN/m² is considered applicable, for an unreinforced strip or trench fill foundation.

Location	Depth to Sandstone (m)	Comment
WS1	0.9	
WS2	1.9	
WS3	0.7	
WS4	2.9	Deeper than 2.5m: Specific design required.
WS5	0.9	
WS6	0.7	
WS7	0.6	
WS8	0.7	
WS9	0.8	
WS10	0.9	
WS11	4.45	Deeper than 2.5m: Specific design required.
WS12	1.9	
WS13	0.9	
WS15	1.9	
WS16	0.9	
WS17	1.7	

- 10.20 At locations WS4 and WS11, where significant made ground is present, strip/trench fill foundations could probably only be achieved by temporarily lowering ground levels in these areas. Alternatively, other foundation solutions could be considered, such as vibro stone columns, earthworks to re-engineer the ground for raft foundations, or piles (subject to the findings of the rotary coal mining investigation (see below)).
- 10.21 The use of unreinforced strip or trench fill foundation is subject to the findings of the rotary borehole investigation for underground coal workings (not yet programmed). If coal workings are present which require treatment, then the strip foundations are likely to be required to be 300mm thick and reinforced with two layers of B503 mesh. If any crown holes or bell pits are found to be present, then alternative foundation solutions may be required, such as ground re-engineering and rafts.
- 10.22 The founding strata are non-plastic and, therefore, the minimum foundation depths given in NHBC Standard Chapter 4.2 "Building Near Trees" do not apply. However, to protect against frost damage, the foundations will need to be at least 0.45m below finished ground level.

10.23 The whole plan area of the foundation should be placed on similar material. The foundation should also be taken below the depth of any existing foundations or obstructions, onto natural ground.

Slope Stability

10.24 There is a relatively steep slope on the southwestern side of the site, which is likely to have been formed at its natural angle of repose. Therefore, there is likely only to be a factor of safety against failure of 1.0. This is probably sufficient where only gardens are proposed, but not where any structures or roads may be supported by the material in the slope. Therefore, it is recommended that construction of buildings or roads is excluded from within a stand-off zone of 8m from the crest. Any proposed construction within this zone will result in a requirement for slope stability assessment, and this is likely to conclude that slope stabilisation measures will be required.

Excavations

10.25 It is likely that excavations into the natural strata will remain stable in the short term, requiring minimal trench support, in accordance with the prevailing statutory guidance. However, instability may be anticipated within any made ground present on the site.

10.26 No groundwater seepages were encountered during the site investigation; however any such encounters should be controllable by pumping from an artificial sump.

10.27 Excavations into intact bedrock and through buried foundations and structures are likely to require a hydraulic breaker.

Chemical Precautions

- 10.28 The Aggressive Chemical Environment for Concrete (ACEC) class is AC-1 for both the natural strata and made ground. Therefore, the use of GEN1 designated concrete will be satisfactory for unreinforced foundations, in accordance with BS 8500-1:2006. For any reinforced concrete, other design-specific mixes will apply.

Road Pavement Construction

- 10.29 For any areas of road pavement, including parking areas, the formation is likely to comprise either natural granular material or sandstone, in most cases. Below any obvious soft spots, and at equilibrium moisture content, a design California Bearing Ratio (CBR) value of 20% is considered applicable. Formation of roads on the existing made ground will not be acceptable. In areas where made ground is present, this should be removed. Where its depth is excessive, other potential solutions include partial excavation and replacement, with or without layers of geogrid, or the use of vibro stone columns overlaid by a geogrid reinforced stone blanket. The proposed measures will need to be agreed with the adopting authority and, therefore, consultations with the relevant authority should be undertaken at the earliest stage.

Soakaways

- 10.30 Due to the potential for adverse off site impacts downslope, soakaways are not considered to be practical for use on the site. A drainage feasibility design will need to be carried out to determine the appropriate solution.

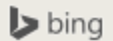
APPENDIX A

SITE LOCATION PLAN AND AERIAL PHOTOGRAPH




Legend Key

- Locations By Type - Empty
- Project Bounds - Project Bounds



Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Project Mount Vernon Hospital	Title Site Location Plan		Date	Scale 1:6500
Client South West Yorkshire Partnership			Drawn ARP	No SWY/02



RrHP_v2.09

Legend Key

- Locations By Type - Empty
- Project Bounds - Project Bounds

<p>Project Mount Vernon Hospital</p>	<p>Title Aerial Photograph</p>		<p>Date</p>	<p>Scale</p>
<p>Client South West Yorkshire Partnership</p>	<p>Drawn ARP</p>		<p>No</p>	<p>1:2000</p> <p>SWY/02</p>

A P P E N D I X B

ORDNANCE SURVEY ARCHIVE MAPS

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

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

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Coppice		Bracken
	Heath		Rough Grassland
	Marsh		Reeds
	Saltings		
	Building		Glasshouse
	Sloping Masonry		Pylon
	Electricity Transmission Line		Pole
	Cutting		Embankment
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		
	Administrative County, County Borough or County of City		
	Municipal Borough, Urban or Rural District, Burgh or District Council		
	Borough, Burgh or County Constituency Shown only when not coincident with other boundaries		
	Civil Parish Shown alternately when coincidence of boundaries occurs		
	BP, BS Boundary Post or Stone		Pol Sta Police Station
	Ch Church		PO Post Office
	CH Club House		PC Public Convenience
	F E Sta Fire Engine Station		PH Public House
	FB Foot Bridge		SB Signal Box
	Fn Fountain		Spr Spring
	GP Guide Post		TCB Telephone Call Box
	MP Mile Post		TCP Telephone Call Post
	MS Mile Stone		W Well

1:10,000 Raster Mapping

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

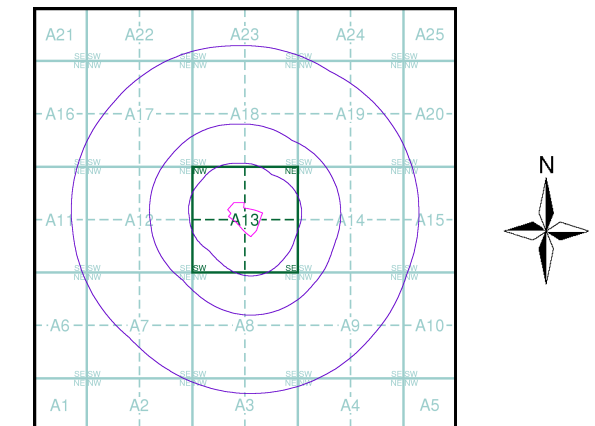


ARP GEOTECHNICAL LIMITED
CHARTERED CONSULTING ENGINEERS

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:10,560	1855	2
Yorkshire	1:10,560	1894	3
Yorkshire	1:10,560	1907	4
Yorkshire	1:10,560	1932	5
Yorkshire	1:10,560	1938	6
Yorkshire	1:10,560	1948	7
Ordnance Survey Plan	1:10,000	1955 - 1956	8
Ordnance Survey Plan	1:10,000	1965 - 1966	9
Ordnance Survey Plan	1:10,000	1973 - 1978	10
Ordnance Survey Plan	1:10,000	1980 - 1984	11
Ordnance Survey Plan	1:10,000	1989	12
Ordnance Survey Plan	1:10,000	1993	13
10K Raster Mapping	1:10,000	2000	14
Street View	Variable		15

Historical Map - Slice A



Order Details

Order Number: 142447936_1_1
Customer Ref: SWY/02
National Grid Reference: 434960, 404750
Slice: A
Site Area (Ha): 2.7
Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNESLEY, S70 4DP

Landmark
INFORMATION GROUP

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



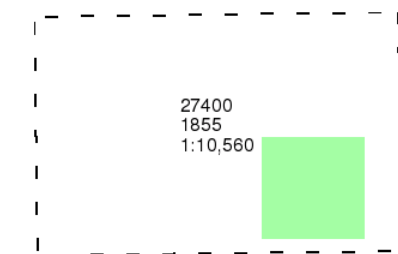
Yorkshire

Published 1855

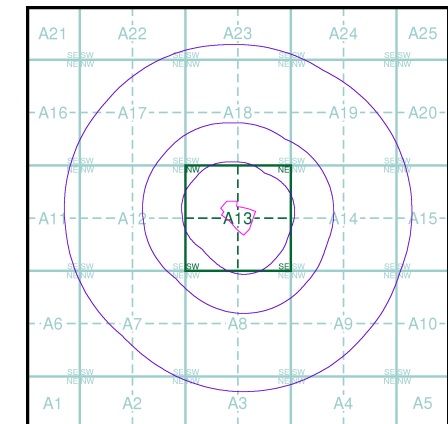
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

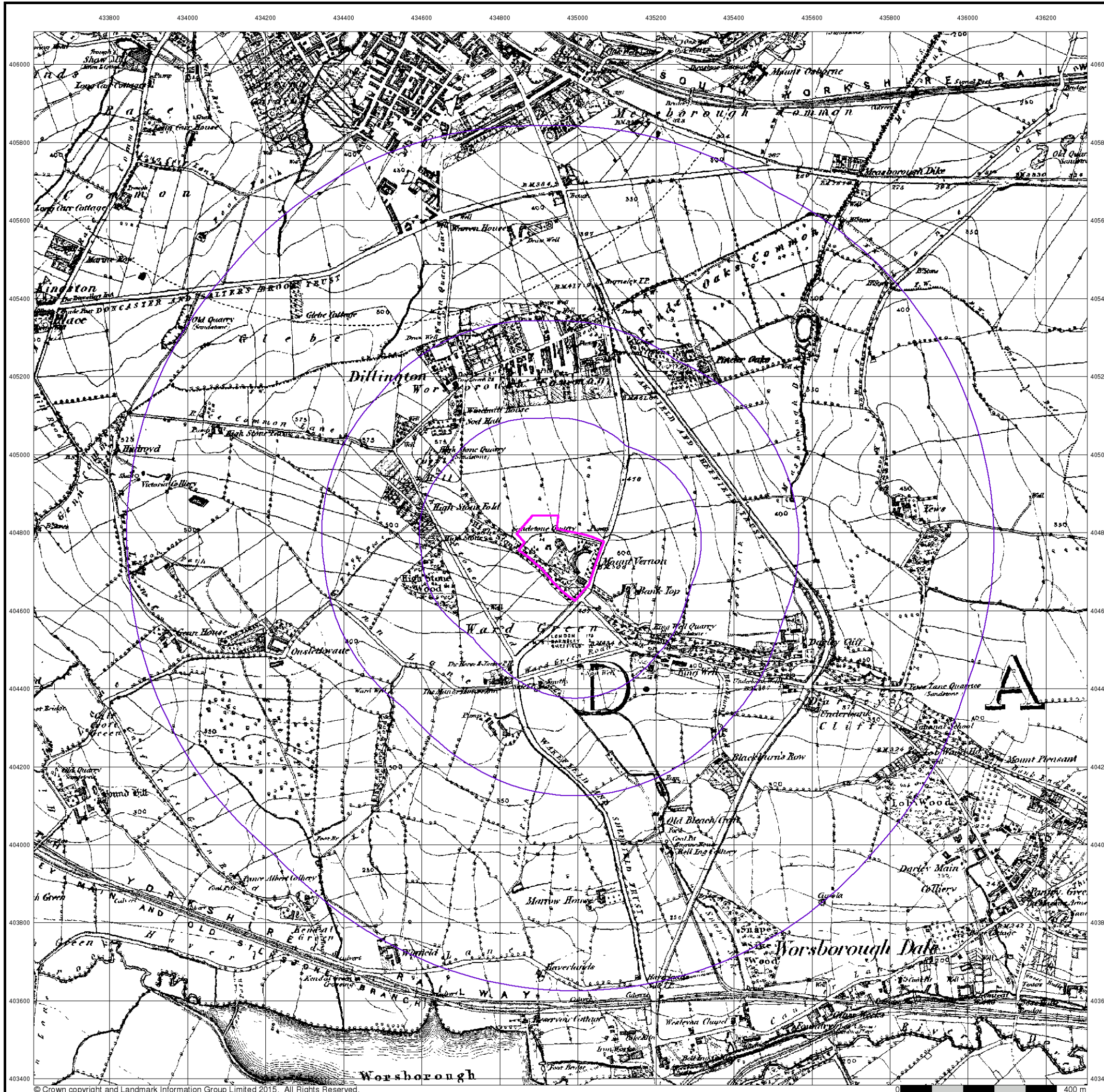


Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP





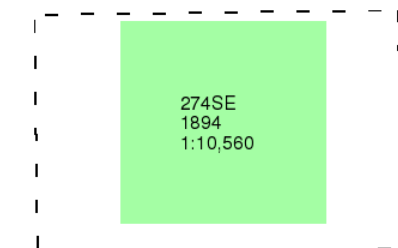
Yorkshire

Published 1894

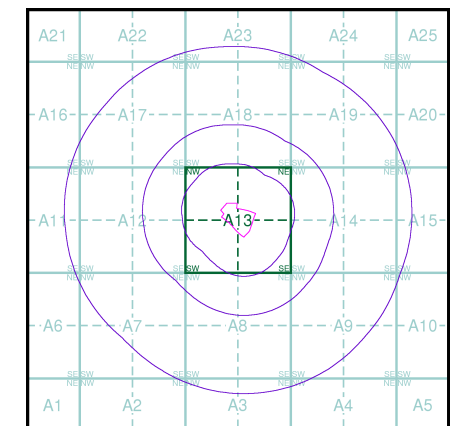
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

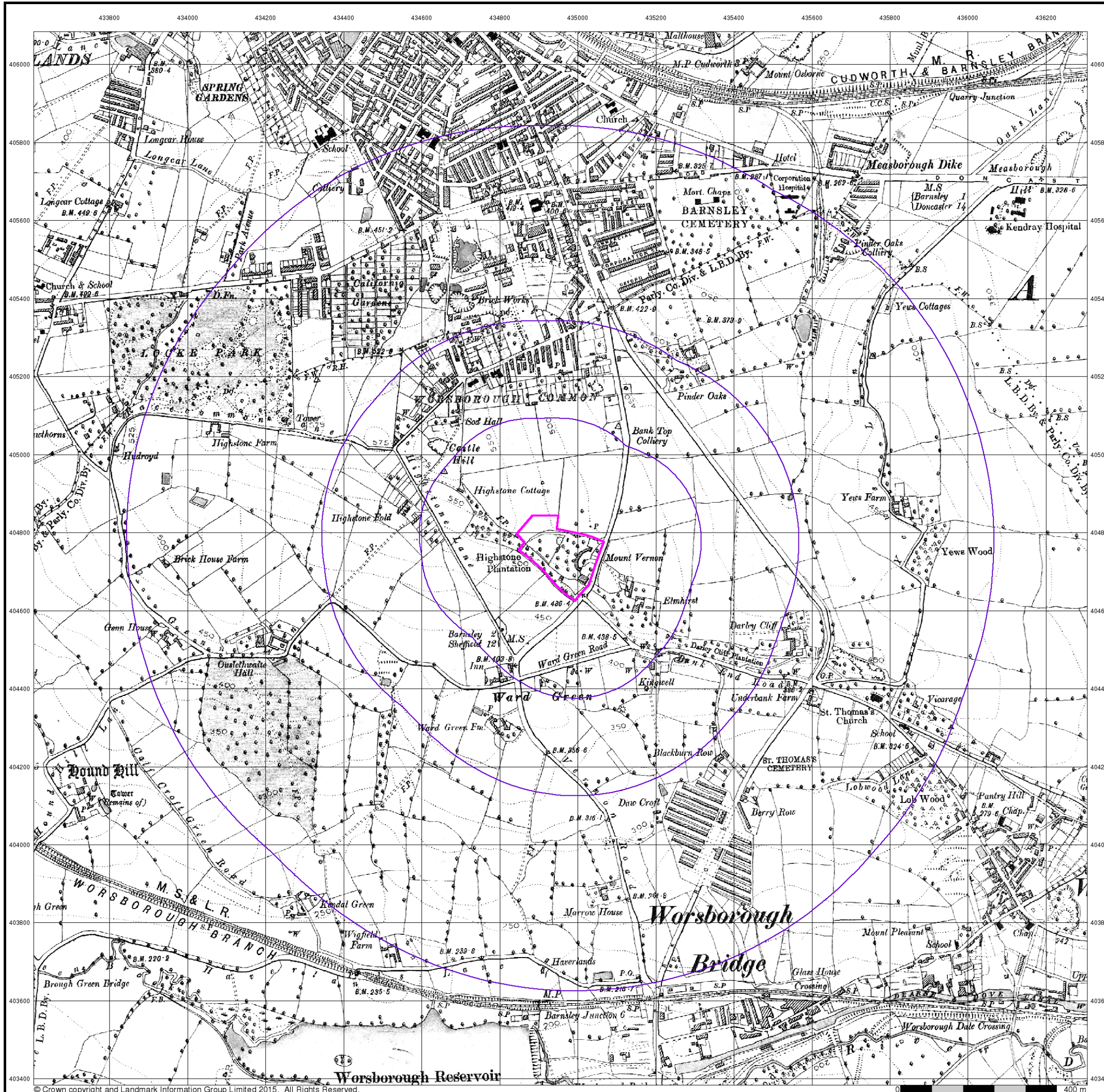


Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP





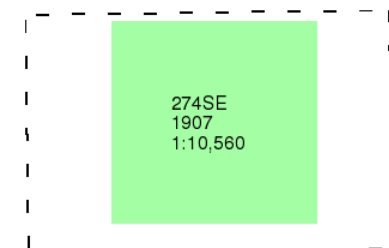
Yorkshire

Published 1907

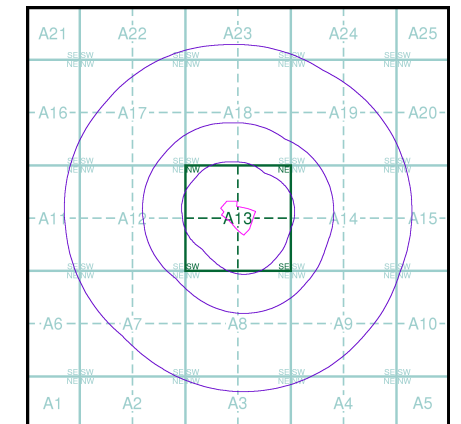
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

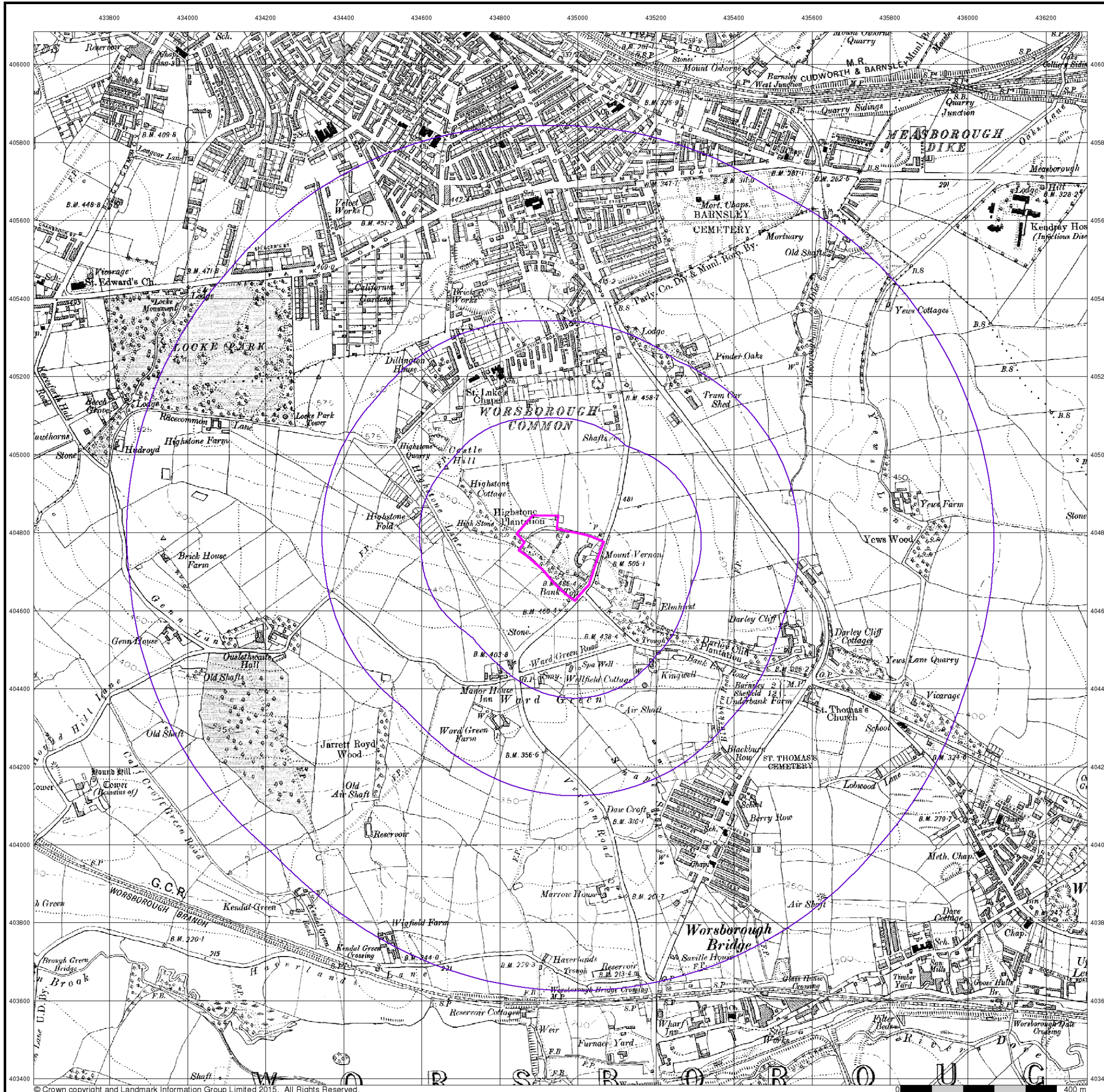


Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP





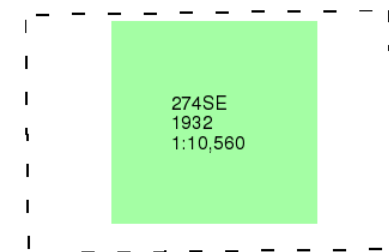
Yorkshire

Published 1932

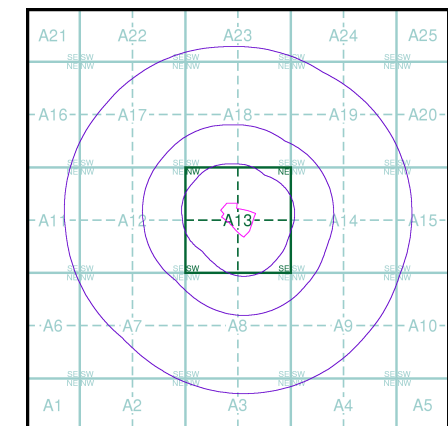
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

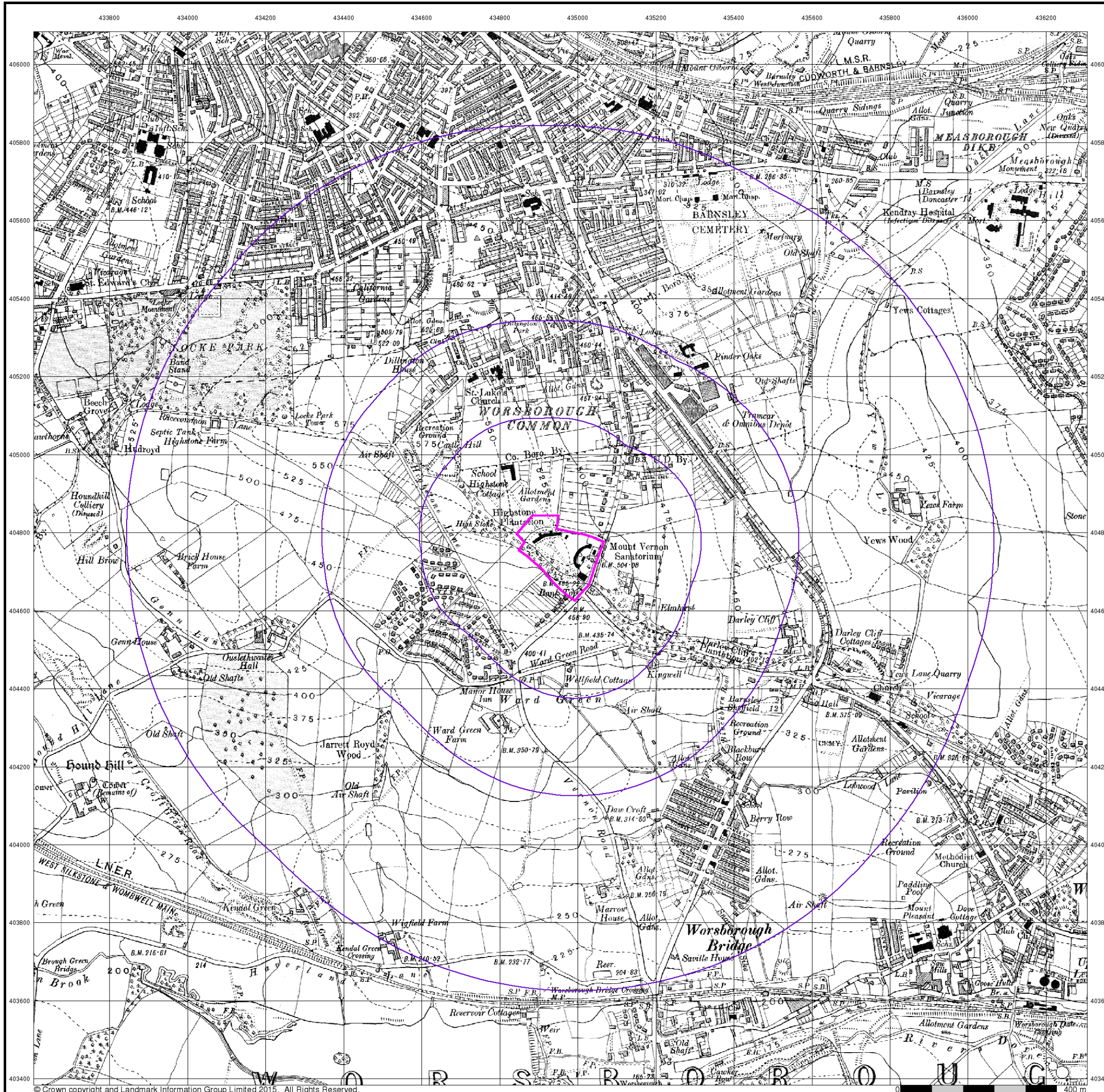


Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP





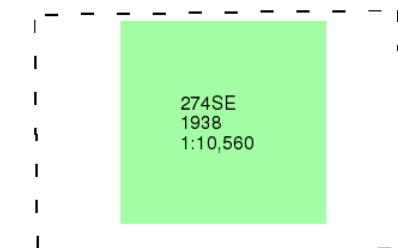
Yorkshire

Published 1938

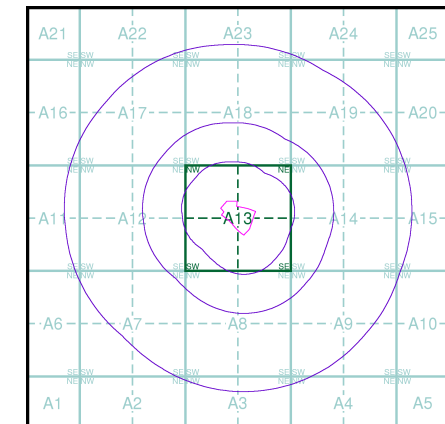
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

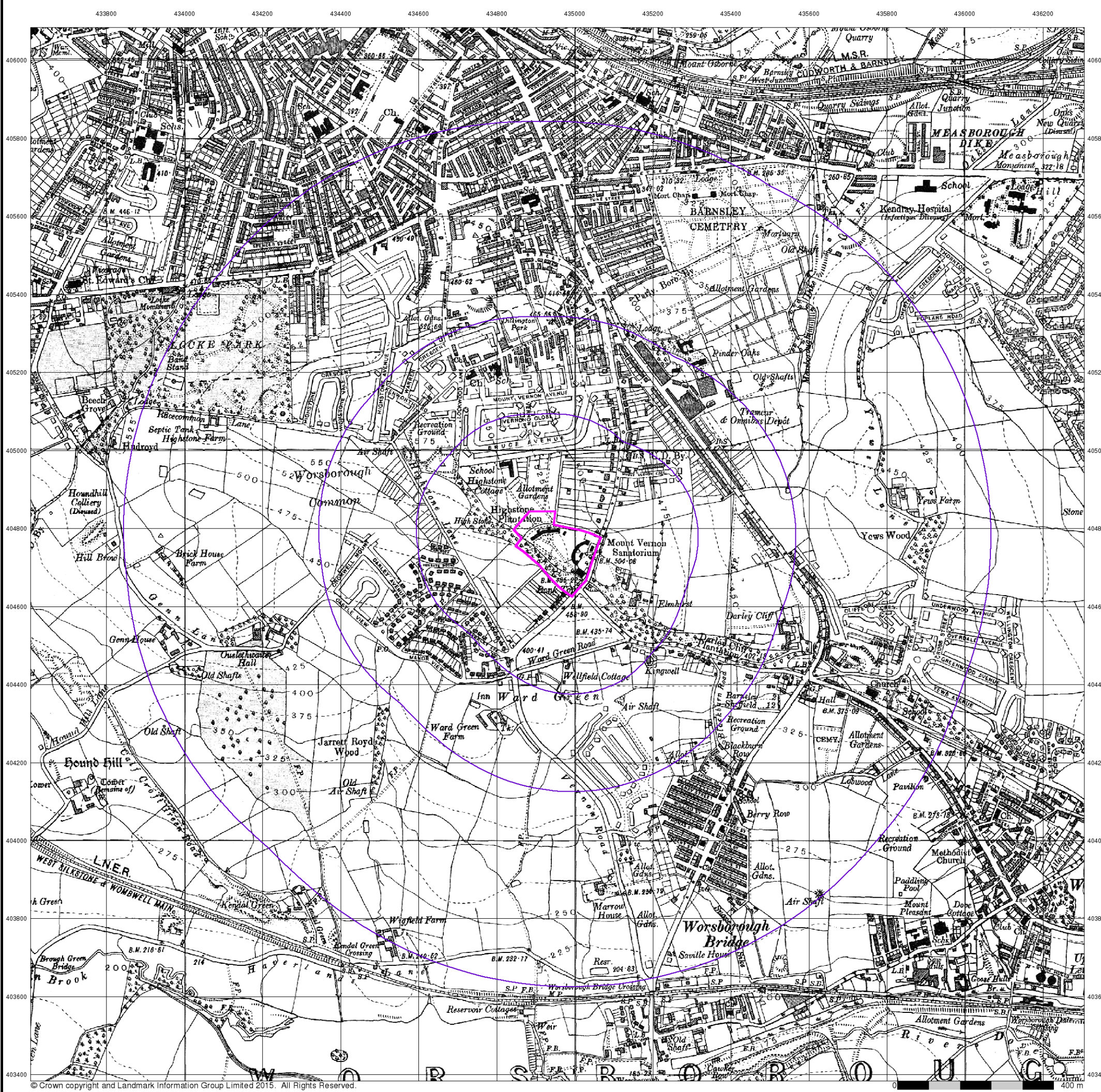


Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP





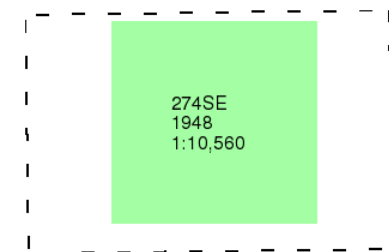
Yorkshire

Published 1948

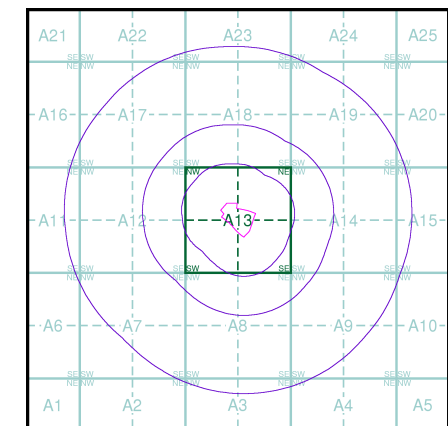
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP





Ordnance Survey Plan

Published 1955 - 1956

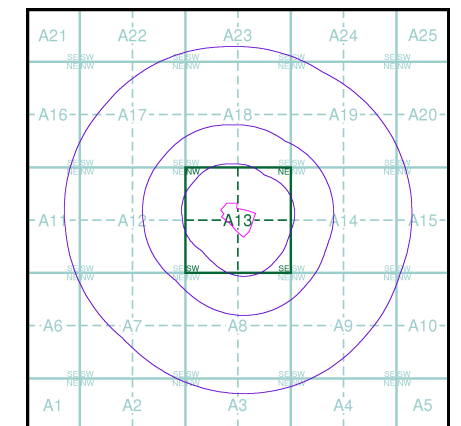
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SE30NW	SE30NE
1956	1955
1:10,560	1:10,560
SE30SW	SE30SE
1956	1956
1:10,560	1:10,560

Historical Map - Slice A

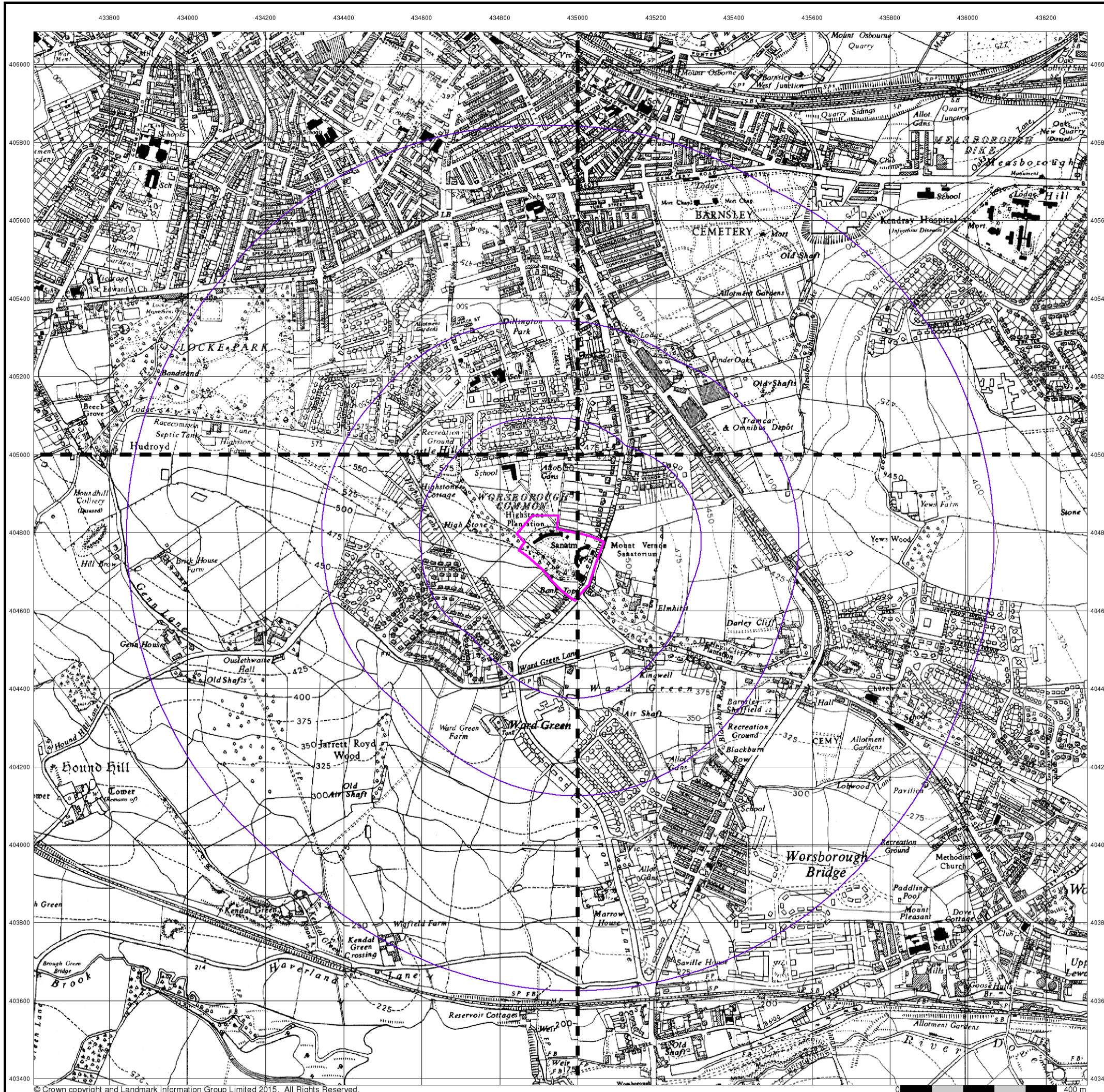


Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP





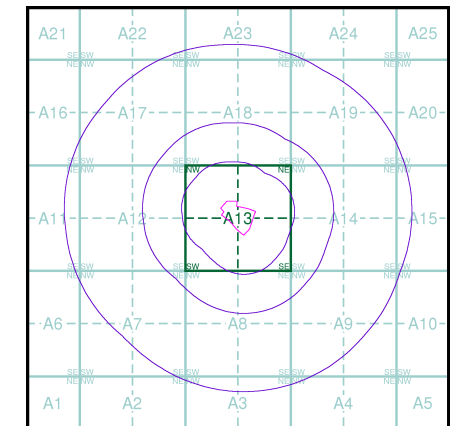
Ordnance Survey Plan
Published 1965 - 1966
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SE30NW	SE30NE
1966	1966
1:10,560	1:10,560
SE30SW	SE30SE
1965	1966
1:10,560	1:10,560

Historical Map - Slice A



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP





Ordnance Survey Plan

Published 1973 - 1978

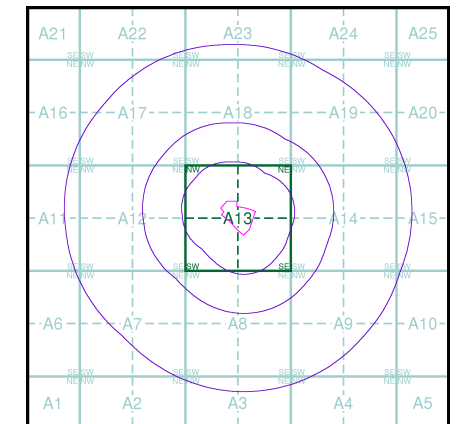
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SE30NW	SE30NE
1973	1974
1:10,000	1:10,000
■	
SE30SW	
1978	
1:10,000	

Historical Map - Slice A

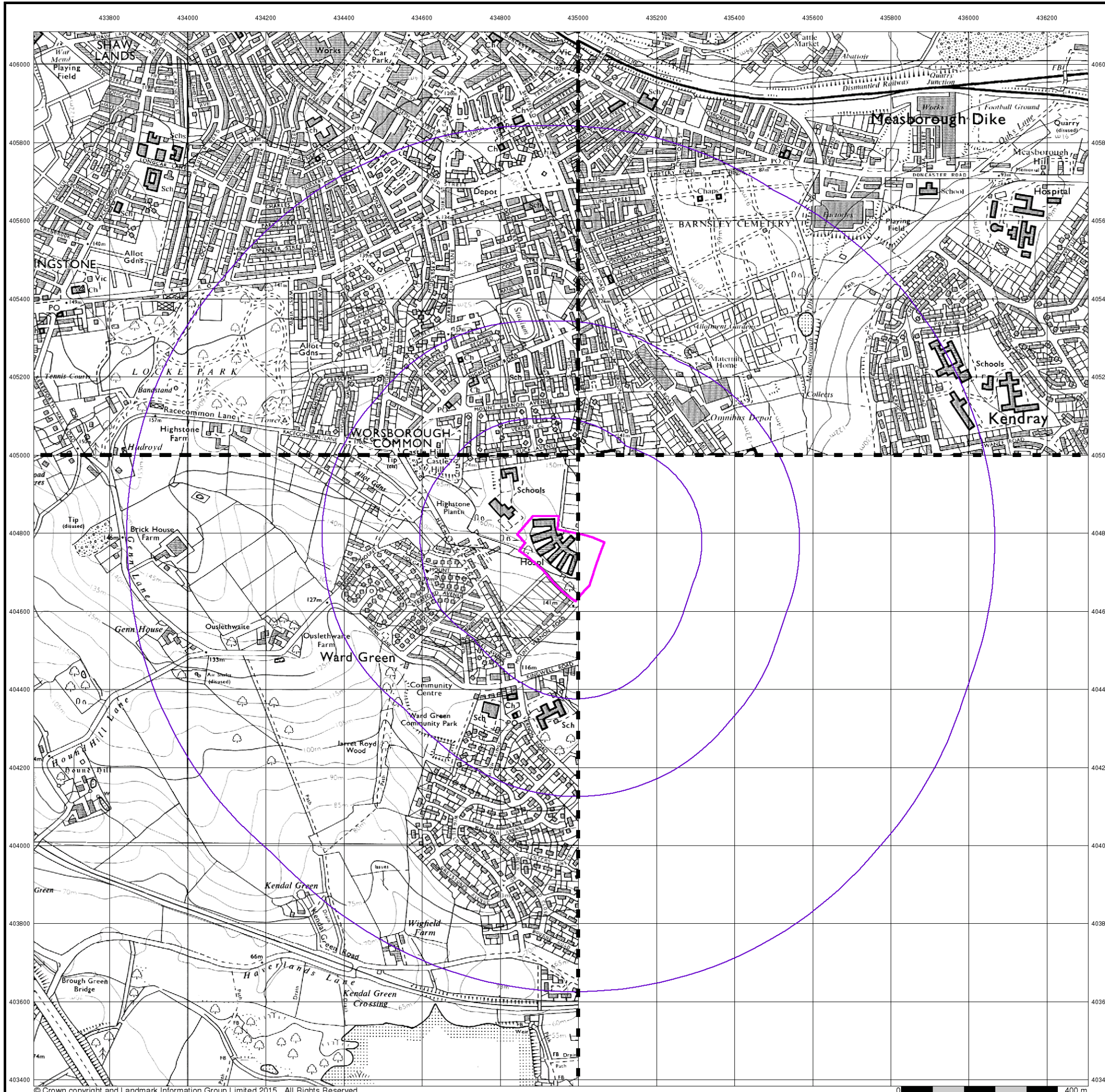


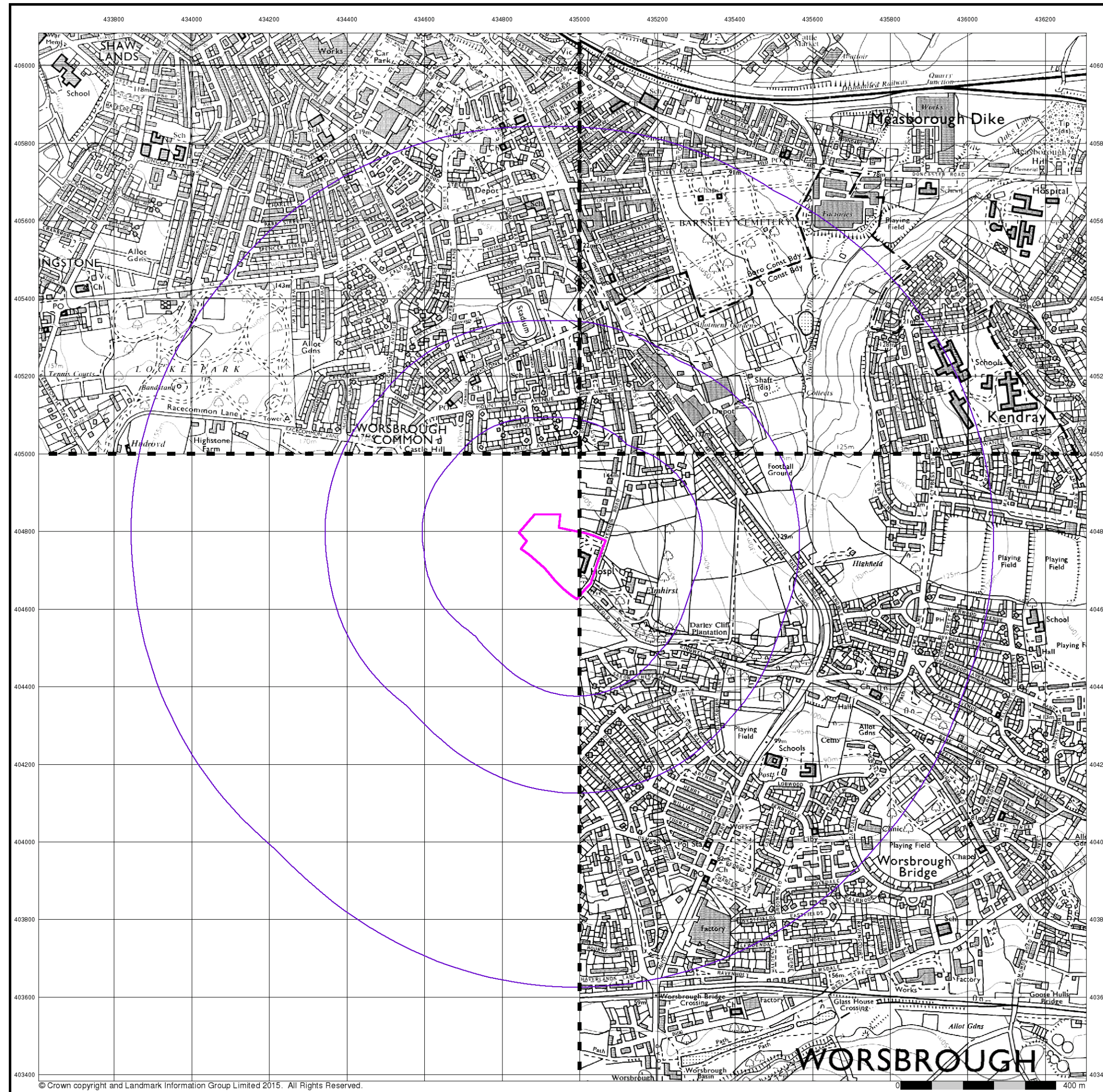
Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP





Ordnance Survey Plan

Published 1980 - 1984

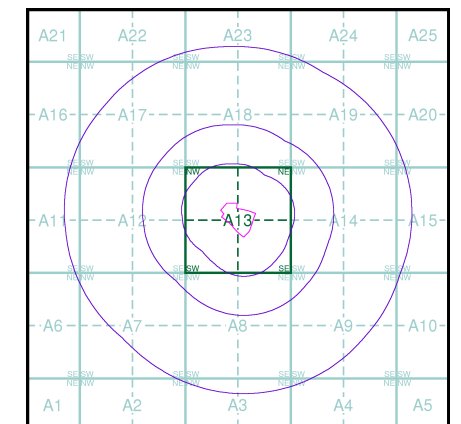
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SE30NW	SE30NE
1983	1984
1:10,000	1:10,000
SE30SE	
1980	
1:10,000	

Historical Map - Slice A



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP

433800 434000 434200 434400 434600 434800 435000 435200 435400 435600 435800 436000 436200



ARP GEOTECHNICAL LIMITED
CHARTERED CONSULTING ENGINEERS

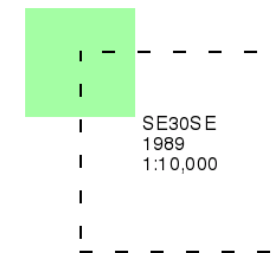
Ordnance Survey Plan

Published 1989

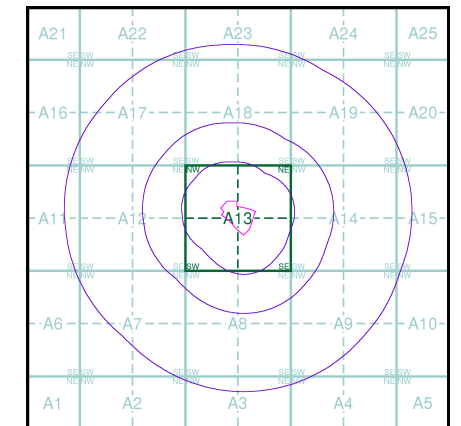
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

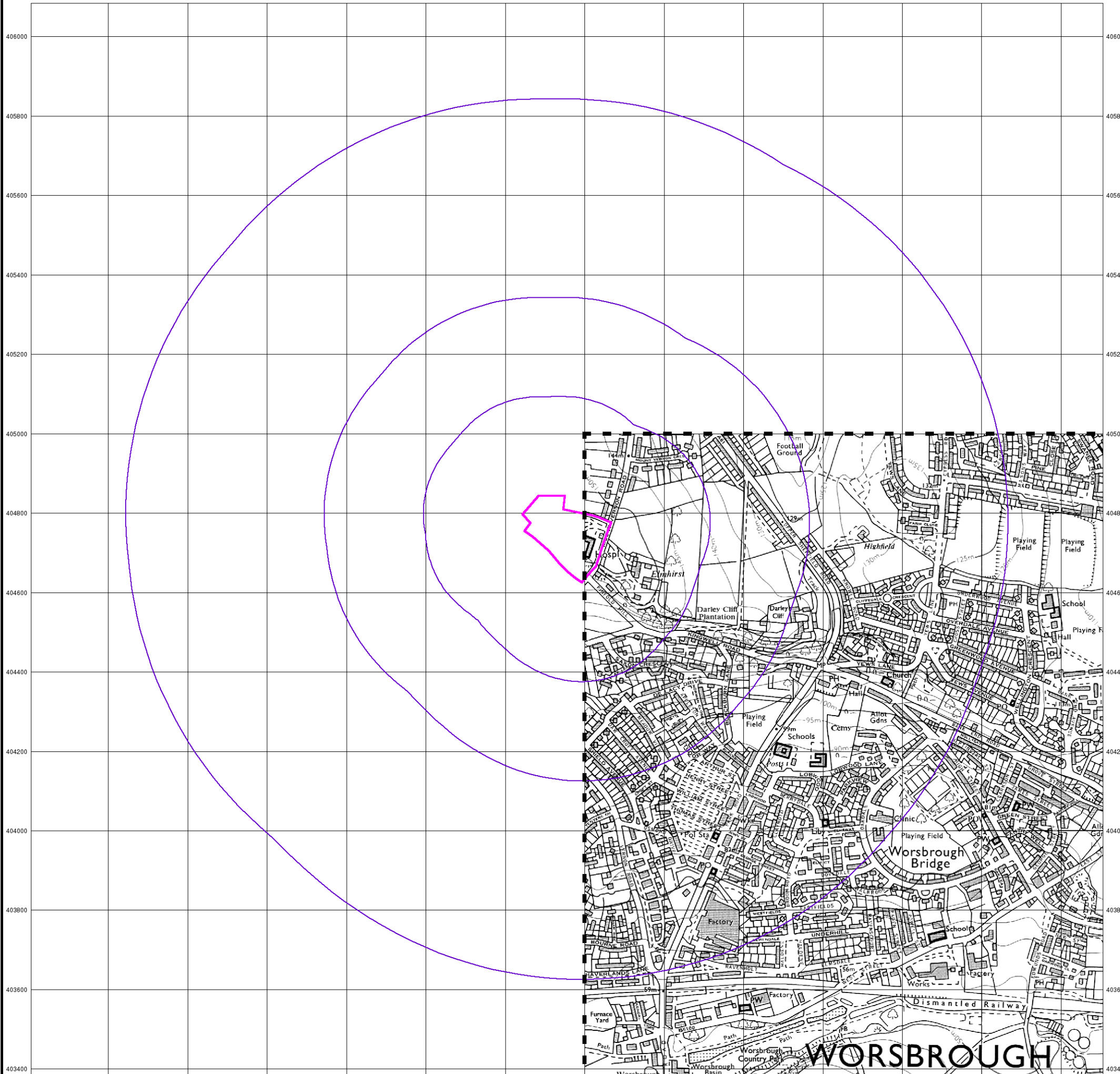
Order Number: 142447936_1_1
Customer Ref: SWY/02
National Grid Reference: 434960, 404750
Slice: A
Site Area (Ha): 2.7
Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP



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





Ordnance Survey Plan

Published 1993

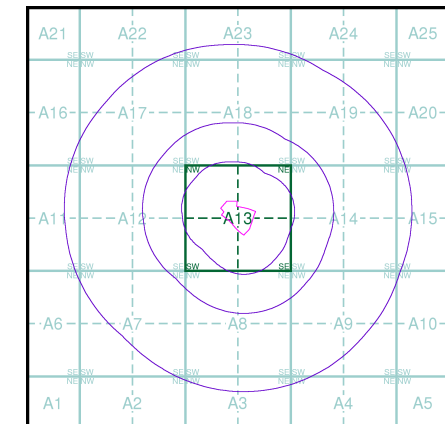
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SE30NW 1993 1:10,000	SE30NE 1993 1:10,000
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Historical Map - Slice A

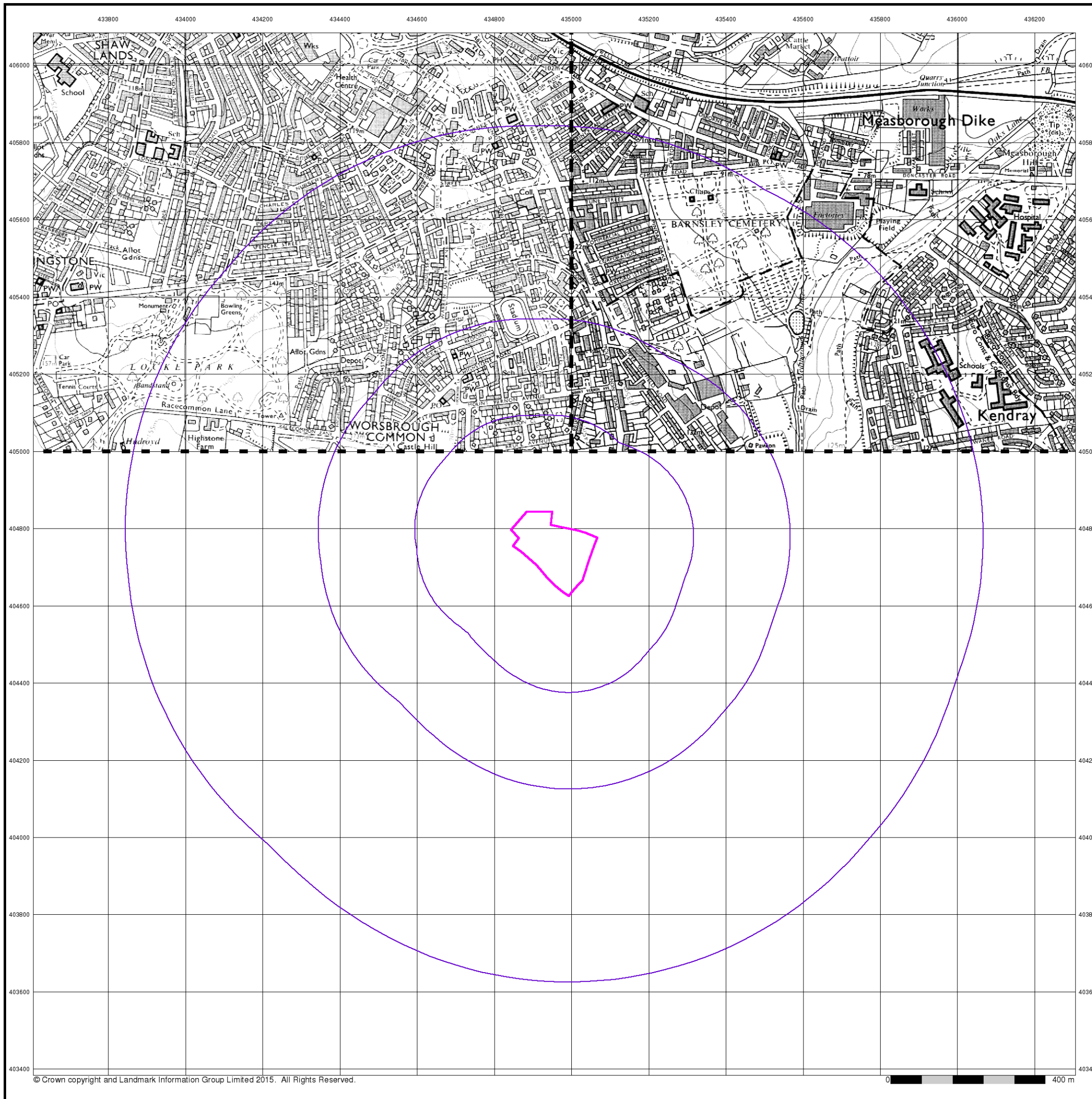


Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP





10k Raster Mapping

Published 2000

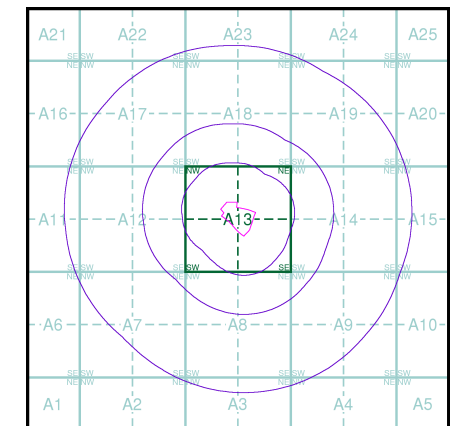
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SE30NW	SE30NE
2000	2000
1:10,000	1:10,000
SE30SW	SE30SE
2000	2000
1:10,000	1:10,000

Historical Map - Slice A



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP





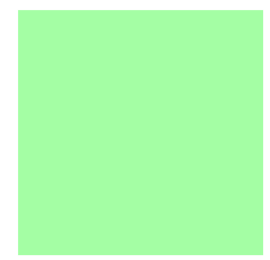
Street View

Published 2017

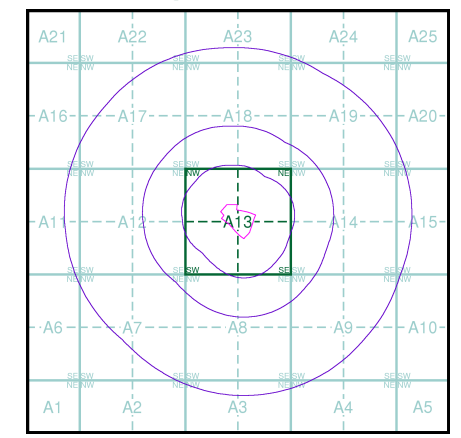
Source map scale - 1:10,000

Street View is a street-level map for the whole of Great Britain produced by the Ordnance Survey. These maps are provided at a nominal scale of 1:10,000

Map Name(s) and Date(s)



Street View Map - Slice A

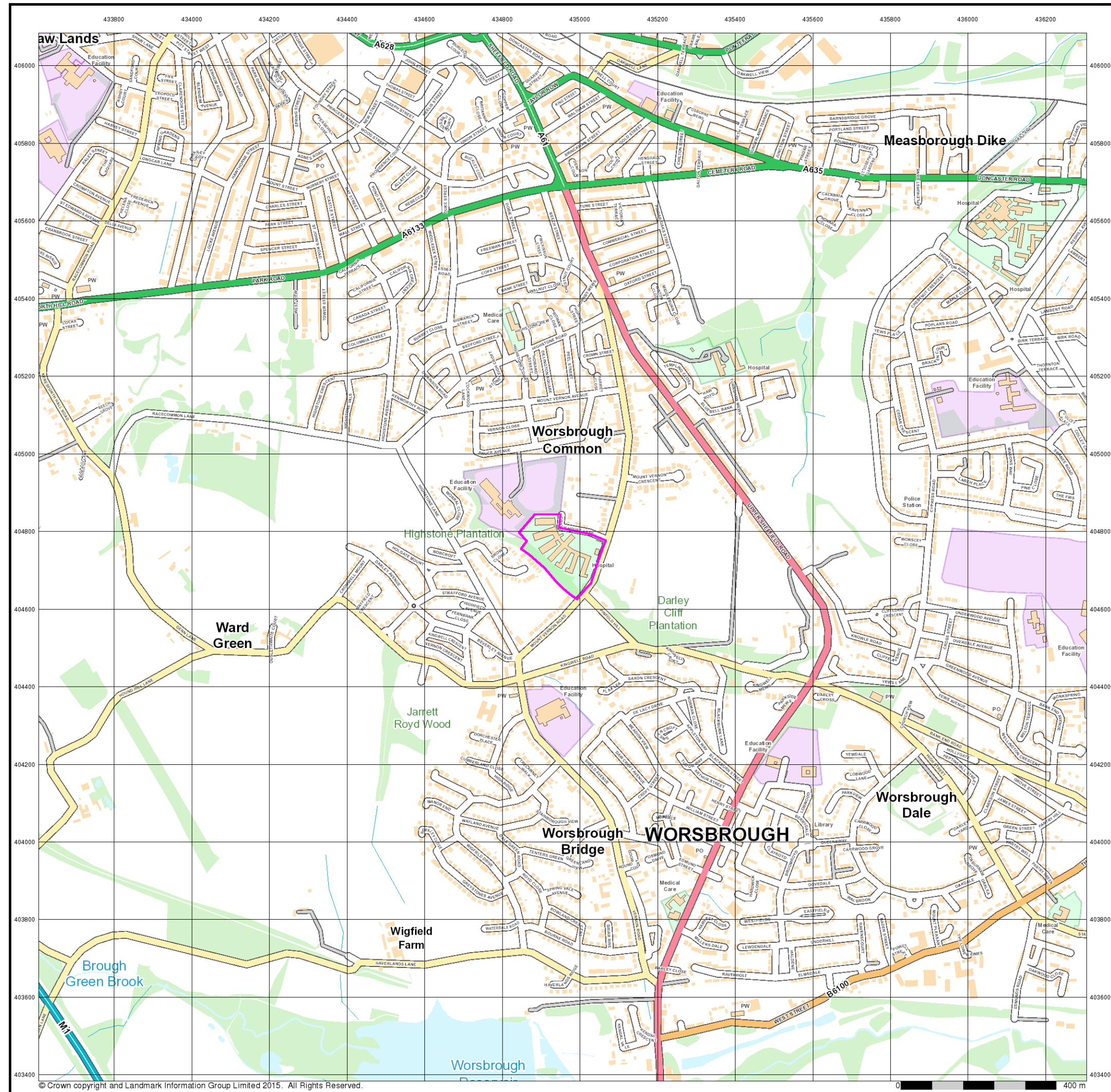


Order Details

Order Number: 142447936_1_1
Customer Ref: SWY/02
National Grid Reference: 434960, 404750
Slice: A
Site Area (Ha): 2.7
Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP



Historical Mapping Legends

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

Quarry **Gravel Pit** **Sand Pit**
Clay Pit **Shingle** **Refuse Heap**
Sloping Masonry **Flat Rock**
Marsh **Reeds** **Osiers**
Rough Pasture **Furze** **Wood**
Mixed Wood **Brushwood** **Orchard**
Fir **Ford** **Stepping Stones**
Ferry **Waterfall** **Lock**
Trig. Station **Altitude at Trig. Station**
B.M. 325.9 **Bench Mark** **Surface Level**
Arrow denotes flow of water **Antiquities (site of)**
Cutting **Embankment**
Railway crossing Road **Level Crossing** **Road crossing Railway**
Railway crossing River or Canal **Road over single stream** **Road over River or Canal**
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
County Borough Boundary (England)
County Burgh Boundary (Scotland)
Co. Boro. Bdy.
Co. Burgh Bdy.
BP BS Boundary Post or Stone **P.C.B** Police Call Box
B.R. Bridle Road **P** Pump
E.P Electricity Pylon **S.P** Signal Post
F.B. Foot Bridge **Sl** Sluice
F.P. Foot Path **Sp.** Spring
G.P Guide Post or Board **T.C.B** Telephone Call Box
M.S Mile Stone **Tr.** Trough
M.P M.R Mooring Post or Ring **W** Well

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

Inactive Quarry, Chalk Pit or Clay Pit **Active Quarry, Chalk Pit or Clay Pit**
Rock **Boulders**
Cliff **Slopes** **Top**
Roofed Building **Glazed Roof Building**
Sloping Masonry **Archway**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Bench Mark** **Antiquity (site of)**
Cave Entrance **Triangulation Station** **Electricity Pylon**
Electricity Transmission Line
County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
London Borough Boundary
Symbol marking point where boundary mereing changes
BH Beer House **P** Pillar, Pole or Post
BP, BS Boundary Post or Stone **PO** Post Office
Cn, C Capstan, Crane **PC** Public Convenience
Chy Chimney **PH** Public House
D Fn Drinking Fountain **Pp** Pump
EI P Electricity Pillar or Post **SB, S Br** Signal Box or Bridge
FAP Fire Alarm Pillar **SP, SL** Signal Post or Light
FB Foot Bridge **Spr** Spring
GP Guide Post **Tk** Tank or Track
H Hydrant or Hydraulic **TCB** Telephone Call Box
LC Level Crossing **TCP** Telephone Call Post
MH Manhole **Tr** Trough
MP Mile Post or Mooring Post **Wr Pt, Wr T** Water Point, Water Tap
MS Mile Stone **W** Well
NTL Normal Tidal Limit **Wd Pp** Wind Pump

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

Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 231.60m Bench Mark **Buildings with Building Seed**
Roofed Building **Glazed Roof Building**
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)
Bks Barracks **P** Pillar, Pole or Post
Bty Battery **PO** Post Office
Cemy Cemetery **PC** Public Convenience
Chy Chimney **Pp** Pump
Cis Cistern **Ppg Sta** Pumping Station
Dismtd Rly Dismantled Railway **PW** Place of Worship
EI Gen Sta Electricity Generating Station **Sewage Ppg Sta** Sewage Pumping Station
EI P Electricity Pole, Pillar **SB, S Br** Signal Box or Bridge
EI Sub Sta Electricity Sub Station **SP, SL** Signal Post or Light
FB Filter Bed **Spr** Spring
Fn / D Fn Fountain / Drinking Ftn. **Tk** Tank or Track
Gas Gov Gas Valve Compound **Tr** Trough
GVC Gas Governor **Wd Pp** Wind Pump
GP Guide Post **Wr Pt, Wr T** Water Point, Water Tap
MH Manhole **Wks** Works (building or area)
MP, MS Mile Post or Mile Stone **W** Well

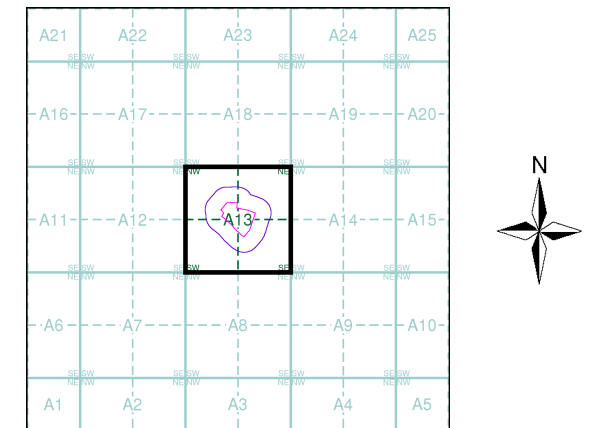


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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:2,500	1892 - 1893	2
Yorkshire	1:2,500	1906	3
Yorkshire	1:2,500	1931	4
Ordnance Survey Plan	1:1,250	1960 - 1961	5
Additional SIMs	1:1,250	1960 - 1986	6
Ordnance Survey Plan	1:2,500	1961 - 1962	7
Ordnance Survey Plan	1:1,250	1966 - 1972	8
Additional SIMs	1:1,250	1980 - 1991	9
Large-Scale National Grid Data	1:1,250	1993	10
Large-Scale National Grid Data	1:1,250	1996	11

Historical Map - Segment A13



Order Details

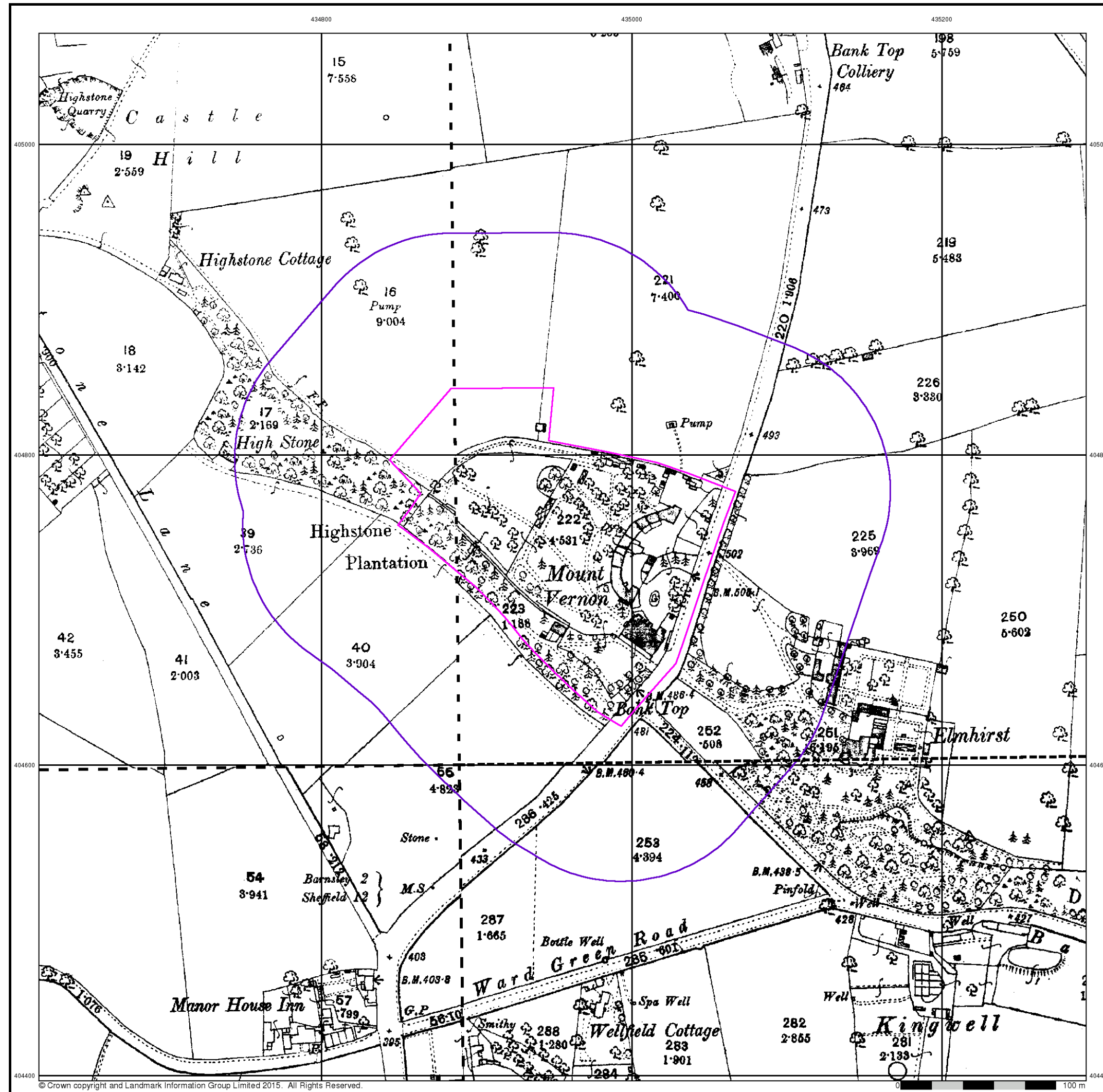
Order Number: 142447936_1_1
Customer Ref: SWY/02
National Grid Reference: 434960, 404750
Slice: A
Site Area (Ha): 2.7
Search Buffer (m): 100

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNESLEY, S70 4DP

Landmark
 INFORMATION GROUP

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Yorkshire

Published 1892 - 1893

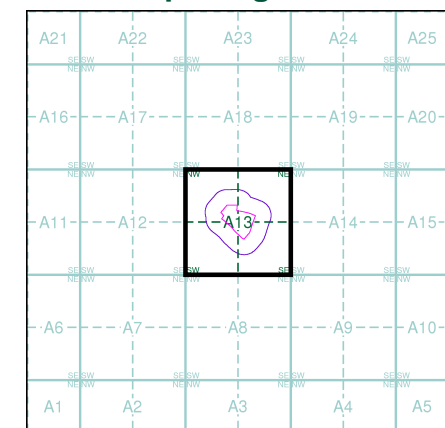
Source map scale - 1:2,500

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

Map Name(s) and Date(s)

274_11 1893 1:2,500	274_12 1892 1:2,500
274_15 1892 1:2,500	274_16 1892 1:2,500

Historical Map - Segment A13



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 100

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP



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



Yorkshire

Published 1906

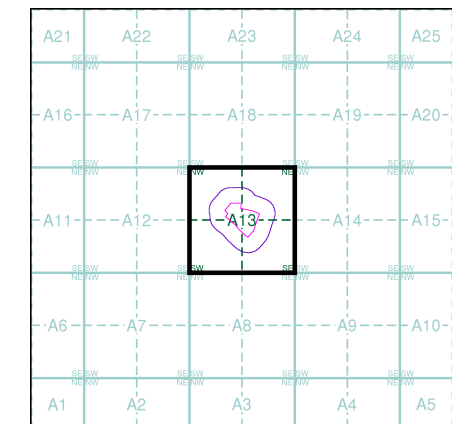
Source map scale - 1:2,500

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

Map Name(s) and Date(s)

274_11 1906 1:2,500	274_12 1906 1:2,500
274_15 1906 1:2,500	274_16 1906 1:2,500

Historical Map - Segment A13

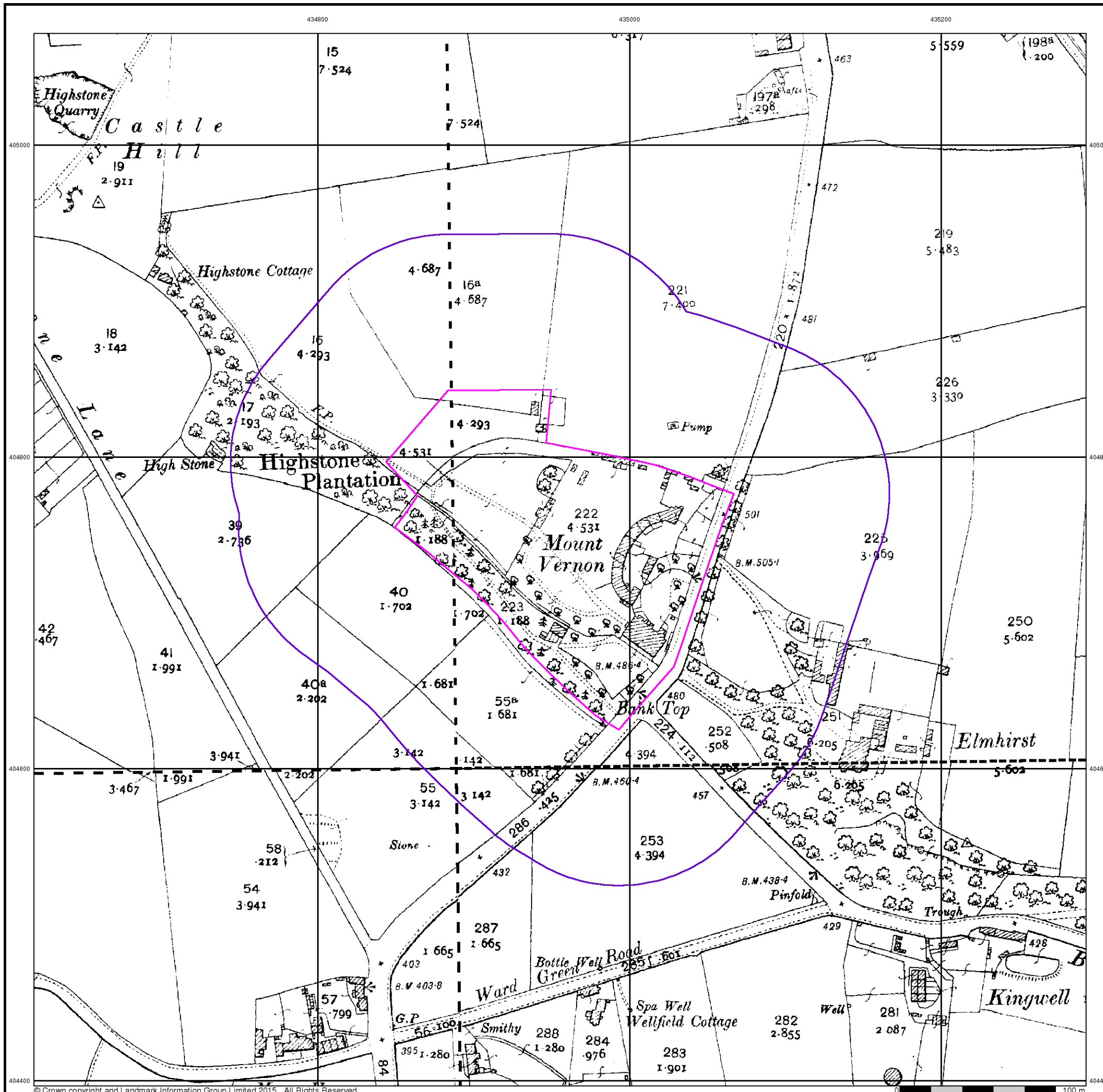


Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 100

Site Details

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Yorkshire

Published 1931

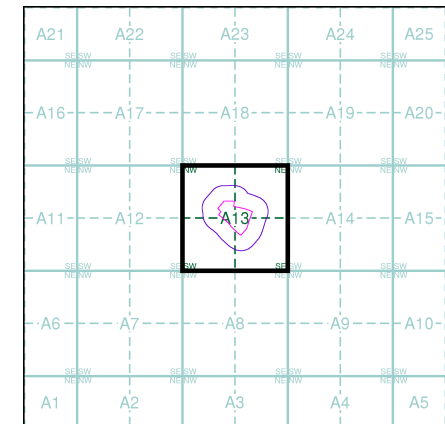
Source map scale - 1:2,500

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

Map Name(s) and Date(s)

274_11 1931 1:2,500	274_12 1931 1:2,500
274_15 1931 1:2,500	274_16 1931 1:2,500

Historical Map - Segment A13

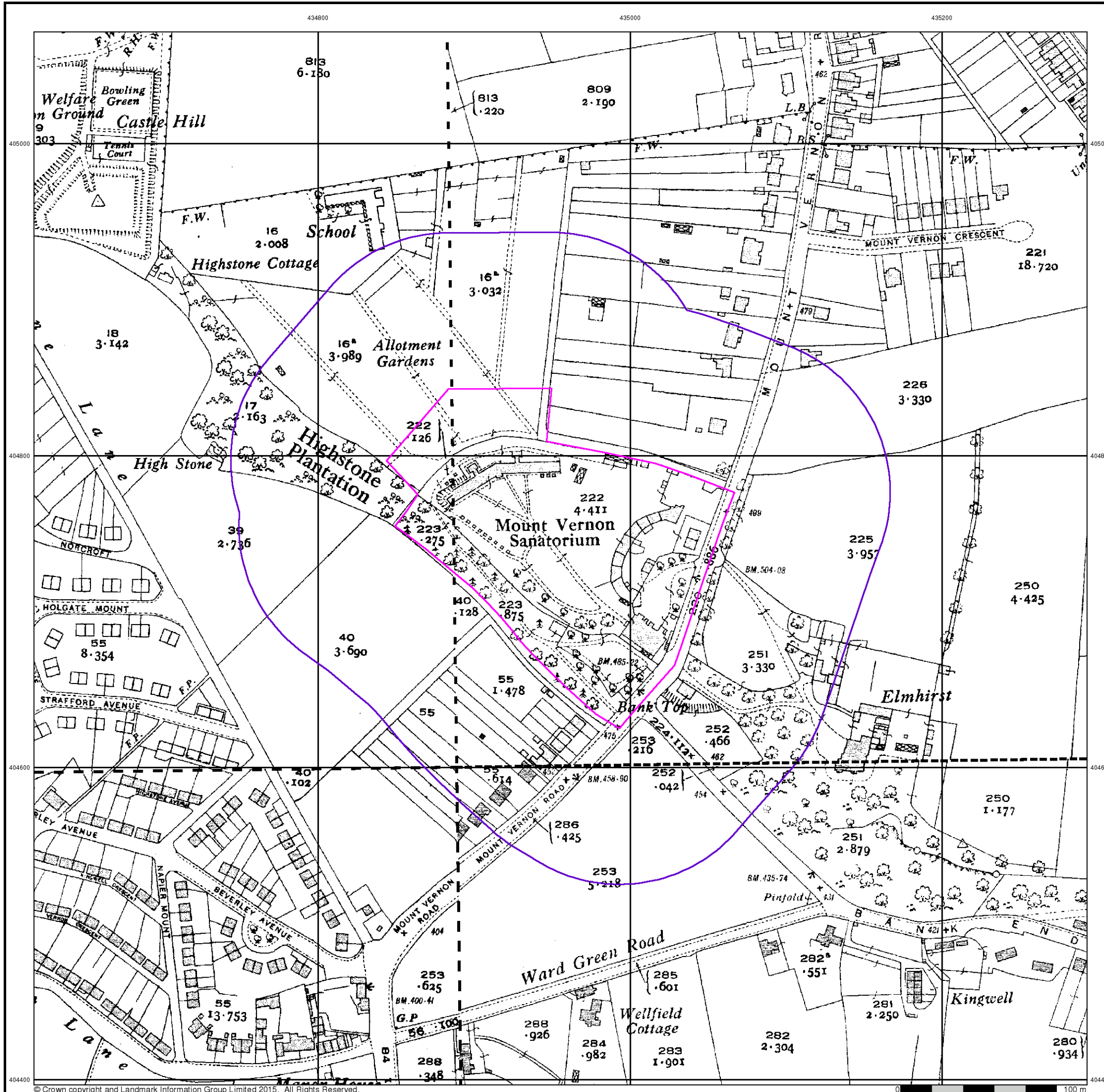


Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 100

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP





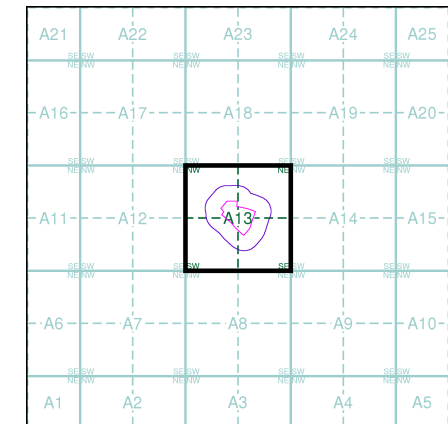
Ordnance Survey Plan
Published 1960 - 1961
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

SE3405	SE3505	SW
1961	1961	
1:1,250	1:1,250	
SE3404	NE3504	NW
1960	1960	
1:1,250	1:1,250	
SE3404	SE3504	SW
1960	1960	
1:1,250	1:1,250	

Historical Map - Segment A13

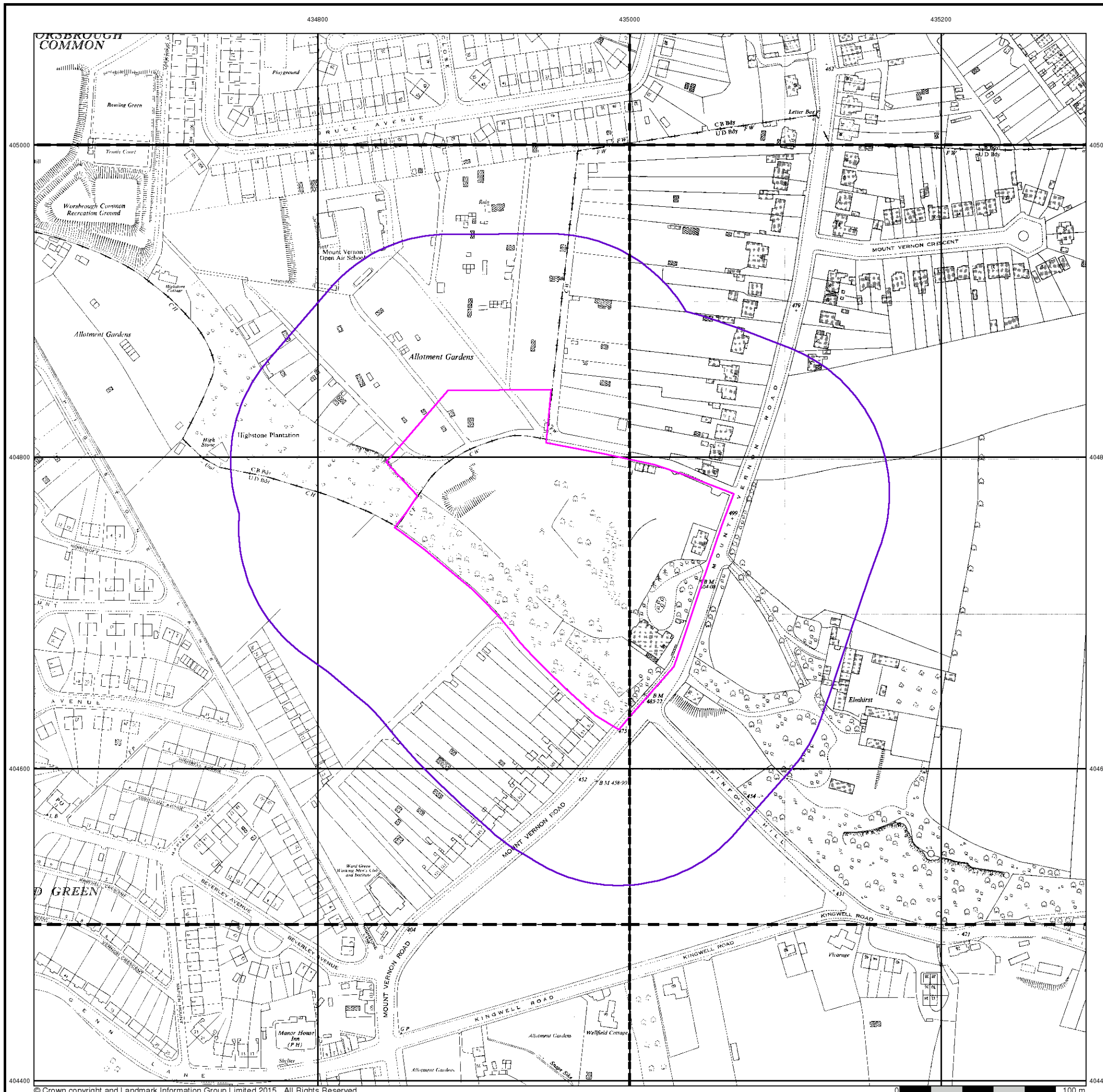


Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 100

Site Details

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Additional SIMs

Published 1960 - 1986

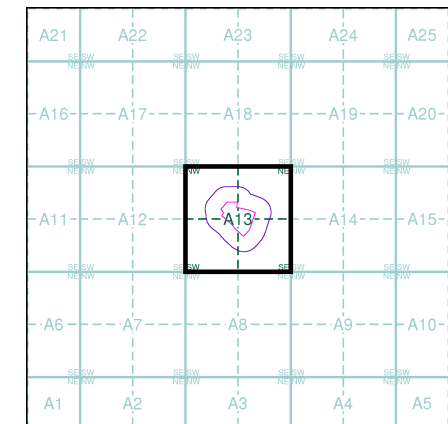
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

BE3405SE	BE3505SW
1986	1961
1:1,250	1:1,250
BE3404NE	BE3504NW
1978	1960
1:1,250	1:1,250
BE3504SW	
1981	
1:1,250	

Historical Map - Segment A13

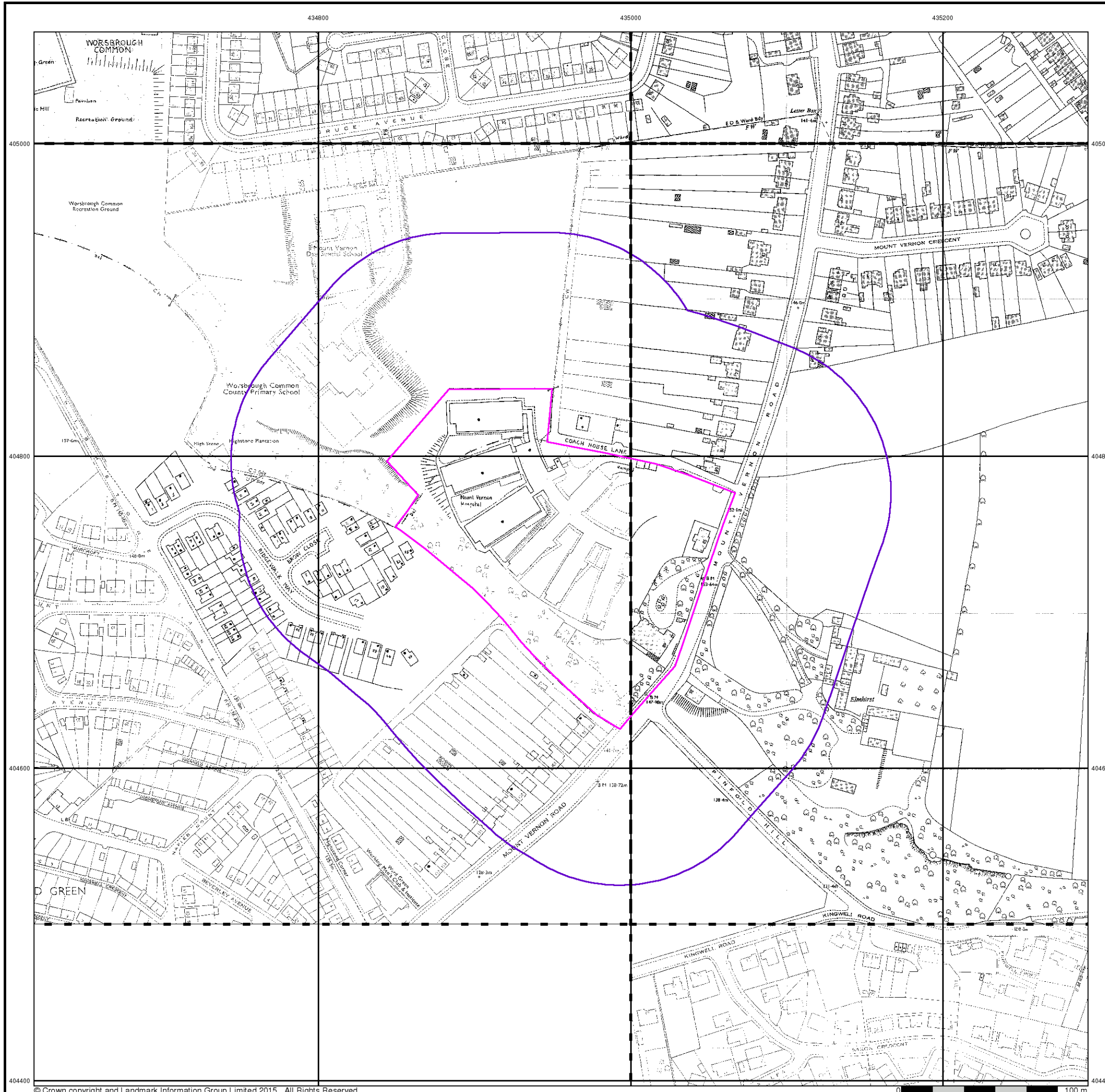


Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 100

Site Details

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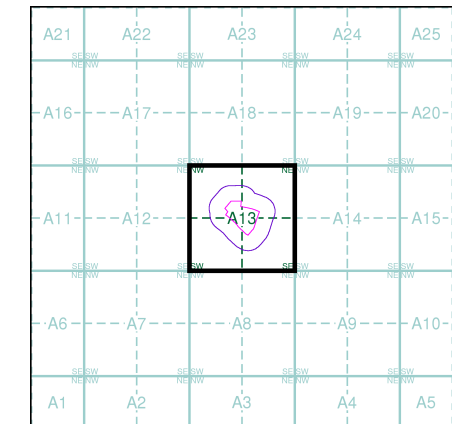
Ordnance Survey Plan
Published 1961 - 1962
Source map scale - 1:2,500

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

Map Name(s) and Date(s)

SE3405 1962 1:2,500	SE3505 1962 1:2,500
SE3404 1961 1:2,500	SE3504 1961 1:2,500

Historical Map - Segment A13

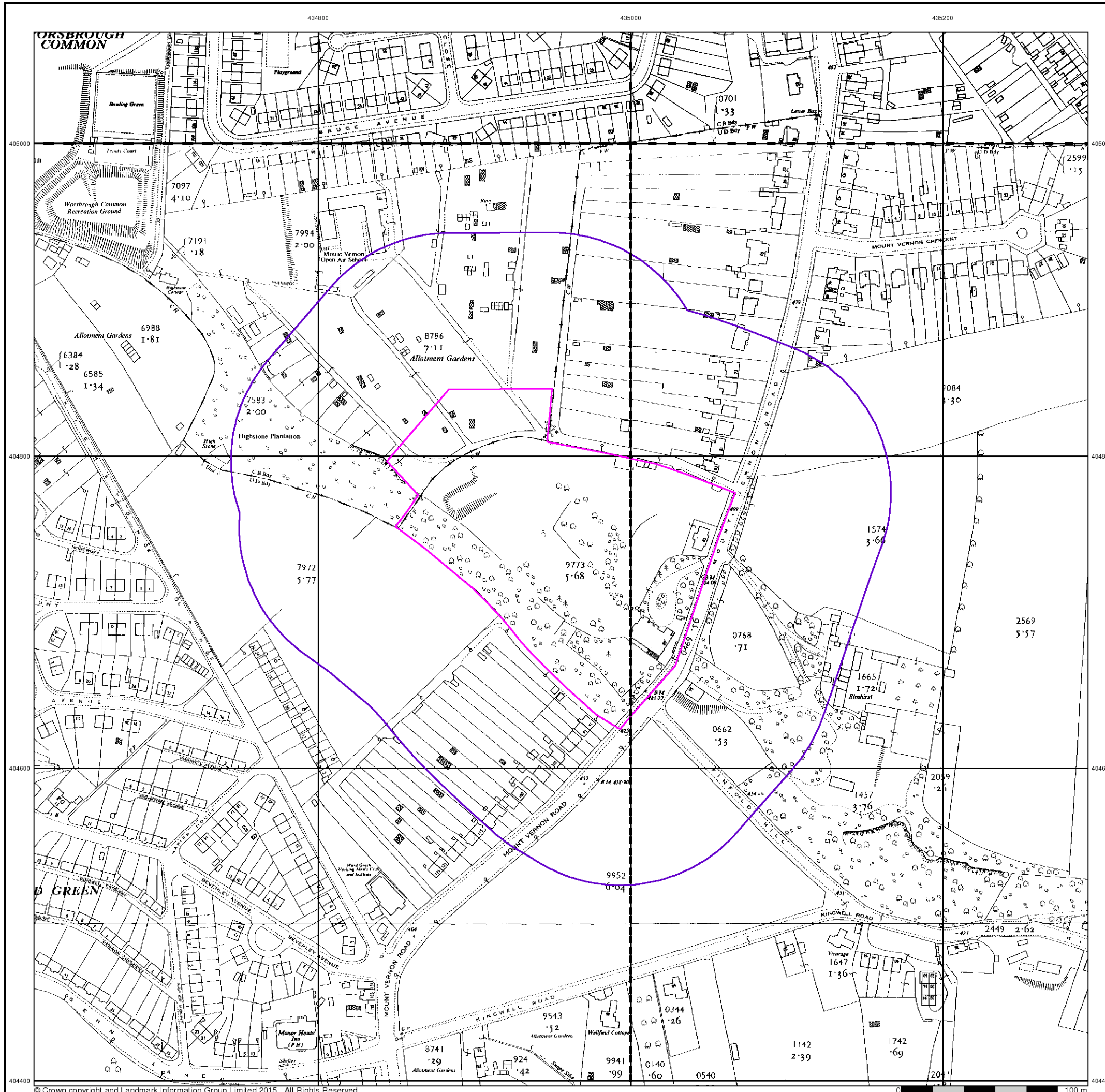


Order Details

Order Number: 142447936_1_1
Customer Ref: SWY/02
National Grid Reference: 434960, 404750
Slice: A
Site Area (Ha): 2.7
Search Buffer (m): 100

Site Details

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Ordnance Survey Plan

Published 1966 - 1972

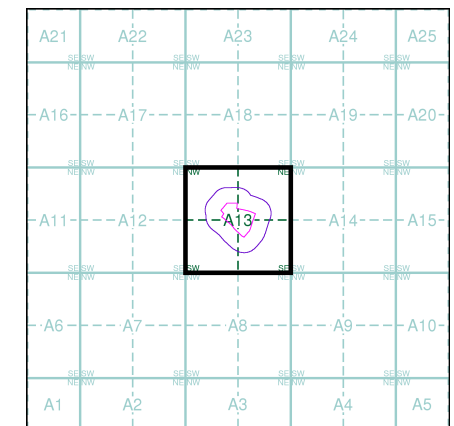
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

SE3405SE	1970	1:1,250
SE3404NE	1972	1:1,250
SE3404SE	1966	1:1,250
SE3504SW	1969	1:1,250

Historical Map - Segment A13



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 100

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Additional SIMs

Published 1980 - 1991

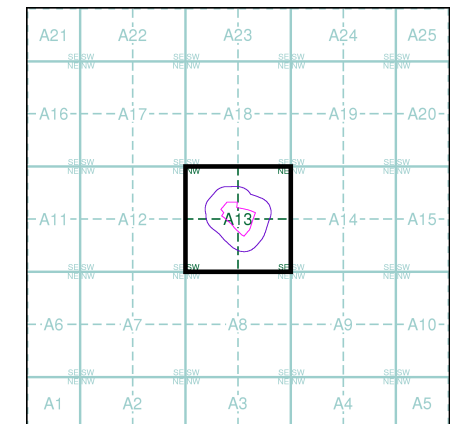
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

BE3405SE	BE3505SW
1991	1983
1:1,250	1:1,250
BE3404NE	
1980	
1:1,250	
BE3504SW	
1991	
1:1,250	

Historical Map - Segment A13



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 100

Site Details

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Large-Scale National Grid Data

Published 1993

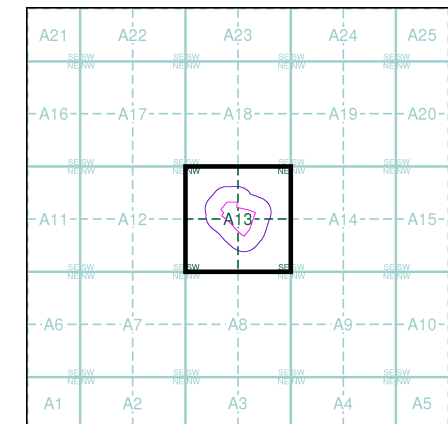
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

BE3405SE	BE3505SW
1993	1993
1:1,250	1:1,250
BE3404NE	BE3504NW
1993	1993
1:1,250	1:1,250
BE3404SE	BE3504SW
1993	1993
1:1,250	1:1,250

Historical Map - Segment A13



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 100

Site Details

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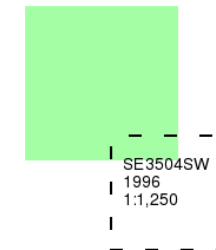
Large-Scale National Grid Data

Published 1996

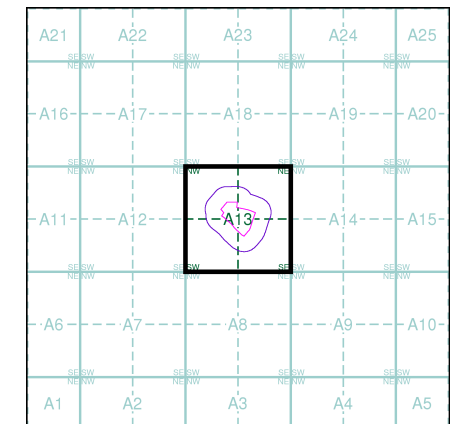
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13

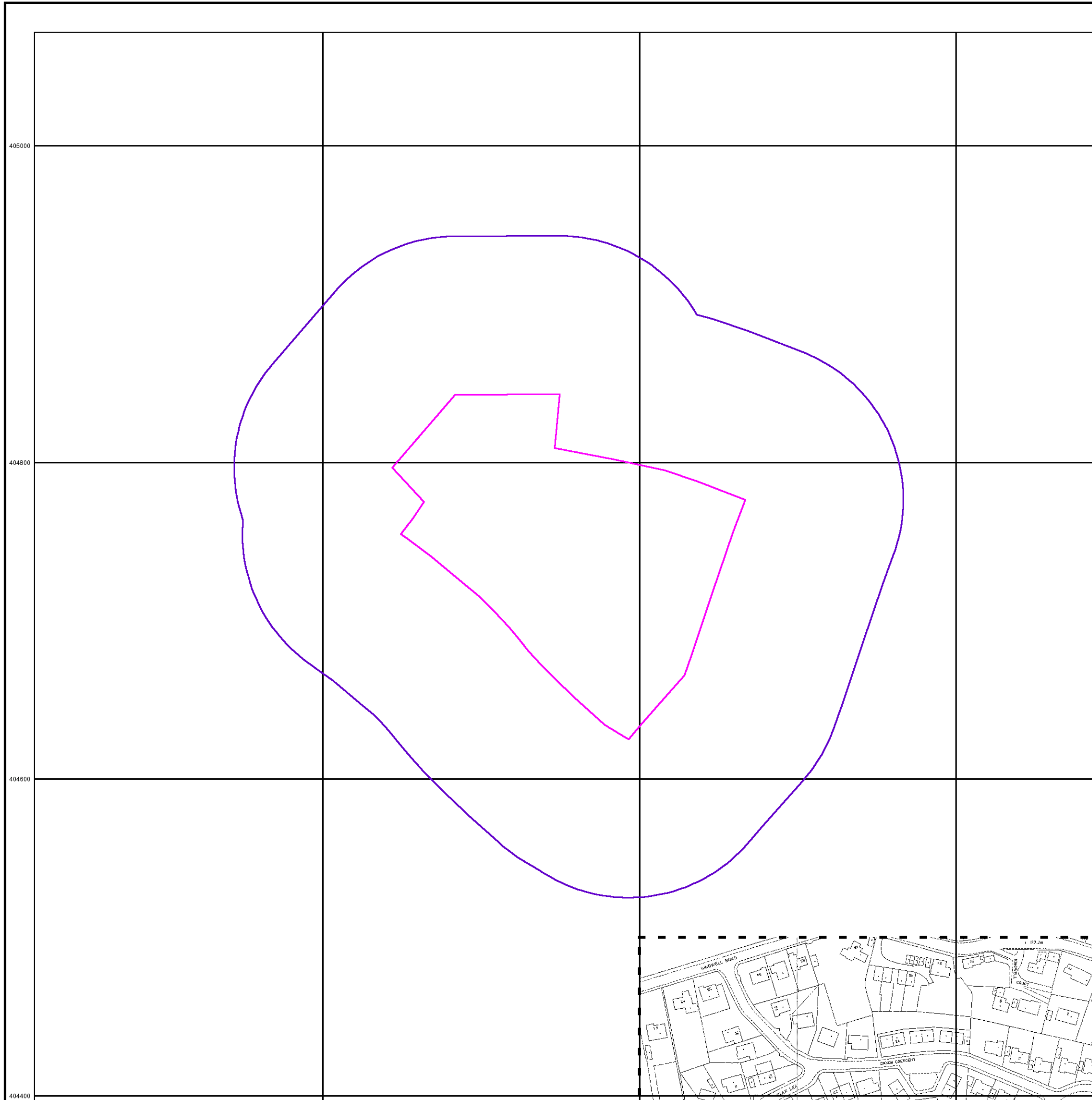


Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 100

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP



APPENDIX C

LANDMARK GEOLOGY MAPS

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	WMGR	Infilled Ground	Artificial Deposit	Cenozoic - Cenozoic
	MGR	Made Ground (Undivided)	Artificial Deposit	Holocene - Holocene
	WGR	Worked Ground (Undivided)	Void	Holocene - Holocene
	SLIP	Landslide Deposit	Unknown/Unclassified Entry	Quaternary - Quaternary

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay and Silt	Flandrian - Flandrian
	TILMP	Till, Mid Pleistocene	Diamicton	Ipswichian - Cromerian
	HEAD	Head	Diamicton	Quaternary - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	WE	Woolley Edge Rock	Sandstone	Duckmantian - Duckmantian
	PMCM	Pennine Middle Coal Measures Formation	Mudstone, Siltstone and Sandstone	Bolsovian - Duckmantian
	PMCM	Pennine Middle Coal Measures Formation	Sandstone	Bolsovian - Duckmantian
	ABR	Abdy Rock	Sandstone	Duckmantian - Duckmantian
	KNR	Kent's Rock	Sandstone	Duckmantian - Duckmantian
	OR	Oaks Rock	Sandstone	Duckmantian - Duckmantian
	BNR	Barnsley Rock	Sandstone	Duckmantian - Duckmantian
	HMR	Haigh Moor Rock	Sandstone	Duckmantian - Duckmantian
		Rock Segments		
		Faults		



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Geology 1:50,000 Maps

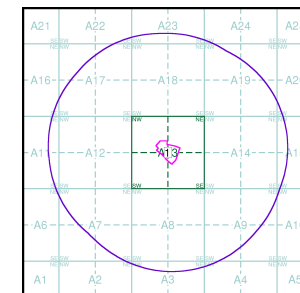
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published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

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

Geology 1:50,000 Maps Coverage

Map ID:	1
Map Sheet No:	087
Map Name:	Barnsley
Map Date:	2008
Bedrock Geology:	Available
Superficial Geology:	Available
Artificial Geology:	Not Available
Faults:	Not Supplied
Landslip:	Available
Rock Segments:	Not Supplied

Geology 1:50,000 Maps - Slice A



Order Details:

Order Number:	142447936_1_1
Customer Reference:	SWY/02
National Grid Reference:	434960, 404750
Slice:	A
Site Area (Ha):	2.7
Search Buffer (m):	1000

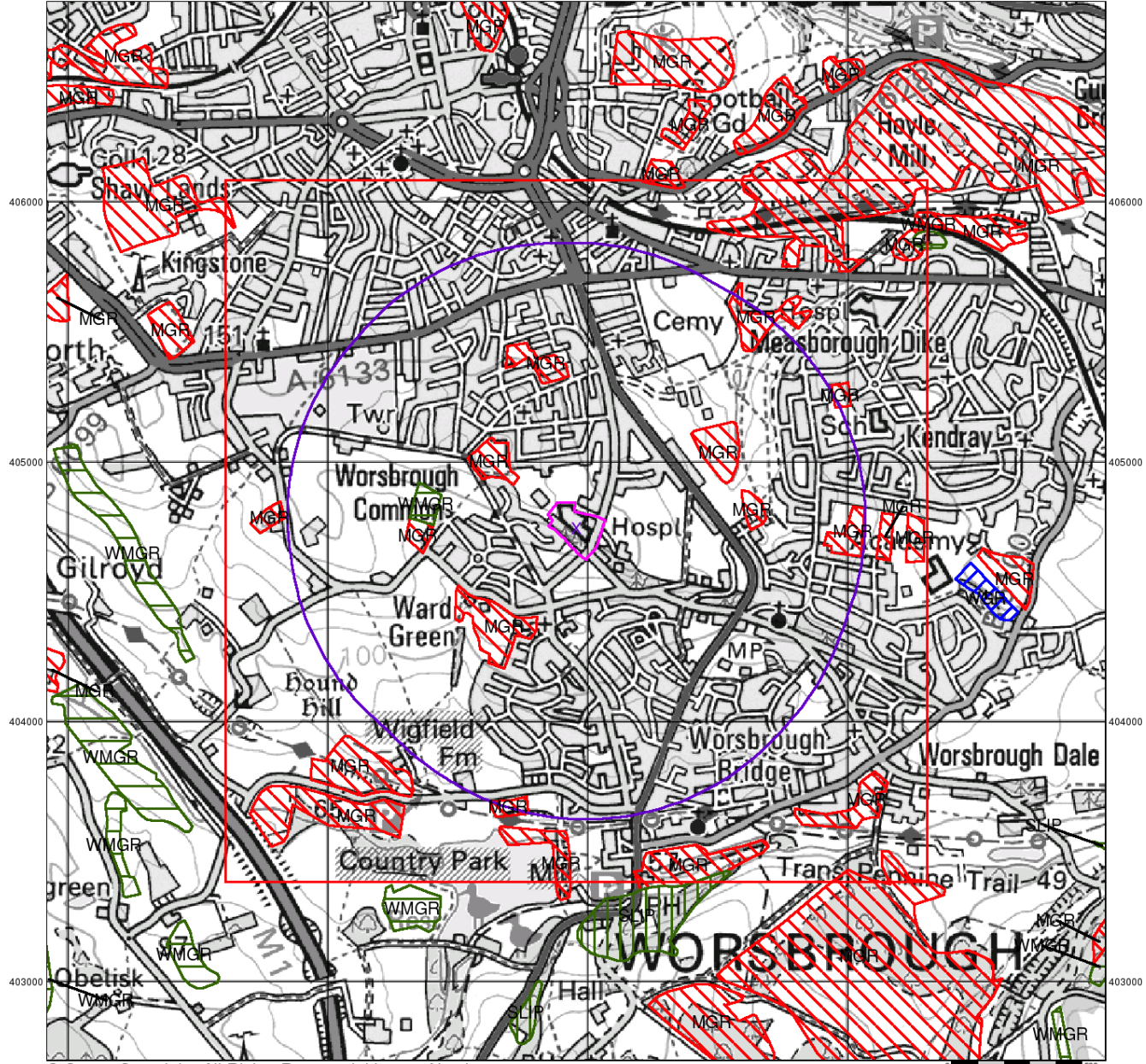
Site Details:

Mount Vernon Hospital, Mount Vernon Road, BARNSLEY, S70 4DP

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433000 434000 435000 436000



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Artificial Ground and Landslip

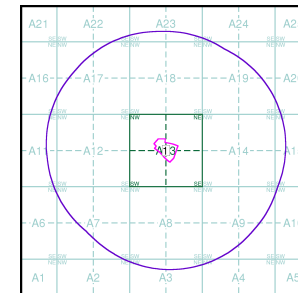
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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

Artificial ground includes:

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

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

Artificial Ground and Landslip Map - Slice A



Order Details:

Order Number: 142447936_1_1
 Customer Reference: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

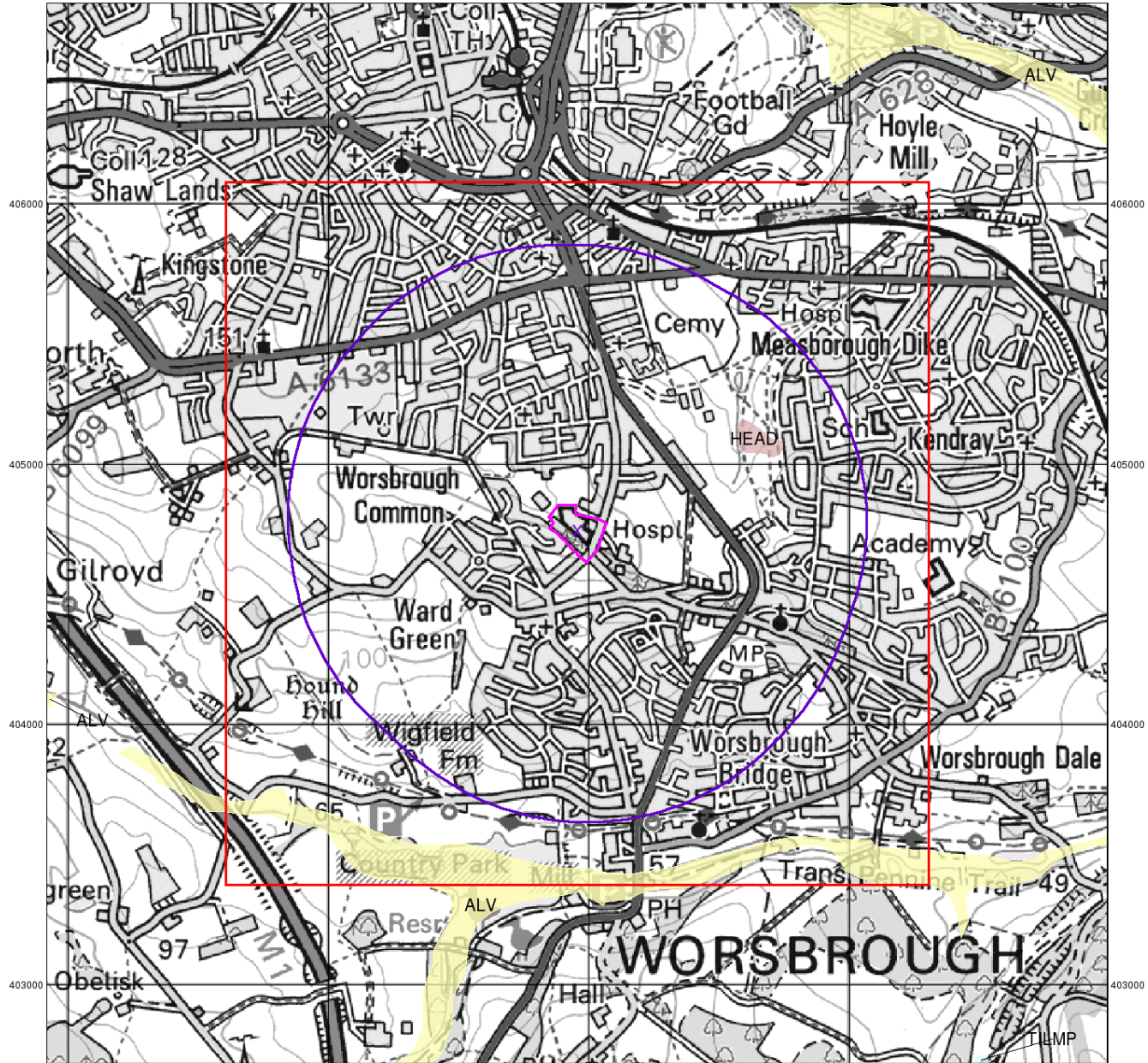
Site Details:

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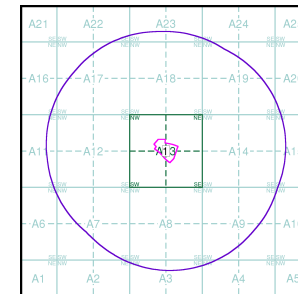
Superficial Geology

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

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

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

Superficial Geology Map - Slice A



Order Details:

Order Number: 142447936_1_1
 Customer Reference: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

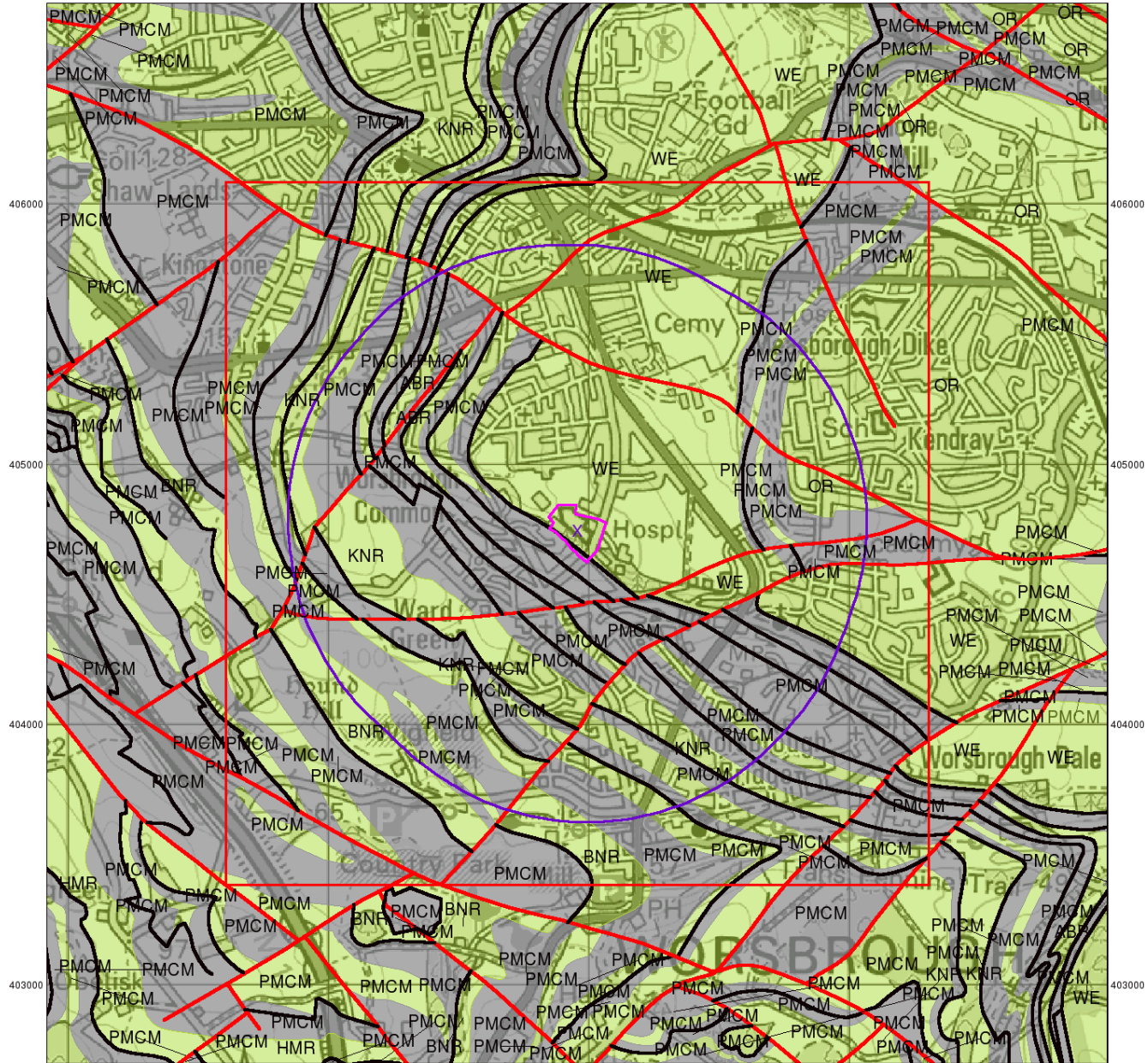
Site Details:

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Bedrock and Faults

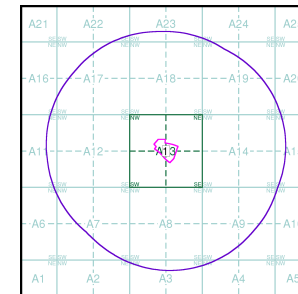
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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

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

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

Bedrock and Faults Map - Slice A



Order Details:

Order Number: 142447936_1_1
 Customer Reference: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

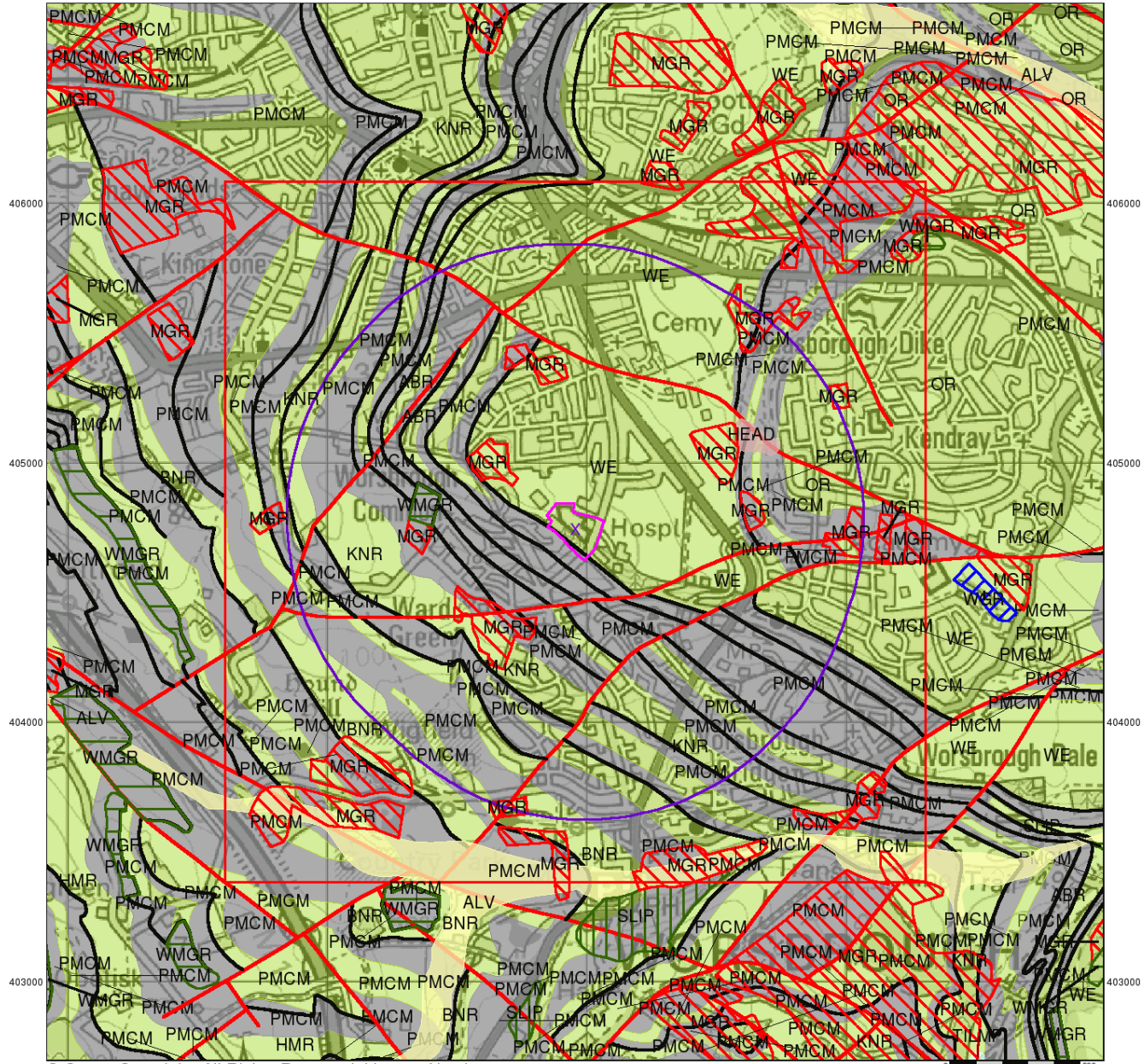
Site Details:

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Combined Surface Geology

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

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

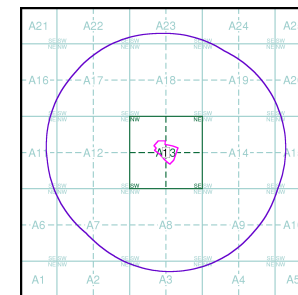
Additional Information

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

Contact

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

Combined Geology Map - Slice A



Order Details:

Order Number: 142447936_1_1
 Customer Reference: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details:

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP



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

APPENDIX D

COAL MINING REPORT



The Coal
Authority

Resolving the **impacts** of mining

CON29M Non-Residential Mining Report

MOUNT VERNON HOSPITAL
MOUNT VERNON ROAD
BARNESLEY
SOUTH YORKSHIRE

Date of enquiry: 11 October 2017
Date enquiry received: 11 October 2017
Issue date: 11 October 2017

Our reference: 51001635938001
Your reference: 142447936_2|



CON29M Non-Residential Mining Report

This report is based on, and limited to, the records held by the Coal Authority and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Client name

LANDMARK INFORMATION GROUP LIMITED

Enquiry address

MOUNT VERNON HOSPITAL, MOUNT VERNON ROAD, BARNSELY, SOUTH YORKSHIRE

How to contact us


0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

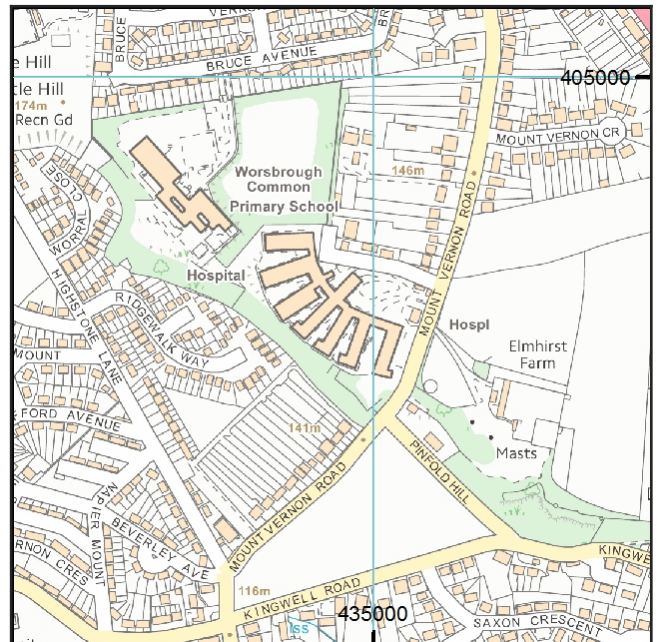
200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

 /company/the-coal-authority

 /thecoalauthority

 /coalauthority



Approximate position of property



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Summary

Has the search report highlighted evidence or potential of		
1	Past underground coal mining	Yes
2	Present underground coal mining	No
3	Future underground coal mining	Yes
4	Mine entries	Yes
5	Coal mining geology	No
6	Past opencast coal mining	No
7	Present opencast coal mining	No
8	Future opencast coal mining	No
9	Coal mining subsidence	No
10	Mine gas	No
11	Hazards related to coal mining	No
12	Withdrawal of support	No
13	Working facilities order	No
14	Payments to owners of former copyhold land	No
15	Information from the Cheshire Brine Subsidence Compensation Board	No

For detailed findings, please go to page 4.

Detailed findings

1. Past underground coal mining

The property is in a surface area that could be affected by underground mining in 8 seams of coal at shallow to 520m depth, and last worked in 1972.

2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3. Future underground coal mining

The property is not in an area where the Coal Authority has plans to grant a licence to remove coal using underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4. Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

There may however be mine entries/additional mine entries in the local area which the Coal Authority has no knowledge of.

5. Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6. Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7. Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8. Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9. Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

10. Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11. Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

12. Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

13. Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14. Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

15. Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Comments on the Coal Authority information

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In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore if development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

Additional remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's Con29M Coal Mining and Brine Subsidence Claim enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. Please note that Brine Subsidence Claim enquiries are only relevant for England and Wales. This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions applicable at the time the report was produced.

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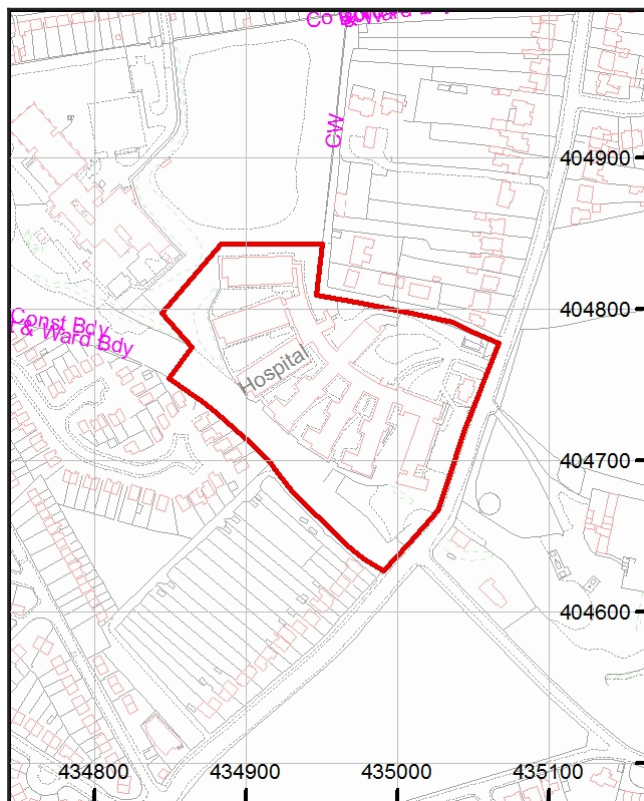
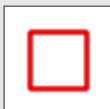
Alternative formats

If you would like this report in an alternative format, please contact our communications team.

Enquiry boundary

Key

Approximate position of enquiry boundary shown




How to contact us


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+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
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NG18 4RG

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 /company/the-coal-authority

 /thecoalauthority

 /coalauthority



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APPENDIX E

LANDMARK ENVIROCHECK REPORT



Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

142447936_1_1

Customer Reference:

SWY/02

National Grid Reference:

434960, 404750

Slice:

A

Site Area (Ha):

2.7

Search Buffer (m):

1000

Site Details:

Mount Vernon Hospital, Mount Vernon Road
BARNSELY
S70 4DP

Client Details:

Mr J Race
ARP Geotechnical Ltd
Northwest House
5-6 Northwest Business Park
Servia Hill
Leeds
LS6 2QH

Prepared For:

South West Yorkshire Partnership



Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	17
Hazardous Substances	-
Geological	20
Industrial Land Use	30
Sensitive Land Use	36
Data Currency	37
Data Suppliers	41
Useful Contacts	42

Introduction

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

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

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Report Version v53.0



Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 2			6	8
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 5			2	3
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 6		Yes		
Pollution Incidents to Controlled Waters	pg 6		2	1	6
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 8				(*26)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 14	Yes	n/a	n/a	n/a
Drift Deposits			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 14	Yes	n/a	n/a	n/a
Superficial Aquifer Designations			n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 14		1	1	17



Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 17			1	2
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 17				1
Local Authority Landfill Coverage	pg 17	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 17			1	2
Registered Landfill Sites	pg 18				2
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites	pg 19				1
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 20	Yes	n/a	n/a	n/a
BGS Recorded Mineral Sites	pg 20		7	6	29
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 27	Yes	n/a	n/a	n/a
Mining Instability	pg 27	Yes	n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain	pg 27	Yes	Yes	n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 27	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 27		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 28	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 28		Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 29	Yes		n/a	n/a
Radon Potential - Radon Affected Areas	pg 29	Yes	n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a



Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Industrial Land Use					
Contemporary Trade Directory Entries	pg 30	2	2	9	44
Fuel Station Entries	pg 34		1		2
Gas Pipelines					
Underground Electrical Cables					
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt	pg 36		2		
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 36	1			
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NW)	0	1	434957 404747
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (E)	0	1	435000 404747
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (N)	157	1	434957 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (N)	165	1	435000 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (S)	181	1	434950 404450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	276	1	434957 404350
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	295	1	434800 404400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	326	1	435000 404300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (SW)	357	1	434600 404500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	363	1	434650 404450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	380	1	435050 404250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (SW)	393	1	434550 404500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (SW)	394	1	434600 404450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	397	1	434650 404400
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	398	1	434450 404850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	408	1	434450 404900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (SE)	415	1	435250 404300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	445	1	434400 404750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	447	1	434400 404747
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12SE (W)	453	1	434400 404700
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	470	1	434400 404950
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A9NW (SE)	485	1	435300 404250



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (W)	495	1	434350 404750
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (W)	495	1	434350 404800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A12NE (W)	497	1	434350 404747
1	Discharge Consents Operator: Yorkshire Water Services Ltd Property Type: Sewerage Network - Sewers Location: Mount Vernon Avenue, South Yorkshire Authority: Environment Agency, North East Region Catchment Area: Dearne Reference: S/CB/8 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 30th June 1993 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge-Storm Effluent Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SE (N)	309	2	435050 405135
1	Discharge Consents Operator: Yorkshire Water Services Ltd Property Type: Sewerage Network - Sewers Location: Mount Vernon Avenue, South Yorkshire Authority: Environment Agency, North East Region Catchment Area: Dearne Reference: S/CB/8 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 29th May 1963 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge-Storm Effluent Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SE (N)	314	2	435050 405140
1	Discharge Consents Operator: Yorkshire Water Services Ltd Property Type: Undefined Or Other Location: Undefined Site, See Outlet Ngr Or Comments, For More Info About The Site, (Do Not Change These Details), Nk Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: S/Cb/8 Permit Version: 1 Effective Date: 29th May 1963 Issued Date: 29th May 1963 Revocation Date: 31st March 2005 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Varies With Outlet Status: Transferred from Rivers (Prevention of Pollution) Act 1951-1961 Positional Accuracy: Located by supplier to within 10m	A18SE (N)	322	2	435057 405146
2	Discharge Consents Operator: Yorkshire Water Services Ltd Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Genn Lane Cso Genn Lane, Ward Green, Barnsley, South Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: C5710 Permit Version: 2 Effective Date: 28th March 2003 Issued Date: 28th March 2003 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Of Worsborough Reservoir Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	478	2	434530 404400



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	<p>Discharge Consents</p> <p>Operator: Yorkshire Water Services Ltd Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Genn Lane Cso Genn Lane, Ward Green, Barnsley, South Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: C5710 Permit Version: 1 Effective Date: 30th August 1989 Issued Date: 30th August 1989 Revocation Date: 27th March 2003 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Of Worsborough Reservoir Status: Transferred from COPA 1974 Positional Accuracy: Located by supplier to within 10m</p>	A12SE (SW)	478	2	434530 404400
2	<p>Discharge Consents</p> <p>Operator: Yorkshire Water Services Ltd Property Type: Not Given Location: Genn Lane, Ward Green, BARNLSLEY, South Yorkshire Authority: Environment Agency, North East Region Catchment Area: Dearne Reference: C5710 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Storm sewage overflow discharge Discharge: Freshwater Stream/River Environment: Receiving Water: Unnamed Tributary Of River Dove Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A12SE (SW)	484	2	434520 404400
3	<p>Discharge Consents</p> <p>Operator: Yorkshire Water Services Ltd Property Type: Sewerage Network - Sewers Location: Highstone Road, South Yorkshire Authority: Environment Agency, North East Region Catchment Area: Dearne Reference: S/CB/8 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 30th June 1993 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge-Storm Effluent Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A18SE (N)	501	2	435040 405335
3	<p>Discharge Consents</p> <p>Operator: Yorkshire Water Services Ltd Property Type: Sewerage Network - Sewers Location: Highstone Road, South Yorkshire Authority: Environment Agency, North East Region Catchment Area: Dearne Reference: S/CB/8 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 29th May 1963 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge-Storm Effluent Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A18SE (N)	506	2	435040 405340



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	<p>Discharge Consents</p> <p>Operator: Yorkshire Water Services Ltd Property Type: Undefined Or Other Location: Undefined Site, See Outlet Ngr Or Comments, For More Info About The Site, (Do Not Change These Details), Nk Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: S/Cb/8 Permit Version: 1 Effective Date: 29th May 1963 Issued Date: 29th May 1963 Revocation Date: 31st March 2005 Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Varies With Outlet Status: Transferred from Rivers (Prevention of Pollution) Act 1951-1961 Positional Accuracy: Located by supplier to within 10m</p>	A18SE (N)	521	2	435062 405351
4	<p>Discharge Consents</p> <p>Operator: Yorkshire Water Services Ltd Property Type: Sewerage Network - Sewers Location: Westfields, WORSBROUGH BRIDGE Authority: Environment Agency, North East Region Catchment Area: Dearne Reference: S/UD/13 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 30th June 1993 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge-Storm Effluent Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A9SW (SE)	935	2	435450 403810
4	<p>Discharge Consents</p> <p>Operator: Yorkshire Water Services Ltd Property Type: Sewerage Network - Sewers Location: Westfields, WORSBROUGH BRIDGE Authority: Environment Agency, North East Region Catchment Area: Dearne Reference: S/UD/13 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 9th January 1963 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge-Storm Effluent Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A9SW (SE)	939	2	435450 403805
5	<p>Discharge Consents</p> <p>Operator: Yorkshire Water Services Ltd Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Westfields Cso (Rear Of No 13), Worsborough, Barnsley, South Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: Wra7982 Permit Version: 1 Effective Date: 31st March 2004 Issued Date: 3rd February 2004 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Snape Dike Status: Revised by Application, granted by Secretary of State (Section 35) Positional Accuracy: Located by supplier to within 10m</p>	A9SW (SE)	952	2	435390 403760



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	<p>Discharge Consents</p> <p>Operator: Mr & Mrs P Booker Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Keresforth Hall Sewage Pumping Stn, Keresforth Hall Road, Barnsley Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: 3572 Permit Version: 1 Effective Date: 16th October 1981 Issued Date: 16th October 1981 Revocation Date: 29th September 2010 Discharge Type: Sewage Discharges - Pumping Station - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Of Dodworth Dyke Status: Revoked under EPR 2010 Positional Accuracy: Located by supplier to within 100m</p>	A11SE (W)	962	2	433900 404600
6	<p>Discharge Consents</p> <p>Operator: Ms Davidson Property Type: Undefined Or Other Location: Keresforth Hall Sewage Pumping Stn, Keresforth Hall Road, Barnsley Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: 3572 Permit Version: 1 Effective Date: 16th October 1981 Issued Date: 16th October 1981 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Of Dodworth Dyke Status: Transferred from Rivers (Prevention of Pollution) Act 1951-1961 Positional Accuracy: Located by supplier to within 100m</p>	A11SE (W)	962	2	433900 404600
7	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Action Stations Location: Upper Sheffield Road, Barnsley, S70 4PN Authority: Barnsley Metropolitan Borough Council, Environmental Health and Trading Standards Permit Reference: epa/14 Dated: 24th March 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station Status: Permitted Positional Accuracy: Automatically positioned to the address</p>	A18SE (NE)	395	3	435173 405169
7	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Save Retail Limited Location: Upper Sheffield Road, BARNSLEY, South Yorkshire, S70 4PN Authority: Barnsley Metropolitan Borough Council, Environmental Health and Trading Standards Permit Reference: Epa/Petrol01 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station Status: Application Withdrawn Positional Accuracy: Automatically positioned to the address</p>	A18SE (NE)	395	3	435173 405169
8	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Barnsley Service Station Location: Upper Sheffield Road, Barnsley, S70 4PN Authority: Barnsley Metropolitan Borough Council, Environmental Health and Trading Standards Permit Reference: PPC/B/67 Dated: 17th June 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station Status: Authorised Positional Accuracy: Located by supplier to within 10m</p>	A18SE (N)	543	3	435120 405358
9	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Intake 3 Service Station Location: Park Road, Barnsley, S70 1YB Authority: Barnsley Metropolitan Borough Council, Environmental Health and Trading Standards Permit Reference: PPC/B/68 Dated: 24th August 1999 Process Type: Local Authority Pollution Prevention and Control Description: PG1/14 Petrol filling station Status: Permitted Positional Accuracy: Manually positioned to the address or location</p>	A17NE (NW)	779	3	434490 405514



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Save Service Station(Kingstone) Location: Park Road, Barnsley, S70 1YB Authority: Barnsley Metropolitan Borough Council, Environmental Health and Trading Standards Permit Reference: Not Supplied Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station Status: Authorisation revokedRevoked Positional Accuracy: Manually positioned to the address or location</p>	A17NE (NW)	779	3	434490 405514
	<p>Nearest Surface Water Feature</p>	A13SW (S)	214	-	434909 404427
10	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Highway/Car Park Location: Road Bridge A628, /Old Mill Bridge A61 Dearne 15 Authority: Environment Agency, North East Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 7th August 1994 Incident Reference: 152841 Catchment Area: Not Given Receiving Water: No Pollution Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m</p>	A13NW (NW)	179	2	434801 405001
11	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Miscellaneous Premises: Unknown Location: Darfield/Source Dove(S) Afu Authority: Environment Agency, North East Region Pollutant: Mud/Clay/Soil Note: Not Supplied Incident Date: 19th July 1994 Incident Reference: 152752 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m</p>	A13SW (S)	244	2	434900 404400
12	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Water Company Sewage: Foul Sewer Location: Markers Bridge B6273, /Darfld A635 Dearne 08 Authority: Environment Agency, North East Region Pollutant: Unknown Sewage Note: Not Supplied Incident Date: 3rd August 1989 Incident Reference: 102046 Catchment Area: Not Given Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m</p>	A13SW (SW)	295	2	434800 404400
13	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Fire Water Location: Swanny Pond, BARNSELEY Authority: Environment Agency, North East Region Pollutant: Oils - Waste Oil Note: River Dearne; No Fish Killed Incident Date: 30th June 1998 Incident Reference: SH980260 Catchment Area: Dearne Tributaries Receiving Water: Pond/Lake Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m</p>	A19SW (NE)	744	2	435600 405295



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Scrapyards Location: Oil On Swanny Pond, BARNSELEY Authority: Environment Agency, North East Region Pollutant: Oils - Unknown Note: Less Than Ten Fish Killed Incident Date: 2nd September 1997 Incident Reference: SH970470 Catchment Area: Dearne Tributaries Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m</p>	A19SW (NE)	748	2	435600 405300
13	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Fire Water Location: Swanny Pond, BARNSELEY Authority: Environment Agency, North East Region Pollutant: Oils - Diesel (Including Agricultural) Note: River Dearne; No Fish Killed Incident Date: 1st October 1998 Incident Reference: SH980461 Catchment Area: Dearne Tributaries Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m</p>	A19SW (NE)	780	2	435600 405345
13	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Scrapyards Location: Swanney Pond, Kendray, BARNSELEY Authority: Environment Agency, North East Region Pollutant: Oils - Diesel (Including Agricultural) Note: Watercourse :River Dearne; From Lundwood Stw To Cudworth Dyke Incident Date: 8th January 1998 Incident Reference: SH980003 Catchment Area: Dearne Receiving Water: Freshwater Stream/River Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m</p>	A19SW (NE)	784	2	435600 405350
14	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Industrial: Other Location: The Swannery Authority: Environment Agency, North East Region Pollutant: Oils - Other Oil Note: Fish Killed: No Information Incident Date: 13th March 1995 Incident Reference: SH950238 Catchment Area: Dearne Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m</p>	A19SW (NE)	817	2	435600 405395
14	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Scrapyards Location: Swanney Pond, BARNSELEY Authority: Environment Agency, North East Region Pollutant: Oils - Waste Oil Note: No Fish Killed Incident Date: 20th February 1995 Incident Reference: SH950066 Catchment Area: Dearne Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m</p>	A19SW (NE)	821	2	435600 405400



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>Water Abstractions</p> <p>Operator: Barnsley District Council Licence Number: 2/27/08/060 Permit Version: Not Supplied Location: Location Description Not Available Authority: Environment Agency, North East Region Abstraction: Glasshouse Irrigation Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 23 Yearly Rate (m3): 3410 Details: Licence Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A16SE (NW)	1160	2	433800 405300
	<p>Water Abstractions</p> <p>Operator: National Coal Board Licence Number: 2/27/08/066 Permit Version: Not Supplied Location: Location Description Not Available Authority: Environment Agency, North East Region Abstraction: General Industrial Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 1136 Yearly Rate (m3): 272760 Details: Licence Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A3SE (S)	1276	2	435270 403380
	<p>Water Abstractions</p> <p>Operator: Barnsley Metropolitan Borough Council Licence Number: 2/27/08/143/R01 Permit Version: 1 Location: Worsborough Mill Pond Authority: Environment Agency, North East Region Abstraction: Production Of Energy: Mechanical Non Electrical: Milling & Water Power Other Than Electricity Generation Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Worsborough Mill, Worsborough, Barnsley Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2017 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	A3SW (S)	1314	2	434947 403313
	<p>Water Abstractions</p> <p>Operator: Worsbrough Bridge Sports & Development Association Licence Number: 2/27/08/129 Permit Version: 1 Location: Inland Water - River Dove Authority: Environment Agency, North East Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Worsbrough Bridge Sports, Park Road, Worsbrough Bridge, Barnsley Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 4th September 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A3SE (S)	1326	2	435000 403300



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>Water Abstractions</p> <p>Operator: Barnsley Metropolitan Borough Council Licence Number: 2/27/08/143 Permit Version: 1 Location: Worsborough Mill Pond Authority: Environment Agency, North East Region Abstraction: Production Of Energy: Mechanical Non Electrical: Milling & Water Power Other Than Electricity Generation</p> <p>Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Worsborough Mill, Worsborough, Barnsley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 14th February 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A3SW (S)	1329	2	434900 403300
	<p>Water Abstractions</p> <p>Operator: Barnsley Metropolitan Borough Council Licence Number: 2/27/08/118 Permit Version: 102 Location: Worsborough Mill Pond Authority: Environment Agency, North East Region Abstraction: Production Of Energy: Mechanical Non Electrical: Milling & Water Power Other Than Electricity Generation</p> <p>Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Worsborough Mill, Worsborough, Barnsley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st August 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A3SW (S)	1329	2	434900 403300
	<p>Water Abstractions</p> <p>Operator: Barnsley Metropolitan Borough Council Licence Number: 2/27/08/118 Permit Version: 101 Location: Worsborough Mill Pond Authority: Environment Agency, North East Region Abstraction: Production Of Energy: Mechanical Non Electrical: Milling & Water Power Other Than Electricity Generation</p> <p>Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Worsborough Mill, Worsborough, Barnsley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 24th November 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A3SW (S)	1329	2	434900 403300
	<p>Water Abstractions</p> <p>Operator: Barnsley Metropolitan Borough Council Licence Number: 2/27/08/118 Permit Version: 100 Location: Worsborough Mill Pond Authority: Environment Agency, North East Region Abstraction: Production Of Energy: Mechanical Non Electrical: Milling & Water Power Other Than Electricity Generation</p> <p>Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): 0 Yearly Rate (m3): 0 Details: Worsborough Mill, Worsborough, Barnsley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 4th July 1997 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A3SW (S)	1329	2	434900 403300



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>Water Abstractions</p> <p>Operator: Barnsley Metropolitan Borough Council Licence Number: Ne/027/0008/019 Permit Version: 1 Location: Worsborough Reservoir Authority: Environment Agency, North East Region Abstraction: Municipal grounds: Transfer between sources Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2017 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	A3SW (S)	1333	2	434862 403299
	<p>Water Abstractions</p> <p>Operator: Barnsley Metropolitan Borough Council Licence Number: 2/27/08/143 Permit Version: 1 Location: Worsborough Reservoir Authority: Environment Agency, North East Region Abstraction: Municipal grounds: General use relating to Secondary Category (Very Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Worsborough Mill, Worsborough, Barnsley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 14th February 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A3SW (S)	1340	2	434800 403300
	<p>Water Abstractions</p> <p>Operator: Barnsley Metropolitan Borough Council Licence Number: 2/27/08/118 Permit Version: 102 Location: Worsborough Reservoir Authority: Environment Agency, North East Region Abstraction: Holiday Sites, Camp Sites & Tourist Attractions: Make-Up or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Worsborough Mill, Worsborough, Barnsley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st August 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A3SW (S)	1340	2	434800 403300
	<p>Water Abstractions</p> <p>Operator: Barnsley Metropolitan Borough Council Licence Number: 2/27/08/118 Permit Version: 101 Location: Worsborough Reservoir Authority: Environment Agency, North East Region Abstraction: Holiday sites, Camp Sites & Tourist Attractions: Lake & Pond Throughflow Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Worsborough Mill, Worsborough, Barnsley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 24th November 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A3SW (S)	1340	2	434800 403300



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>Water Abstractions</p> <p>Operator: Barnsley Metropolitan Borough Council Licence Number: 2/27/08/118 Permit Version: 100 Location: Worsborough Reservoir Authority: Environment Agency, North East Region Abstraction: Production Of Energy: Mechanical Non Electrical: Milling & Water Power Other Than Electricity Generation Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Worsborough Mill, Worsborough, Barnsley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 4th July 1997 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	A3SW (S)	1340	2	434800 403300
	<p>Water Abstractions</p> <p>Operator: Barnsley Football Club 2002 Ltd Licence Number: Ne/027/0008/014 Permit Version: 1 Location: Borehole - Coal Measures - Oakwell Road - Barnsley Authority: Environment Agency, North East Region Abstraction: Sports Grounds/Facilities: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 29th June 2015 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	(N)	1645	2	435336 406441
	<p>Water Abstractions</p> <p>Operator: Sheldale Developments Ltd Licence Number: 2/27/08/110 Permit Version: 101 Location: Spring-Sandstone/Middle Coal Measures-Shaw Lane Authority: Environment Agency, North East Region Abstraction: Food And Drink: Water Bottling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: 43a Shaw Lane, Barnsley, South Yorkshire Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 8th April 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A21SE (NW)	1656	2	433700 406000
	<p>Water Abstractions</p> <p>Operator: Sheldale Water Limited Licence Number: 2/27/08/110 Permit Version: 100 Location: Well/Spring - Sandstone/Middle Coal Measures - Shaw Lane Authority: Environment Agency, North East Region Abstraction: Food And Drink: Water Bottling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 200 Yearly Rate (m3): 45000 Details: Land Adjoining To Rear Of 43a Shaw Lane, Barnsley, South Yorkshire Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st December 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A21SE (NW)	1656	2	433700 406000



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>Water Abstractions</p> <p>Operator: Sheldale Developments Ltd Licence Number: 2/27/08/133 Permit Version: 1 Location: Spring - Sandstone&Middle Coal Measures - Barnsley Authority: Environment Agency, North East Region Abstraction: Food And Drink: Water Bottling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: 43a Shaw Lane, Barnsley, South Yorkshire Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	A21SE (NW)	1698	2	433700 406060
	<p>Water Abstractions</p> <p>Operator: Yorkshire Water Plc Licence Number: 2/27/08/058 Permit Version: Not Supplied Location: Location Description Not Available Authority: Environment Agency, North East Region Abstraction: Unclassified (Other) Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 14 Yearly Rate (m3): 1137 Details: Licence Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A21NE (NW)	1727	2	433700 406100
	<p>Water Abstractions</p> <p>Operator: The Barnsley Brewery Company Limited Licence Number: 2/27/08/003 Permit Version: Not Supplied Location: Location Description Not Available Authority: Environment Agency, North East Region Abstraction: Cooling/Gen Ind. Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 614 Yearly Rate (m3): 116605 Details: Coal Measures Licence Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A24NE (NE)	1775	2	435800 406400
	<p>Water Abstractions</p> <p>Operator: The Barnsley Brewery Company Ltd Licence Number: 2/27/08/027 Permit Version: Not Supplied Location: Oakwell Brewery, BARNSELY Authority: Environment Agency, North East Region Abstraction: Cooling/Gen Ind. Abstraction Type: Not Supplied Source: Spring Daily Rate (m3): 136 Yearly Rate (m3): 0 Details: Licence Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Unknown</p>	(NE)	1819	2	435800 406450



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>Water Abstractions</p> <p>Operator: Barnsley Metropolitan Borough Council Licence Number: Ne/027/0008/018 Permit Version: 1 Location: Rockley Dike Authority: Environment Agency, North East Region Abstraction: Municipal grounds: Transfer between sources Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2017 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	(S)	1902	2	434416 402813
	<p>Water Abstractions</p> <p>Operator: Barnsley Metropolitan Borough Council Licence Number: 2/27/08/143 Permit Version: 1 Location: Rockley Dike Authority: Environment Agency, North East Region Abstraction: Municipal grounds: General use relating to Secondary Category (Very Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Worsborough Mill, Worsborough, Barnsley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 14th February 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	(S)	1920	2	434400 402800
	<p>Water Abstractions</p> <p>Operator: Barnsley Metropolitan Borough Council Licence Number: 2/27/08/118 Permit Version: 102 Location: Rockley Dike Authority: Environment Agency, North East Region Abstraction: Holiday Sites, Camp Sites & Tourist Attractions: Make-Up or Top Up Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Worsborough Mill, Worsborough, Barnsley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st August 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	(S)	1920	2	434400 402800
	<p>Water Abstractions</p> <p>Operator: Barnsley Metropolitan Borough Council Licence Number: 2/27/08/118 Permit Version: 101 Location: Rockley Dike Authority: Environment Agency, North East Region Abstraction: Holiday sites, Camp Sites & Tourist Attractions: Lake & Pond Throughflow Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Worsborough Mill, Worsborough, Barnsley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 24th November 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	(S)	1920	2	434400 402800



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr & Mrs D & J Nuttall Licence Number: 2/27/08/128 Permit Version: 1 Location: Inland Water - River Dove Authority: Environment Agency, North East Region Abstraction: Private Non-Industrial Amenity: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Neather Lewden, Station Road, Worsbrough Dale, Barnsley Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 13th September 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A5NE (SE)	1948	2	436550 403450
	Water Abstractions Operator: Mr & Mrs D & J Nuttall Licence Number: 2/27/08/128 Permit Version: 1 Location: Inland Water - River Dove Authority: Environment Agency, North East Region Abstraction: Private Non-Industrial Amenity: Make-Up Or Top Up Water Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Neather Lewden, Station Road, Worsbrough Dale, Barnsley Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 13th September 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A5NE (SE)	1948	2	436550 403450
	Groundwater Vulnerability Soil Classification: Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise Map Sheet: Sheet 11 South Pennines Scale: 1:100,000	A13NE (NW)	0	2	434957 404747
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13NE (NW)	0	1	434957 404747
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13NE (E)	0	1	435000 404747
	Superficial Aquifer Designations No Data Available				
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
15	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 196.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Snape Sike Catchment Name: Don and Rother Primacy: 1	A13SW (S)	214	4	434909 404427



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 507.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Soak Dike Catchment Name: Don and Rother Primacy: 1	A8NE (S)	329	4	435039 404300
17	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 206.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A14NW (E)	501	4	435547 404916
18	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 110.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	610	4	435579 405107
19	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	610	4	435579 405107
20	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 45.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	617	4	435588 405107
21	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 168.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	625	4	435470 405253
22	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 45.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Measborough Dike Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	668	4	435575 405210
23	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 47.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Measborough Dike Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	701	4	435577 405257
24	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	729	4	435584 405289



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 38.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Measborough Dike Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	732	4	435582 405296
26	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 273.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A7NE (SW)	737	4	434479 404092
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 133.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Measborough Dike Catchment Name: Don and Rother Primacy: 1	A19SW (NE)	757	4	435581 405331
28	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 23.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Soak Dike Catchment Name: Don and Rother Primacy: 1	A9SW (S)	819	4	435306 403869
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 75.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Shape Sike Catchment Name: Don and Rother Primacy: 1	A9SW (SE)	832	4	435329 403864
30	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 576.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A19NW (NE)	866	4	435606 405453
31	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 158.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A7SE (SW)	901	4	434549 403842
32	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 259.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A7SE (SW)	920	4	434346 403967
33	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 35.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Don and Rother Primacy: 1	A3NE (S)	993	4	435165 403648



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
34	<p>Historical Landfill Sites</p> <p>Licence Holder: Public Services Dept, Barnsley Metropolitan Borough Council Location: Communtiy Centre, Genn Lane, Ward Green, Barnsley Name: Land to rear of Ward Green Operator Location: Public Services Department, Cleansing Division Boundary Accuracy: As Supplied Provider Reference: EAHLD04319 First Input Date: 31st July 1981 Last Input Date: 31st December 1989 Specified Waste: Deposited Waste included Inert, Industrial and Commercial Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4400/0414 BGS Ref: Not Supplied Other Ref: WD20 B327, 4400/B327, CS/WG, 20B327(11)</p>	A12SE (SW)	433	2	434533 404459
35	<p>Historical Landfill Sites</p> <p>Licence Holder: R J Norman Location: Knowle Road, Barnsley Name: Highfield Farm Operator Location: Highfield Farm, Knowle Road, Barnsley Boundary Accuracy: As Supplied Provider Reference: EAHLD04403 First Input Date: 31st January 1981 Last Input Date: 31st December 1983 Specified Waste: Deposited Waste included Inert Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4400/0480 BGS Ref: Not Supplied Other Ref: WD20 B311, 4400/B311, 20B311(78)</p>	A14NW (E)	524	2	435588 404818
36	<p>Historical Landfill Sites</p> <p>Licence Holder: Barnsley Metropolitan Borough Council Location: Barnsley Cemetery, Barnsley Name: South East Corner Cemetery Road Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD04366 First Input Date: 31st December 1964 Last Input Date: Not Supplied Specified Waste: Not Supplied Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4400/0550 BGS Ref: Not Supplied Other Ref: 4400/(148)</p>	A19NW (NE)	835	2	435551 405456
37	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 60541 Location: Vernon Works, Upper Sheffield Road, Barnsley, South Yorkshire, S70 4PN Operator Name: C Soar & Sons Operator Location: Not Supplied Authority: Environment Agency - North East Region, Yorkshire Area Site Category: Metal Recycling Sites (Mixed) Licence Status: Surrendered Issued: 15th July 1993 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 16th October 2012 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	A19SW (NE)	611	2	435550 405150
	<p>Local Authority Landfill Coverage</p> <p>Name: Barnsley Metropolitan Borough Council - Has supplied landfill data</p>		0	3	434957 404747
38	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Not Supplied Reference: 11 Authority: Barnsley Metropolitan Borough Council, Environmental Health and Trading Standards Last Reported Status: Unknown Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate</p>	A12SE (SW)	445	3	434563 404413



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
39	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Not Supplied Reference: 78 Authority: Barnsley Metropolitan Borough Council, Environmental Health and Trading Standards</p> <p>Last Reported Status: Unknown</p> <p>Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate</p>	A14NW (E)	519	3	435583 404830
40	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Not Supplied Reference: 148 Authority: Barnsley Metropolitan Borough Council, Environmental Health and Trading Standards</p> <p>Last Reported Status: Unknown</p> <p>Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate</p>	A19NW (NE)	804	3	435541 405424
41	<p>Registered Landfill Sites</p> <p>Licence Holder: Barnsley M.B.C. Licence Reference: WD20 B 327 Site Location: Ward Green Community Park, Hoyland Nether, Hoyland, Barnsley, South Yorkshire</p> <p>Licence Easting: 434550 Licence Northing: 404350 Operator Location: Cleansing Div. Smithies La.Depot, Barnsley, South Yorkshire Authority: Environment Agency - North East Region, Ridings Area Site Category: Landfill Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year)</p> <p>Waste Source: No known restriction on source of waste Restrictions: Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st July 1981 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Demolition Waste Excavated Natural Materials \$ Horticultural & Landscape Ind Waste Max.Waste Permitted By Licence(Stated)</p> <p>Prohibited Waste: Liquids In Containers Over 4l Cap. Slurry In Containers Over 4l Cap.</p>	A7NE (SW)	504	2	434550 404350
42	<p>Registered Landfill Sites</p> <p>Licence Holder: R J Norman Licence Reference: WD20 B 311 Site Location: Highfield Farm, Knowle Road, Barnsley, South Yorkshire</p> <p>Licence Easting: 435650 Licence Northing: 404800 Operator Location: As Site Address Authority: Environment Agency - North East Region, Ridings Area Site Category: Landfill Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st January 1981 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Construction And Demolition Wastes</p>	A14NE (E)	584	2	435650 404800



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
43	<p>Registered Waste Treatment or Disposal Sites</p> <p>Licence Holder: C Soar & Sons Licence Reference: WD20 B 971 MOD 3 Site Location: Vernon Works, Upper Sheffield Road, Barnsley, South Yorkshire Operator Location: Old Tank Row, Grange Lane, Stairfoot, BARNSELEY, South Yorkshire, S71 5AD Authority: Environment Agency - North East Region, Ridings Area Site Category: Scrapyard Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Operational as far as is known Dated: 1st July 1993 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Supplied Authorised Waste: Elect'L Switchgear/Motors/Transformers Electrical Equipment Containing Ferrous Metal Scrap Max.Waste Permitted By Licence Non-Ferrous Metal Scrap Pcb's</p>	A19SW (NE)	611	2	435550 405150



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Pennine Middle Coal Measures Formation And South Wales Middle Coal Measures Formation (Undifferentiated)	A13NE (NW)	0	1	434957 404747
44	BGS Recorded Mineral Sites Site Name: High Stone Fold Location: , Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 37865 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Woolley Edge Rock Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A13NW (W)	17	1	434828 404798
45	BGS Recorded Mineral Sites Site Name: Ward Green Pit Location: , Worsborough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 204760 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Two-Foot Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A13SE (S)	102	1	435024 404529
46	BGS Recorded Mineral Sites Site Name: Vernon Colliery Drift Mine Location: , Ward Green, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205201 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Abdy Coal (South Yorkshire And North Nottinghamshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	158	1	434860 404529
46	BGS Recorded Mineral Sites Site Name: Vernon Colliery Drift Mine Location: , Ward Green, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205200 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Abdy Coal (South Yorkshire And North Nottinghamshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	166	1	434826 404550
47	BGS Recorded Mineral Sites Site Name: Bank Top Colliery Location: , Worsbrough Common, Barnsley, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 204741 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A13NE (N)	228	1	435075 405033



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Bank Top Colliery Location: , Worsbrough Common, Barnsley, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 204742 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A13NE (NE)	246	1	435105 405033
48	<p>BGS Recorded Mineral Sites</p> <p>Site Name: King Well Location: , Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 37879 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Woolley Edge Rock Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m</p>	A13SE (SE)	243	1	435233 404536
49	<p>BGS Recorded Mineral Sites</p> <p>Site Name: High Stone Location: , Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 37866 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Woolley Edge Rock Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m</p>	A13NW (NW)	307	1	434629 405016
50	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Bell Ing Colliery Air Pit Location: , Worsborough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 204759 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A8NE (S)	312	1	435113 404338
51	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Worsborough Common Location: , Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 37867 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Woolley Edge Rock Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m</p>	A18SE (N)	338	1	435044 405167
52	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Ward Green Pit Location: , Ward Green, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205193 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Kent'S Thick Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A13SW (SW)	360	1	434630 404470



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
53	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Victoria Colliery Location: , Ward Green, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205191 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A12SE (SW)	434	1	434519 404474
53	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Victoria Colliery Location: , Ward Green, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205192 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A12SE (SW)	438	1	434534 404451
54	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Vernon Road Pit Location: , Worsbrough Bridge, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205204 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A8NE (S)	511	1	434971 404115
55	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Pinder Oaks Shaft Location: , Measborough Dike, Barnsley, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 204740 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Two-Foot Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A19SW (NE)	562	1	435482 405155
56	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Warren Brick Works Location: , Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 37869 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A18SW (N)	576	1	434696 405387
57	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Warren Brick Works Location: , Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 37870 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A18NW (NW)	622	1	434634 405412



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
58	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Bell Ing Colliery Location: , Worsbrough Bridge, Worsborough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 204754 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A8SE (S)	626	1	435046 404002
59	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Bell Ing Colliery Location: , Worsbrough Bridge, Worsborough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 204755 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A8SE (S)	666	1	435236 404006
59	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Bell Ing Colliery Location: , Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 37878 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A8SE (S)	686	1	435241 403986
60	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Warren Brick Works Location: , Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 37868 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Middle Coal Measures Formation Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m</p>	A18NW (N)	695	1	434709 405515
61	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Prince Albert Colliery Air Shaft Location: Kendal Green, Worsbrough Bridge, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205189 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A7NE (SW)	700	1	434492 404131
62	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Ouslethwaite Shafts Location: Ouslethwaite Hall, Ward Green, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205196 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A12SW (W)	758	1	434169 404422



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
63	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Yews Lane Location: , Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 37880 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Woolley Edge Rock Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m</p>	A14SE (E)	768	1	435758 404427
64	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Marrow House Pit Location: , Worsbrough Bridge, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205203 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A8SW (S)	804	1	434847 403835
65	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Genn House Shaft Location: Genn House, Ward Green, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205199 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A12SW (W)	850	1	434005 404664
66	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Yews Lane Location: , Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 37881 Type: Opencast Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Woolley Edge Rock Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m</p>	A9NE (SE)	852	1	435828 404372
67	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Prince Albert Colliery Shaft Location: Kendal Green, Worsbrough Bridge, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205188 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A7SE (SW)	865	1	434334 404053
68	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Ouslethwaite Air Shafts Location: Ouslethwaite Hall, Ward Green, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205195 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A12SW (W)	883	1	434029 404428



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Ouslethwaite Air Shafts Location: Ouslethwaite Hall, Ward Green, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205134 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A12SW (W)	888	1	434022 404433
69	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Victoria Colliery Location: , Keresforth Hill, Barnsley, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205135 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Kent'S Thin Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A12NW (W)	886	1	433967 404919
70	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Pinder Oaks Colliery Mine Location: , Measborough Dike, Barnsley, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 204738 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Newhill Coal (South And West Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A19NE (NE)	899	1	435635 405472
71	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Pinder Oaks Colliery Mine Location: , Measborough Dike, Barnsley, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 204737 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Newhill Coal (South And West Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A19NE (NE)	925	1	435649 405495
71	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Pinder Oaks Colliery Shaft Location: , Measborough Dike, Barnsley, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 204739 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A19NE (NE)	944	1	435667 405505
71	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Pinder Oaks Colliery Location: , Measborough Dike, Barnsley, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 37861 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A19NE (NE)	949	1	435654 405521



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
72	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Wigfield Pit Location: , Worsbrough Bridge, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205202 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A8SW (S)	931	1	434723 403735
73	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Genn House Shaft Location: Genn House, Ward Green, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205198 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A11SE (W)	966	1	433904 404559
73	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Genn House Shaft Location: Genn House, Ward Green, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205197 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A11SE (W)	971	1	433897 404568
74	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Prince Albert Colliery Shaft Location: Ouslethwaite Hall, Ward Green, Worsbrough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205190 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A7NW (SW)	974	1	434044 404208
75	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Victoria Colliery Location: , Keresforth Hill, Barnsley, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 205134 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A11NE (W)	977	1	433877 404931
75	<p>BGS Recorded Mineral Sites</p> <p>Site Name: Victoria Colliery Location: , Keresforth Hill, Barnsley, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 37873 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m</p>	A11NE (W)	986	1	433869 404941



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
76	BGS Recorded Mineral Sites Site Name: Darley Main Colliery Location: , Worsborough, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 204757 Type: Underground Status: Ceased Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Barnsley Coal (West And South Yorkshire) Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	997	1	435625 403855
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13NE (NW)	0	5	434957 404747
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13NE (NW)	0	-	434957 404747
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	434919 404705
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	434957 404747
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	435000 404747
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	2	1	435000 404631
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	157	1	434957 405000
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	165	1	435000 405000
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	435000 404747
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	434957 404747
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	157	1	434957 405000
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	165	1	435000 405000
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	434957 404747
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	435000 404747
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	157	1	434957 405000
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	165	1	435000 405000
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	176	1	434727 404931



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	245	1	434696 405000
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	434957 404747
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	435000 404747
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	157	1	434957 405000
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	165	1	435000 405000
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	434957 404747
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	435000 404747
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	434988 404646
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	435000 404640
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	434922 404702
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	12	1	435017 404626
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	26	1	434824 404750
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	41	1	435035 404611
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	157	1	434957 405000
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	165	1	435000 405000
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	170	1	434832 404507
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	213	1	434641 404858
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	434957 404747
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	435000 404747
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	157	1	434957 405000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	165	1	435000 405000



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	176	1	434727 404931
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	245	1	434696 405000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	434957 404747
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	435000 404747
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	1	434922 404702
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	435000 404640
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	157	1	434957 405000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	165	1	435000 405000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	194	1	434911 404450
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	213	1	434641 404858
	Radon Potential - Radon Affected Areas Affected Area: The property is in an Intermediate probability radon area (1 to 3% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	434957 404747
	Radon Potential - Radon Affected Areas Affected Area: The property is in an Intermediate probability radon area (1 to 3% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	435000 404747
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	1	434957 404747
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	435000 404747



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
77	Contemporary Trade Directory Entries Name: Mount Vernon Hospital Location: Mount Vernon Road, Barnsley, South Yorkshire, S70 4DP Classification: Hospitals Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (N)	0	-	434959 404765
77	Contemporary Trade Directory Entries Name: Mount Vernon Hospital Location: Mount Vernon Road, Barnsley, South Yorkshire, S70 4DP Classification: Hospitals Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (N)	0	-	434959 404765
78	Contemporary Trade Directory Entries Name: Barnsley Primary Care Trust Location: Mount Vernon Rd, Barnsley, South Yorkshire, S70 4DP Classification: Hospitals Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A13NE (E)	4	-	435063 404756
79	Contemporary Trade Directory Entries Name: Carisma Trading Ltd Location: 23, Bruce Avenue, Barnsley, South Yorkshire, S70 4DZ Classification: Reclaiming - Waste Products Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (N)	210	-	434981 405050
80	Contemporary Trade Directory Entries Name: Roadrunner Location: 86, Upper Sheffield Road, Barnsley, South Yorkshire, S70 4PW Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	342	-	435282 405042
81	Contemporary Trade Directory Entries Name: Arnies Pest Management Location: 8, Strafford Avenue, Worsbrough, Barnsley, South Yorkshire, S70 6SX Classification: Pest & Vermin Control Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SE (W)	358	-	434532 404590
82	Contemporary Trade Directory Entries Name: Milton Gough Location: 22, Cromwell Mount, Worsbrough, Barnsley, South Yorkshire, S70 6TA Classification: Scrap Metal Merchants Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	387	-	434459 404763
83	Contemporary Trade Directory Entries Name: The Mower Shop Location: 38-40, Upper Sheffield Road, Barnsley, S70 4PN Classification: Lawnmowers & Garden Machinery - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (NE)	395	-	435173 405169
83	Contemporary Trade Directory Entries Name: Mast Mowers Location: 38-40, Upper Sheffield Road, Barnsley, South Yorkshire, S70 4PN Classification: Lawnmowers & Garden Machinery - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address	A18SE (NE)	409	-	435174 405185
84	Contemporary Trade Directory Entries Name: D T Auto Services Location: 119, Highstone Road, Barnsley, S70 4ET Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (NW)	397	-	434539 405050
84	Contemporary Trade Directory Entries Name: D T Autos Location: 119, Highstone Road, Barnsley, South Yorkshire, S70 4ET Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (NW)	397	-	434539 405050
85	Contemporary Trade Directory Entries Name: Yorkshire Traction Co Ltd Location: Upper Sheffield Road, BARNSELEY, South Yorkshire, S70 4PP Classification: Bus & Coach Operators & Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (NE)	446	-	435279 405169



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
86	<p>Contemporary Trade Directory Entries</p> <p>Name: Ovenscare Oven Cleaning Location: 101, Genn Lane, Worsbrough, BARNSELEY, South Yorkshire, S70 6SY Classification: Oven cleaning Status: Active Positional Accuracy: Automatically positioned to the address</p>	A12SE (W)	457	-	434407 404641
87	<p>Contemporary Trade Directory Entries</p> <p>Name: Keresford Solid Fuels Location: 12, Bismarck Street, Barnsley, South Yorkshire, S70 4NA Classification: Coal & Smokeless Fuel Merchants & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A18SW (N)	516	-	434739 405337
88	<p>Contemporary Trade Directory Entries</p> <p>Name: Texaco Location: Sheffield Road, Barnsley, South Yorkshire, S70 4PJ Classification: Petrol Filling Stations Status: Active Positional Accuracy: Automatically positioned to the address</p>	A18SE (N)	549	-	435126 405362
88	<p>Contemporary Trade Directory Entries</p> <p>Name: United Co-Op Location: Sheffield Road, Barnsley, South Yorkshire, S70 4PJ Classification: Petrol Filling Stations - 24 Hour Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A18SE (N)	549	-	435126 405362
88	<p>Contemporary Trade Directory Entries</p> <p>Name: Prestige Motors Location: Sheffield Road, Barnsley, South Yorkshire, S70 4PJ Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address</p>	A18SE (N)	574	-	435094 405399
88	<p>Contemporary Trade Directory Entries</p> <p>Name: Fleet Support Operations Ltd Location: Recovery House, Sheffield Road, Barnsley, South Yorkshire, S70 4PJ Classification: Car Breakdown & Recovery Services Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address</p>	A18SE (N)	574	-	435094 405399
88	<p>Contemporary Trade Directory Entries</p> <p>Name: Highway Recovery Ltd Location: Recovery House, Sheffield Road, Barnsley, South Yorkshire, S70 4PJ Classification: Car Breakdown & Recovery Services Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address</p>	A18SE (N)	574	-	435094 405399
89	<p>Contemporary Trade Directory Entries</p> <p>Name: Motax Location: 38, Oak Park Rise, Barnsley, South Yorkshire, S70 4PB Classification: Car Engine Tuning & Diagnostic Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A18SE (N)	551	-	435175 405345
90	<p>Contemporary Trade Directory Entries</p> <p>Name: Terence Jolley & Associates Location: 18, Wigfield Drive, Worsbrough, Barnsley, South Yorkshire, S70 5HR Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8NW (S)	552	-	434770 404121
91	<p>Contemporary Trade Directory Entries</p> <p>Name: C Soar & Sons Location: Vernon Works, Sheffield Rd, Barnsley, South Yorkshire, S70 1HS Classification: Scrap Metal Merchants Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A18NE (N)	595	-	435064 405426
92	<p>Contemporary Trade Directory Entries</p> <p>Name: M & B Domestic & Commercial Cleaning Services Location: 4, Dillington Road, Barnsley, South Yorkshire, S70 4JD Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A18NW (N)	630	-	434872 405472
93	<p>Contemporary Trade Directory Entries</p> <p>Name: Premier Blinds Location: 1, Dale Green Road, Worsbrough, Barnsley, South Yorkshire, S70 5JX Classification: Blinds, Awnings & Canopies Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SW (S)	654	-	434785 404005



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
94	<p>Contemporary Trade Directory Entries</p> <p>Name: R J E Window Films Location: 15, Tenters Green, Worsbrough, Barnsley, South Yorkshire, S70 5HG Classification: Window Tinting Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SE (S)	659	-	434992 403967
95	<p>Contemporary Trade Directory Entries</p> <p>Name: Phoenix Location: 210-212, Sheffield Road, Barnsley, South Yorkshire, S70 4PG Classification: Fireplaces & Mantelpieces Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A18NE (N)	676	-	435046 405512
95	<p>Contemporary Trade Directory Entries</p> <p>Name: P & P Auto Engineers Location: 1, Commercial Street, Barnsley, South Yorkshire, S70 4NX Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A18NE (N)	693	-	435063 405526
95	<p>Contemporary Trade Directory Entries</p> <p>Name: Mick Matthews Recovery Location: 2, Commercial Street, Barnsley, South Yorkshire, S70 4NX Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A18NE (N)	705	-	435036 405542
96	<p>Contemporary Trade Directory Entries</p> <p>Name: W K Stubbings Location: Old Church of England School, Park Road, Worsbrough, Barnsley, South Yorkshire, S70 5AT Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A9SW (SE)	715	-	435387 404029
96	<p>Contemporary Trade Directory Entries</p> <p>Name: Instyle Print Location: Old Church of England School, Park Road, Worsbrough, Barnsley, South Yorkshire, S70 5AT Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A9SW (SE)	715	-	435387 404029
97	<p>Contemporary Trade Directory Entries</p> <p>Name: The Tank Exchange Location: 63, Tower Street, BARNSELEY, South Yorkshire, S70 1QS Classification: Tanks, Vats & Cisterns Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A17SE (NW)	721	-	434328 405302
98	<p>Contemporary Trade Directory Entries</p> <p>Name: Universal Appliances Location: 7, Warren Quarry Lane, Barnsley, South Yorkshire, S70 4NF Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A18NW (N)	729	-	434658 405536
99	<p>Contemporary Trade Directory Entries</p> <p>Name: British Charcoal Location: 31 Cliffedale Cr, Worsbrough, Barnsley, South Yorkshire, S70 4AR Classification: Coal & Smokeless Fuel Merchants & Distributors Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A14SE (E)	733	-	435784 404627
100	<p>Contemporary Trade Directory Entries</p> <p>Name: Sureguard Energy Services Ltd Location: 18a, Beech Street, Barnsley, South Yorkshire, S70 4HT Classification: Window Film Manufacturers and Dealers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A18NE (N)	735	-	434956 405577
101	<p>Contemporary Trade Directory Entries</p> <p>Name: Adept Auto Services Location: Edmund Street, Worsbrough, Barnsley, S70 5AZ Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SE (S)	753	-	435276 403928



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	<p>Contemporary Trade Directory Entries</p> <p>Name: Steve Hopkinson Location: Edmund Street, Worsbrough, Barnsley, South Yorkshire, S70 5AZ Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SE (S)	761	-	435271 403917
101	<p>Contemporary Trade Directory Entries</p> <p>Name: Steve Hopkinson Auto Repairs Location: Edmund Street, Worsbrough, Barnsley, South Yorkshire, S70 5AZ Classification: Car Body Repairs Status: Active Positional Accuracy: Manually positioned to the address or location</p>	A8SE (S)	761	-	435274 403918
102	<p>Contemporary Trade Directory Entries</p> <p>Name: D J Fire Surrounds Ltd Location: 192 Sheffield Road, Barnsley, South Yorkshire, S70 4PD Classification: Fireplaces & Mantelpieces Status: Inactive Positional Accuracy: Manually positioned to the address or location</p>	A18NE (N)	756	-	435020 405595
103	<p>Contemporary Trade Directory Entries</p> <p>Name: Intake 3 Filling Station Location: Park Road, Barnsley, South Yorkshire, S70 1YB Classification: Petrol Filling Stations Status: Active Positional Accuracy: Manually positioned to the address or location</p>	A17NE (NW)	779	-	434490 405514
104	<p>Contemporary Trade Directory Entries</p> <p>Name: Renovated Domestic Appliances Location: 4, Tower Street, Barnsley, South Yorkshire, S70 1QS Classification: Washing Machines - Servicing & Repairs Status: Active Positional Accuracy: Automatically positioned to the address</p>	A17NE (NW)	785	-	434357 405424
105	<p>Contemporary Trade Directory Entries</p> <p>Name: Alg Location: Unit 1 Park Rd, Barnsley, South Yorkshire, S70 1YG Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A17NE (NW)	798	-	434580 405580
106	<p>Contemporary Trade Directory Entries</p> <p>Name: Pete'S Tool Shed Location: 65, Park Road, Worsbrough, Barnsley, South Yorkshire, S70 5AD Classification: Tool Sharpening, Repairing & Servicing Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A9SW (SE)	812	-	435324 403885
107	<p>Contemporary Trade Directory Entries</p> <p>Name: Universal Appliances Location: 169, Park Road, Barnsley, South Yorkshire, S70 1YL Classification: Domestic Appliances - Servicing, Repairs & Parts Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A17NE (NW)	823	-	434407 405513
107	<p>Contemporary Trade Directory Entries</p> <p>Name: Abacus Catering Services Location: 1, Wall Street, Barnsley, South Yorkshire, S70 1NR Classification: Catering Equipment - Servicing & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A17NE (NW)	870	-	434386 405555
107	<p>Contemporary Trade Directory Entries</p> <p>Name: Washeteria Location: 13-15, Castle Street, Barnsley, South Yorkshire, S70 1NT Classification: Laundries & Launderettes Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A17NE (NW)	889	-	434381 405576
108	<p>Contemporary Trade Directory Entries</p> <p>Name: Brads Location: 14, Lobwood Lane, Worsbrough, Barnsley, South Yorkshire, S70 4AB Classification: Road Haulage Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A9NE (SE)	824	-	435698 404187
109	<p>Contemporary Trade Directory Entries</p> <p>Name: T D S Bikes Location: 4, St. Johns Road, Barnsley, South Yorkshire, S70 1QT Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A17NE (NW)	875	-	434314 405505



Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
109	<p>Contemporary Trade Directory Entries</p> <p>Name: Tds Ltd Location: 4, St. Johns Road, Barnsley, South Yorkshire, S70 1QT Classification: Motor Cycle Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A17NE (NW)	875	-	434314 405505
110	<p>Contemporary Trade Directory Entries</p> <p>Name: Malcolm'S Tyres & Exhausts Ltd Location: Cemetery Road, BARNSELY, South Yorkshire, S70 1XR Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A18NE (N)	876	-	435158 405693
111	<p>Contemporary Trade Directory Entries</p> <p>Name: Drop On Location: 138, Sheffield Road, Barnsley, South Yorkshire, S70 1JH Classification: Electrical goods - servicing & repairs Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A23SW (N)	911	-	434953 405753
111	<p>Contemporary Trade Directory Entries</p> <p>Name: The Pentangle Location: 126, Sheffield Road, Barnsley, S70 1JB Classification: T-Shirts Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A23SW (N)	946	-	434941 405788
112	<p>Contemporary Trade Directory Entries</p> <p>Name: Venison For Pets Location: Genn Lane, Barnsley, South Yorkshire, S70 6NW Classification: Pet Foods & Animal Feeds Status: Inactive Positional Accuracy: Manually positioned within the geographical locality</p>	A12SW (W)	927	-	433947 404546
113	<p>Contemporary Trade Directory Entries</p> <p>Name: Jaydee Location: 44, Castle Street, Barnsley, South Yorkshire, S70 1NT Classification: Soft Furnishings - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A17NE (NW)	930	-	434353 405605
114	<p>Contemporary Trade Directory Entries</p> <p>Name: B & B Wilson Location: 6, Henshall Street, Barnsley, S70 1XX Classification: Joinery Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A23SE (N)	959	-	435175 405775
115	<p>Contemporary Trade Directory Entries</p> <p>Name: Collect Dry Cleaning Location: 3, Spencer Street, Barnsley, South Yorkshire, S70 1QX Classification: Dry Cleaners Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A17NW (NW)	978	-	434165 405504
116	<p>Contemporary Trade Directory Entries</p> <p>Name: Day Street Motors Location: 17b, Day Street, Barnsley, South Yorkshire, S70 1NW Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A17NE (NW)	981	-	434382 405685
117	<p>Contemporary Trade Directory Entries</p> <p>Name: Mobile Services Ltd Location: 12, Dalton Terrace, BARNSELY, South Yorkshire, S70 1XJ Classification: Hose, Tubing & Fittings Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A24SW (N)	997	-	435326 405765
118	<p>Fuel Station Entries</p> <p>Name: Jet Intake 2 Service Station Location: Upper Sheffield Road, BARNSELY, South Yorkshire, S70 4PN Brand: Obsolete Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Approximate location provided by supplier</p>	A13NE (E)	234	-	435290 404844



Industrial Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
119	Fuel Station Entries Name: Hks Sheffield Road Location: Sheffield Road, Barnsley, South Yorkshire, S70 4PN Brand: Texaco Premises Type: Petrol Station Status: Open Positional Accuracy: Manually positioned to the address or location	A18SE (N)	548	-	435125 405362
120	Fuel Station Entries Name: Jet Intake 3 Location: 3, Park Road, Worsbrough, Barnsley, South Yorkshire, S70 5AW Brand: Jet Premises Type: Petrol Station Status: Open Positional Accuracy: Manually positioned to the address or location	A17NE (NW)	779	-	434492 405516



Sensitive Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
121	Areas of Adopted Green Belt Authority: Barnsley Metropolitan Borough Council, Planning Department Plan Name: Barnsley Unitary Development Plan Status: Adopted Plan Date: 31st December 2000	A13SE (E)	10	7	435054 404711
122	Areas of Adopted Green Belt Authority: Barnsley Metropolitan Borough Council, Planning Department Plan Name: Barnsley Unitary Development Plan Status: Adopted Plan Date: 31st December 2000	A13NW (W)	224	7	434626 404845
123	Nitrate Vulnerable Zones Name: River Dearne Nvz Description: Surface Water Source: Environment Agency, Head Office	A13NE (NW)	0	8	434957 404747



Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Sheffield City Council - Environmental Protection Service Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Wakefield City Metropolitan District Council - Environmental Health	January 2015 July 2013 March 2015	Annual Rolling Update Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - North East Region	July 2017	Quarterly
Enforcement and Prohibition Notices Environment Agency - North East Region	March 2013	As notified
Integrated Pollution Controls Environment Agency - North East Region	October 2008	Not Applicable
Integrated Pollution Prevention And Control Environment Agency - North East Region	July 2017	Quarterly
Local Authority Integrated Pollution Prevention And Control Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Sheffield City Council - Environmental Protection Service Wakefield City Metropolitan District Council - Environmental Health	April 2014 June 2014 June 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Controls Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Sheffield City Council - Environmental Protection Service Wakefield City Metropolitan District Council - Environmental Health	April 2014 June 2014 June 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Sheffield City Council - Environmental Protection Service Wakefield City Metropolitan District Council - Environmental Health	April 2014 June 2014 June 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update
Nearest Surface Water Feature Ordnance Survey	May 2017	
Pollution Incidents to Controlled Waters Environment Agency - North East Region	December 1998	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - North East Region	March 2013	As notified
Prosecutions Relating to Controlled Waters Environment Agency - North East Region	March 2013	As notified
Registered Radioactive Substances Environment Agency - North East Region	January 2015	
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register Environment Agency - North East Region - Ridings Area Environment Agency - North East Region - Yorkshire Area	July 2017 July 2017	Quarterly Quarterly
Water Abstractions Environment Agency - North East Region	July 2017	Quarterly
Water Industry Act Referrals Environment Agency - North East Region	July 2017	Quarterly
Groundwater Vulnerability Environment Agency - Head Office	April 2015	Not Applicable
Drift Deposits Environment Agency - Head Office	January 1999	Not Applicable



Agency & Hydrological	Version	Update Cycle
Bedrock Aquifer Designations British Geological Survey - National Geoscience Information Service	August 2015	As notified
Superficial Aquifer Designations British Geological Survey - National Geoscience Information Service	August 2015	As notified
Source Protection Zones Environment Agency - Head Office	July 2017	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	August 2017	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	August 2017	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	August 2017	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	August 2017	Quarterly
Flood Defences Environment Agency - Head Office	August 2017	Quarterly
OS Water Network Lines Ordnance Survey	July 2017	6 Weekly
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually
Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Environment Agency - Head Office	May 2017	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - North East Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - North East Region - Ridings Area Environment Agency - North East Region - Yorkshire Area	May 2017 May 2017	Quarterly Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - North East Region - Ridings Area Environment Agency - North East Region - Yorkshire Area	July 2017 July 2017	Quarterly Quarterly
Local Authority Landfill Coverage Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Sheffield City Council - Environmental Protection Service Wakefield City Metropolitan District Council - Environmental Health	May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Sheffield City Council - Environmental Protection Service Wakefield City Metropolitan District Council - Environmental Health	May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable
Registered Landfill Sites Environment Agency - North East Region - Ridings Area Environment Agency - North East Region - Yorkshire Area	March 2003 March 2003	Not Applicable Not Applicable
Registered Waste Transfer Sites Environment Agency - North East Region - Ridings Area Environment Agency - North East Region - Yorkshire Area	March 2003 March 2003	Not Applicable Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency - North East Region - Ridings Area Environment Agency - North East Region - Yorkshire Area	March 2003 March 2003	Not Applicable Not Applicable



Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	September 2017	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Bi-Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements Sheffield City Council Wakefield City Metropolitan District Council Barnsley Metropolitan Borough Council - Planning Department	February 2016 February 2016 January 2016	Annual Rolling Update Annual Rolling Update Annual Rolling Update
Planning Hazardous Substance Consents Sheffield City Council Wakefield City Metropolitan District Council Barnsley Metropolitan Borough Council - Planning Department	February 2016 February 2016 January 2016	Annual Rolling Update Annual Rolling Update Annual Rolling Update
Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	April 2017	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	As notified
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	As notified
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	As notified



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



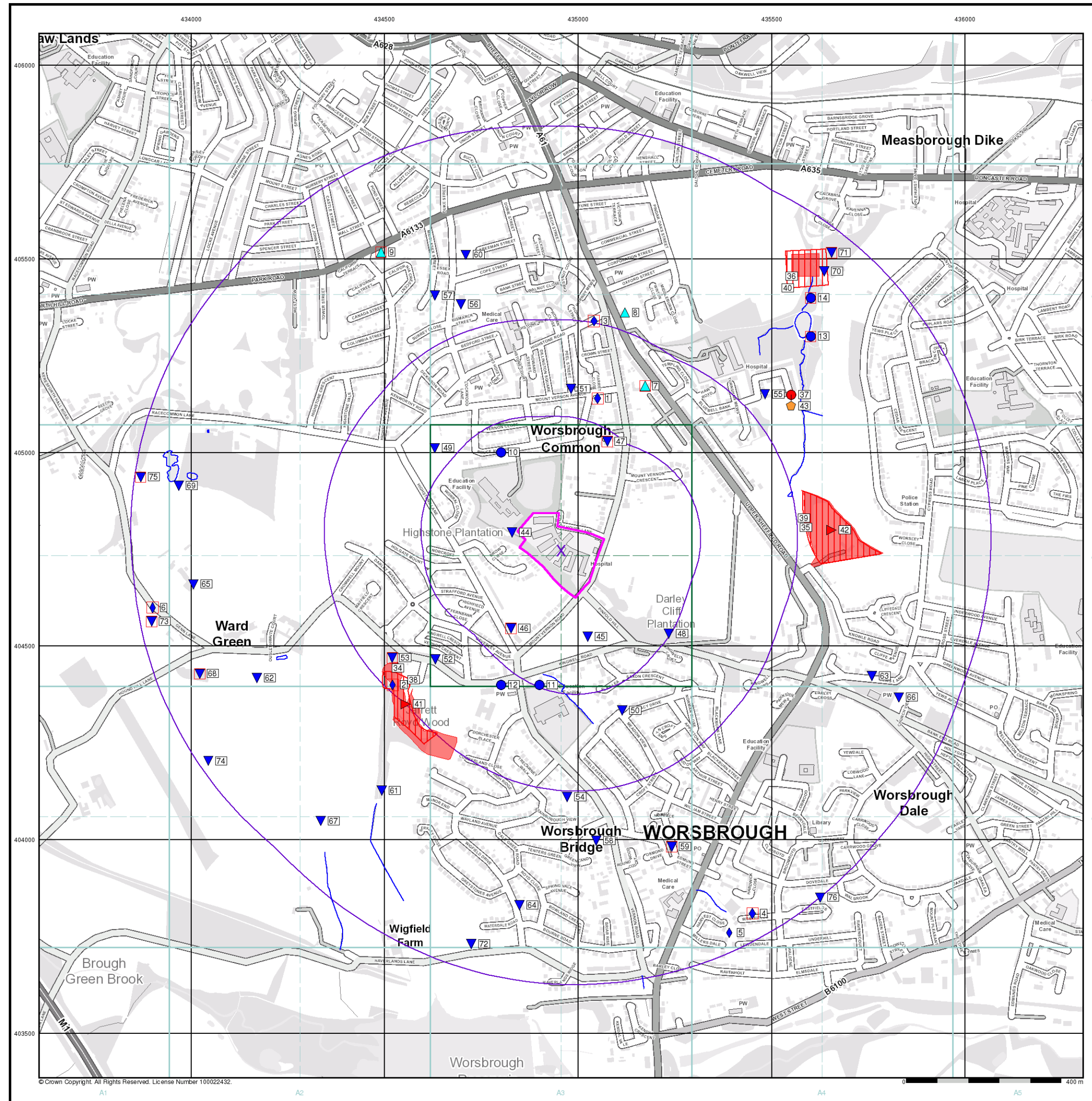
A selection of organisations who provide data within this report

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

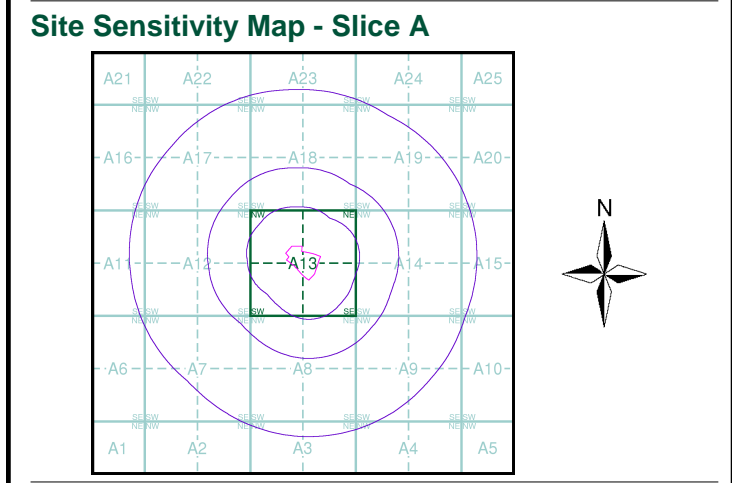


Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Central Offices, Kendray Street, Barnsley, South Yorkshire, S70 2TN	Telephone: 01226 770770 Fax: 01226 772599 Website: www.barnsley.gov.uk
4	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 023 8079 2000 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
5	The Coal Authority - Property Searches 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
6	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
7	Barnsley Metropolitan Borough Council - Planning Department Central Offices, Kendray Street, Barnsley, South Yorkshire, S70 2TN	Telephone: 01226 770770 Fax: 01226 772599 Website: www.barnsley.gov.uk
8	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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



- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - River Quality Sampling Point
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Waste**
- BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Registered Landfill Site
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Hazardous Substances**
- COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- Geological**
- BGS Recorded Mineral Site
- Industrial Land Use**
- Contemporary Trade Directory Entry
 - Fuel Station Entry



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP



Industrial Land Use Map

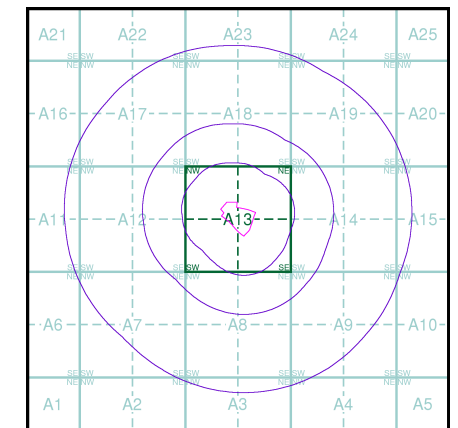
General

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

Industrial Land Use

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

Industrial Land Use Map - Slice A

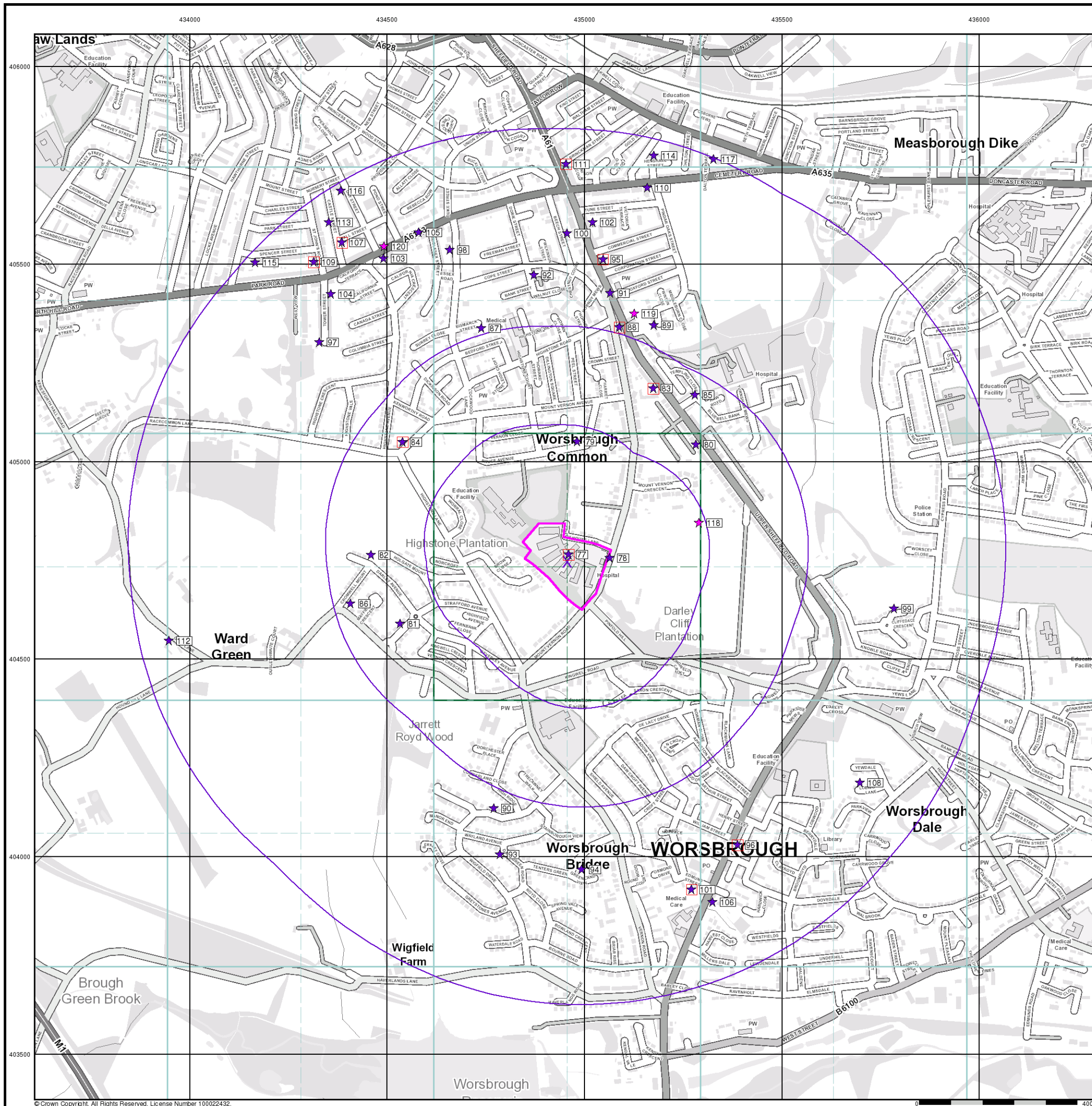


Order Details

Order Number: 142447936_1_1
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Site Details

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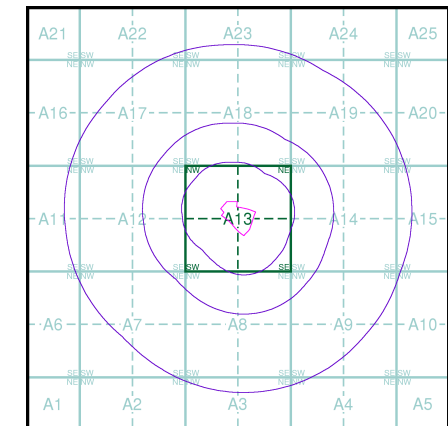
General

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

Agency and Hydrological (Flood)

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

Flood Map - Slice A

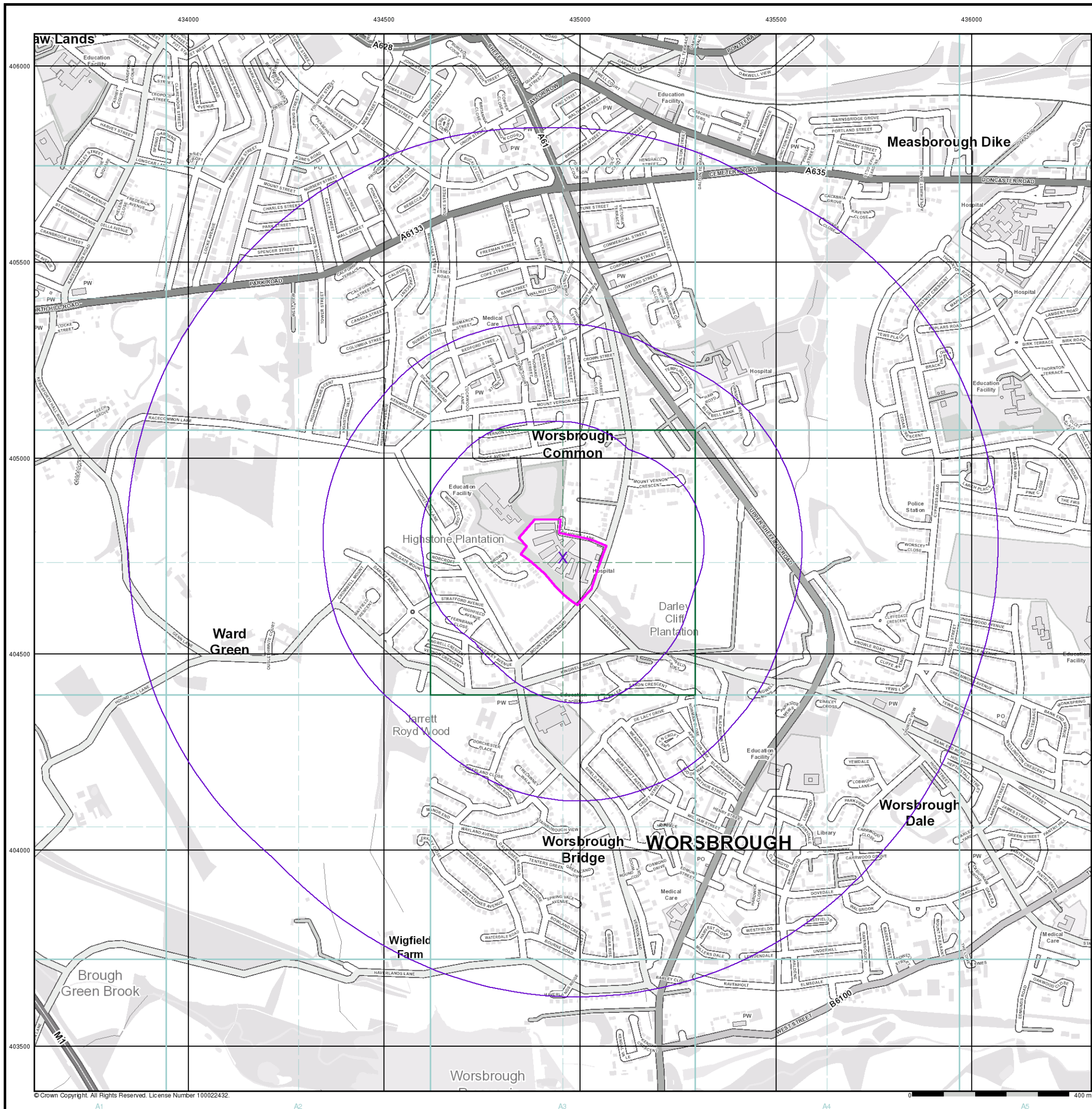


Order Details

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General

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

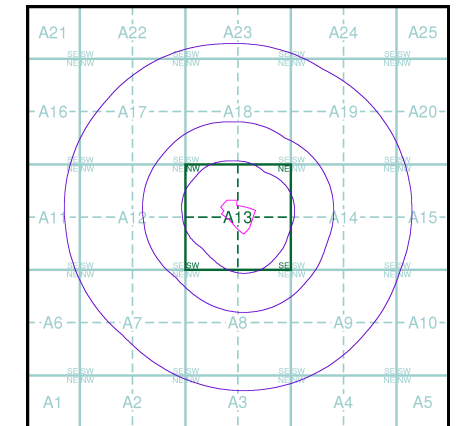
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A

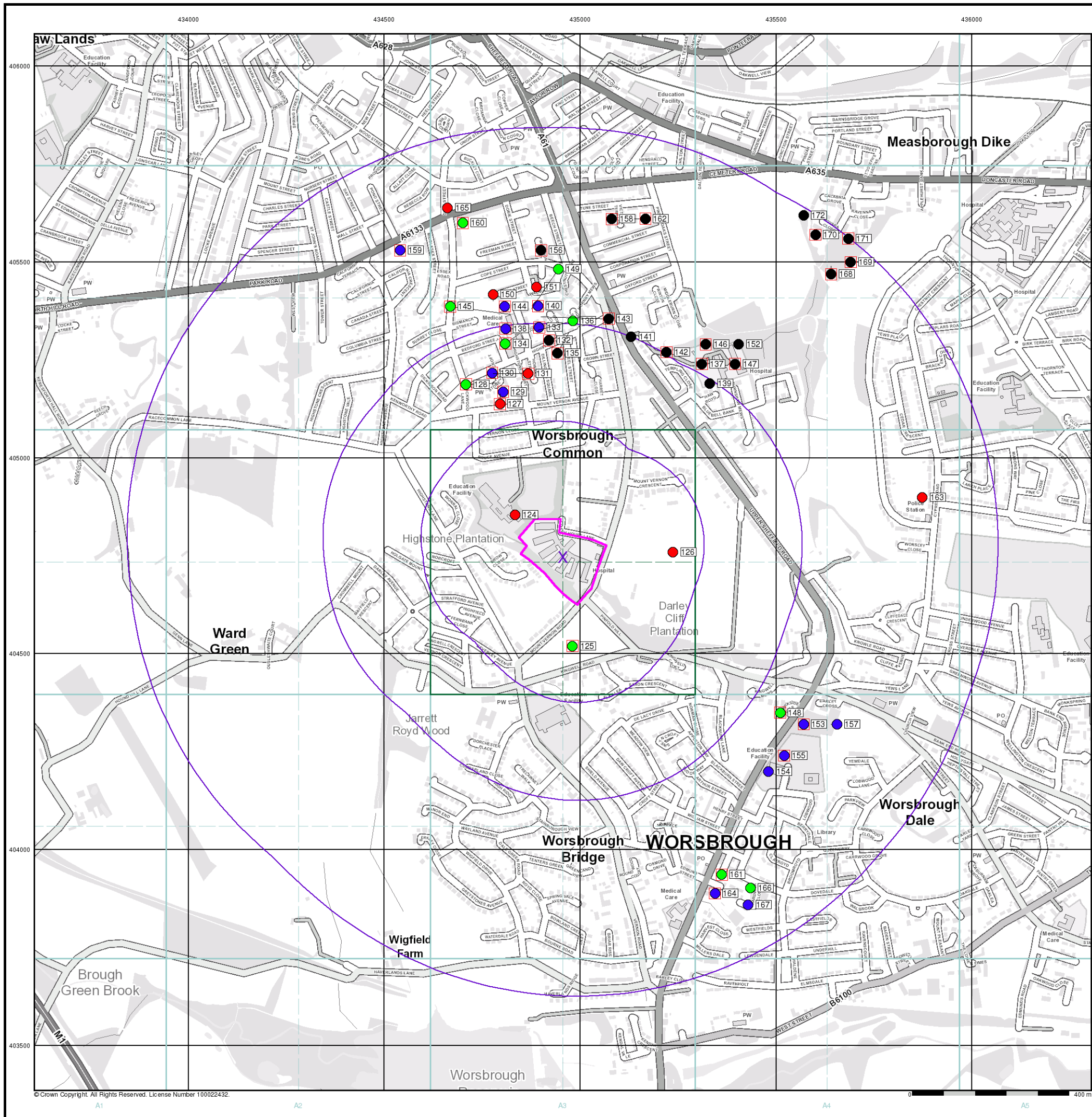


Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP



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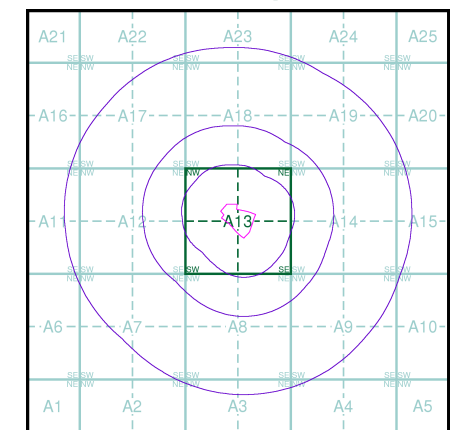
General

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

OS Water Network Data

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

OS Water Network Map - Slice A

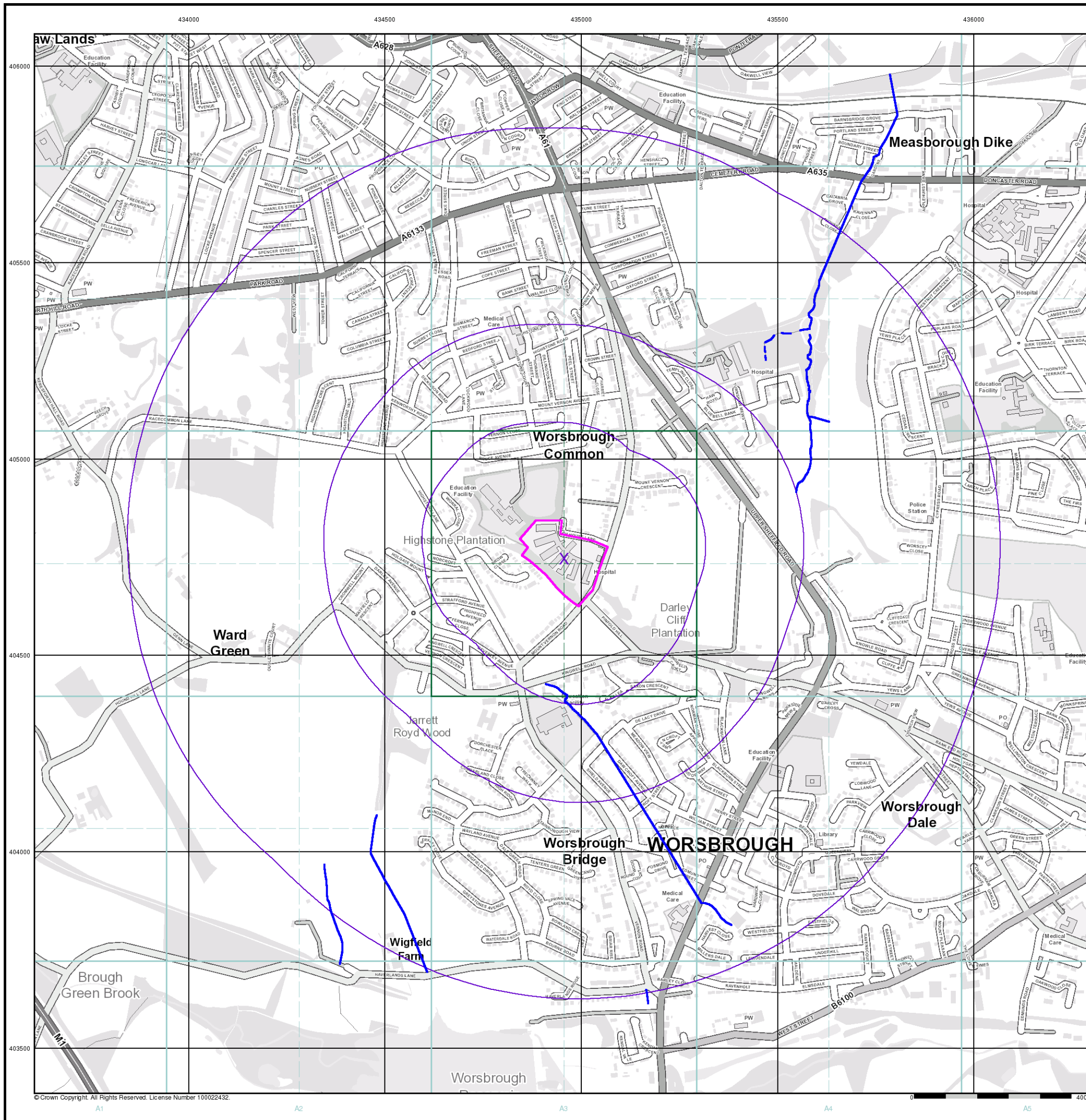


Order Details

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 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

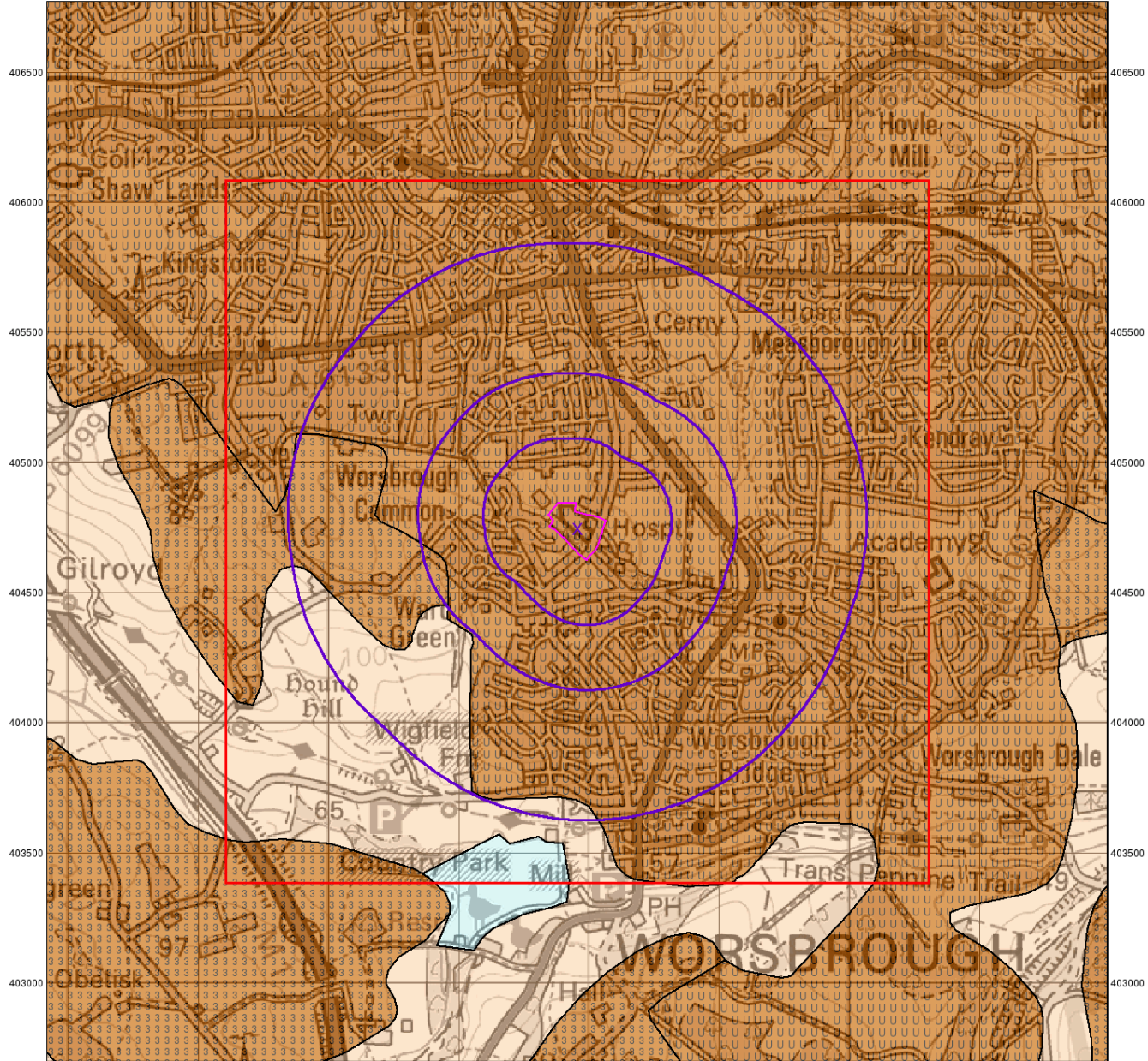
Site Details

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ARP GEOTECHNICAL LIMITED
CHARTERED CONSULTING ENGINEERS

Groundwater Vulnerability

General

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

Agency and Hydrological

Geological Classes

Major Aquifer (Highly Permeable)

- High (H) 1, 2, 3, U
- Intermediate (I) 1, 2
- Low

Minor Aquifer (Variably Permeable)

- High (H) 1, 2, 3, U
- Intermediate (I) 1, 2
- Low

Non Aquifer (Negligibly Permeable)

-

Water or Sea

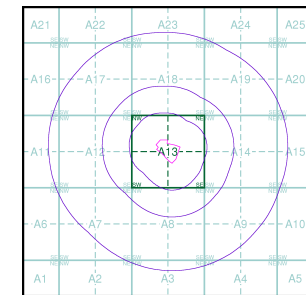
-

Drift Deposit

-

Soil Classes

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

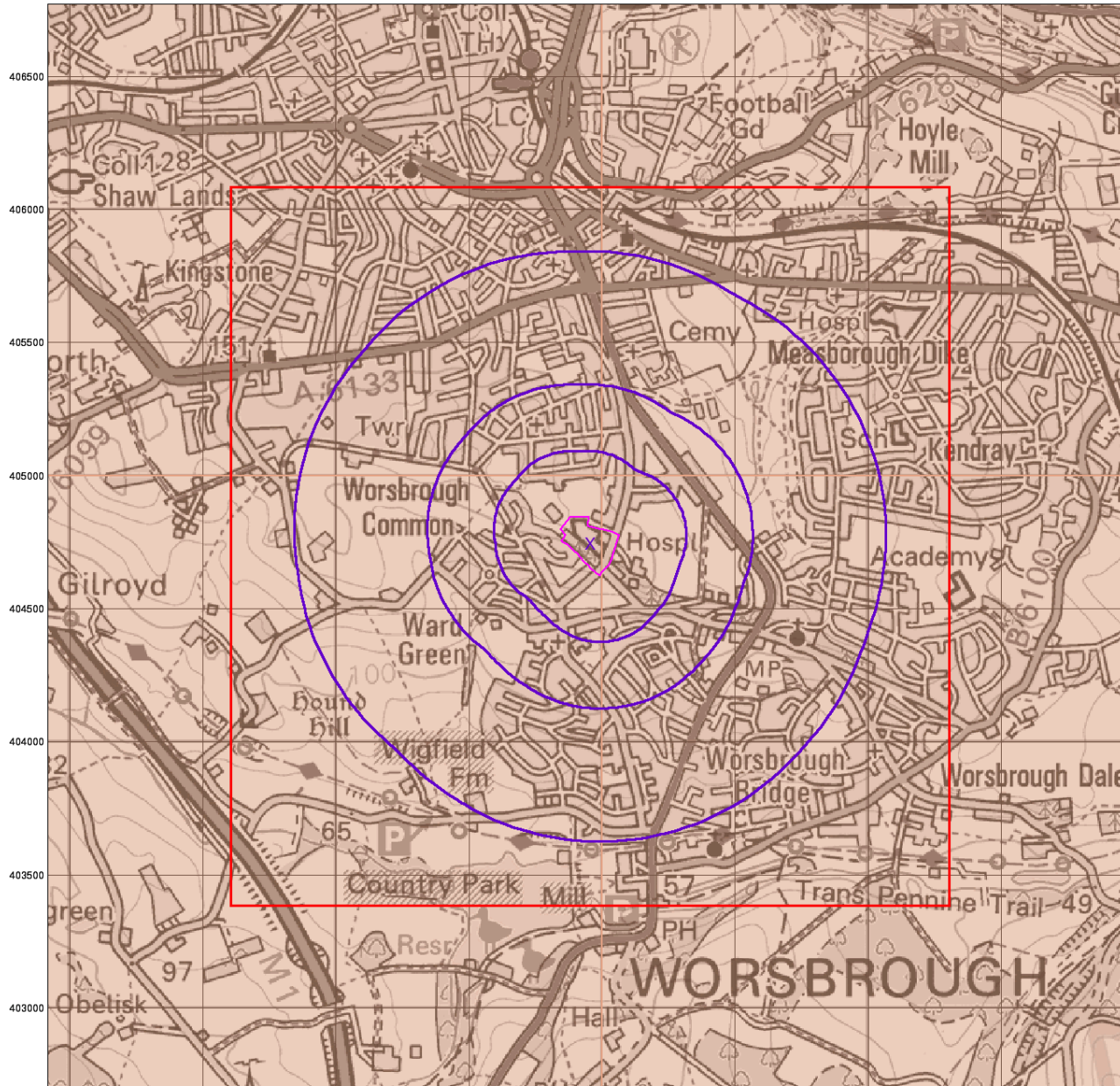
Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP

Landmark
 INFORMATION GROUP

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

433000 433500 434000 434500 435000 435500 436000 436500



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0 1 km



ARP GEOTECHNICAL LIMITED
CHARTERED CONSULTING ENGINEERS

Bedrock Aquifer Designation

General

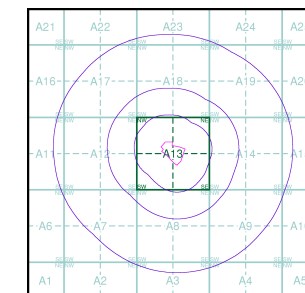
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

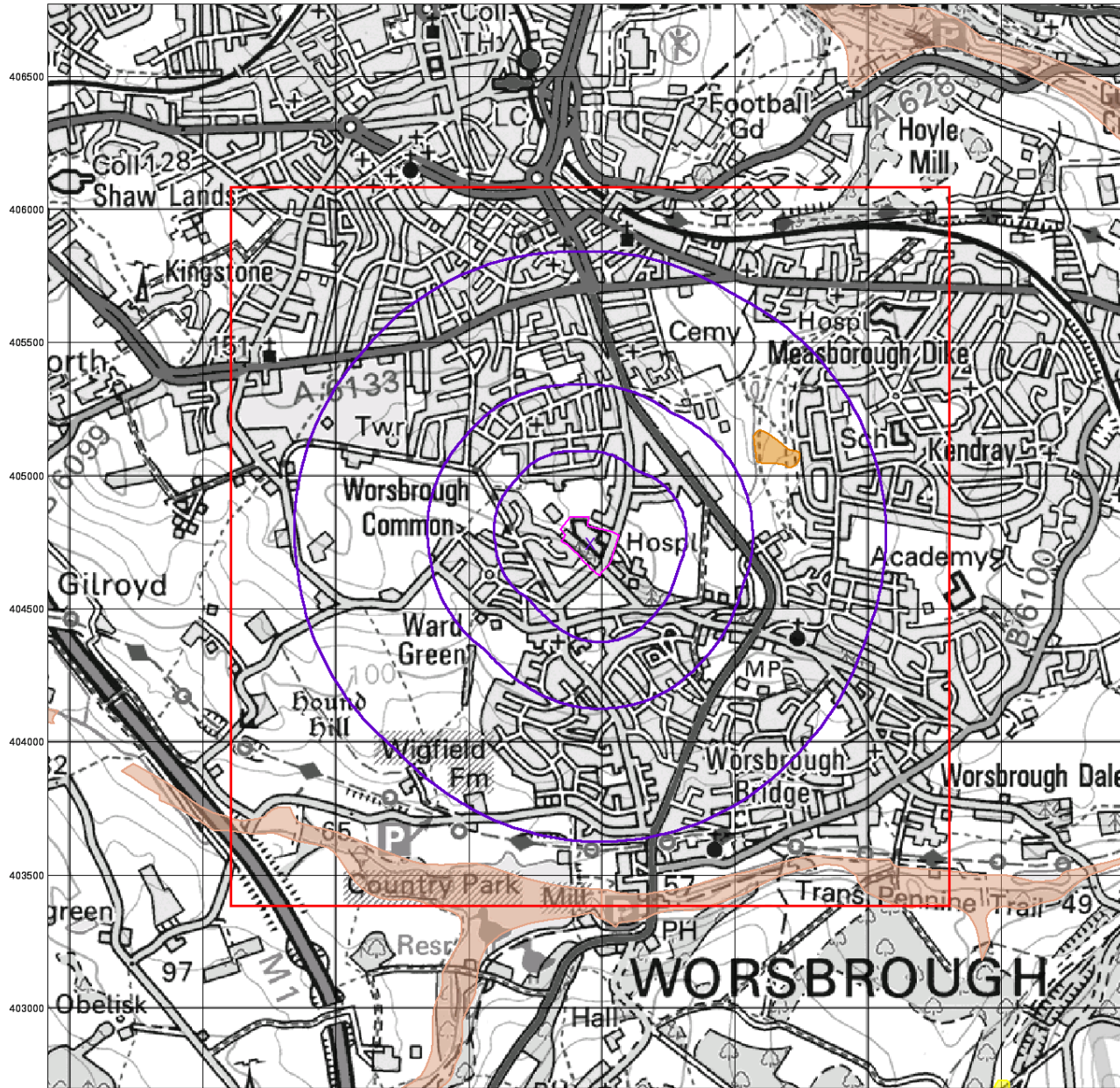
Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP

Landmark
 INFORMATION GROUP

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

433000 433500 434000 434500 435000 435500 436000 436500



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Superficial Aquifer Designation

General

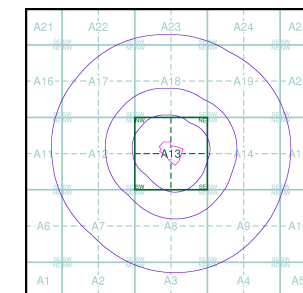
- ◆ Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Slice
- B Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

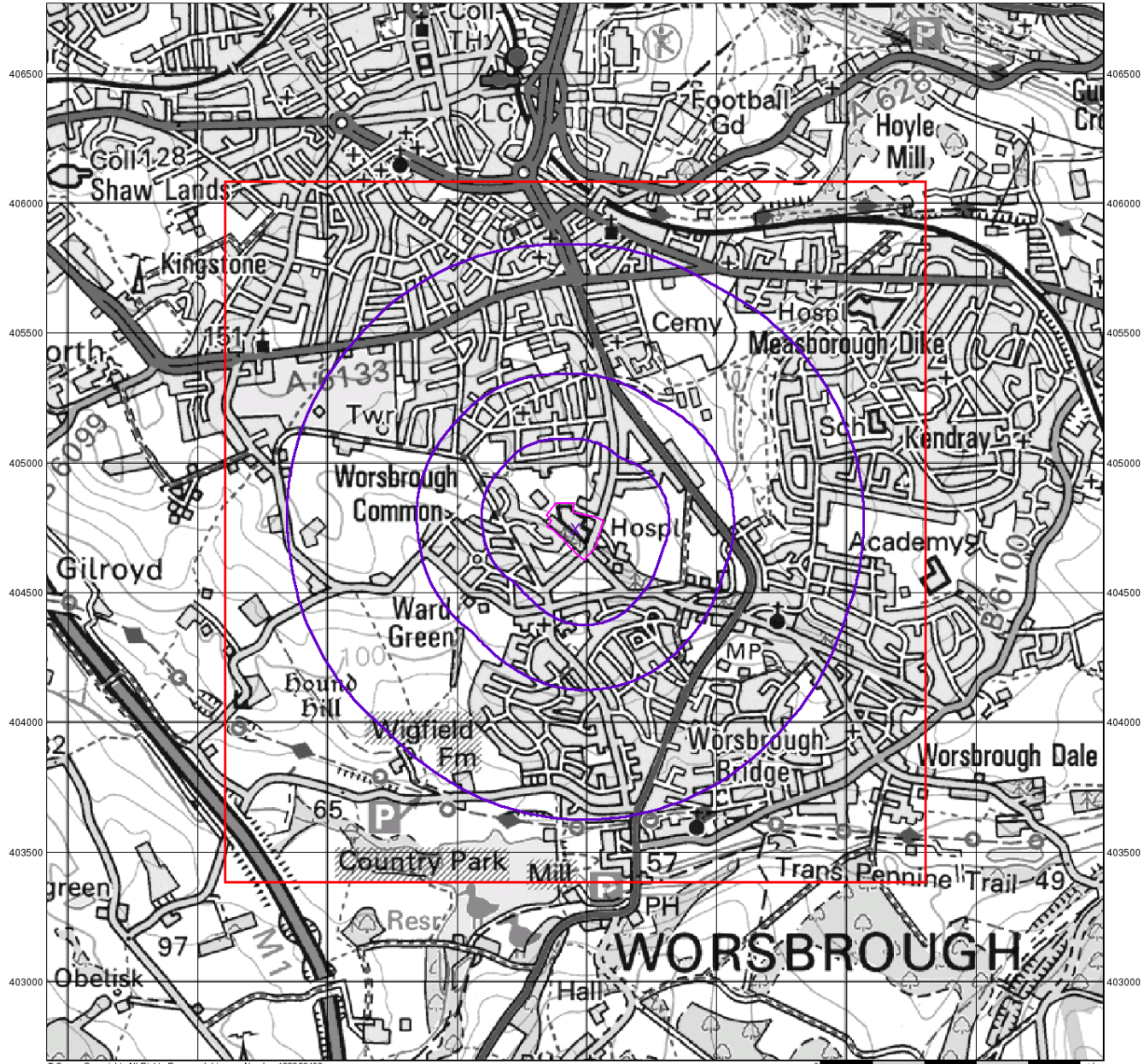
Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP

Landmark
 INFORMATION GROUP

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

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Source Protection Zones

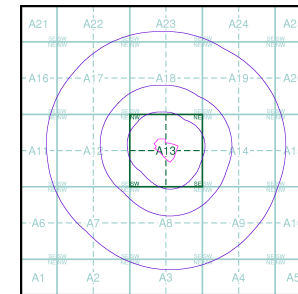
General

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

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

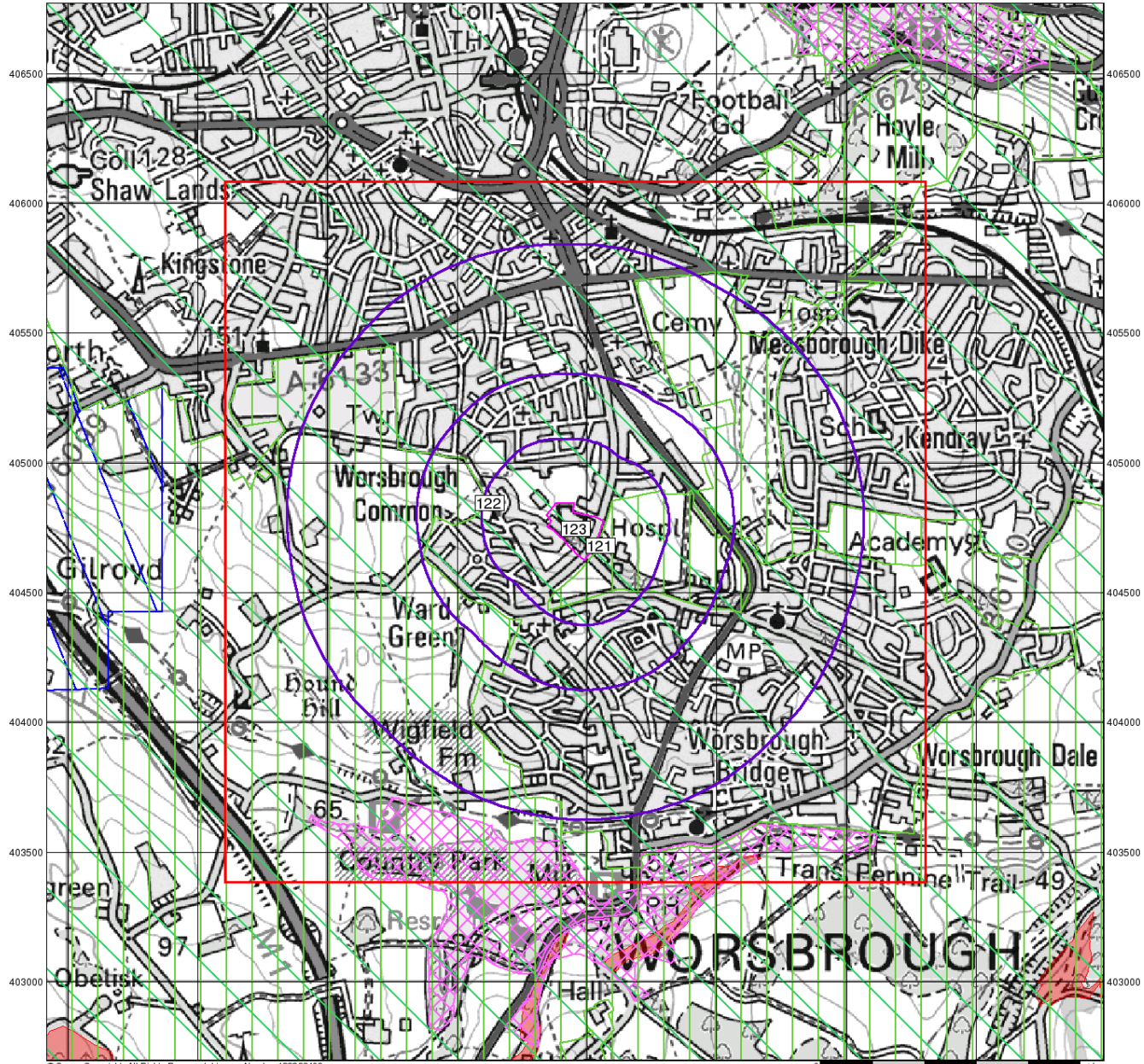
Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP

Landmark
 INFORMATION GROUP

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 Web: www.envirocheck.co.uk

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Sensitive Land Uses

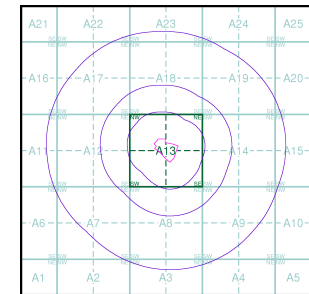
General

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

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

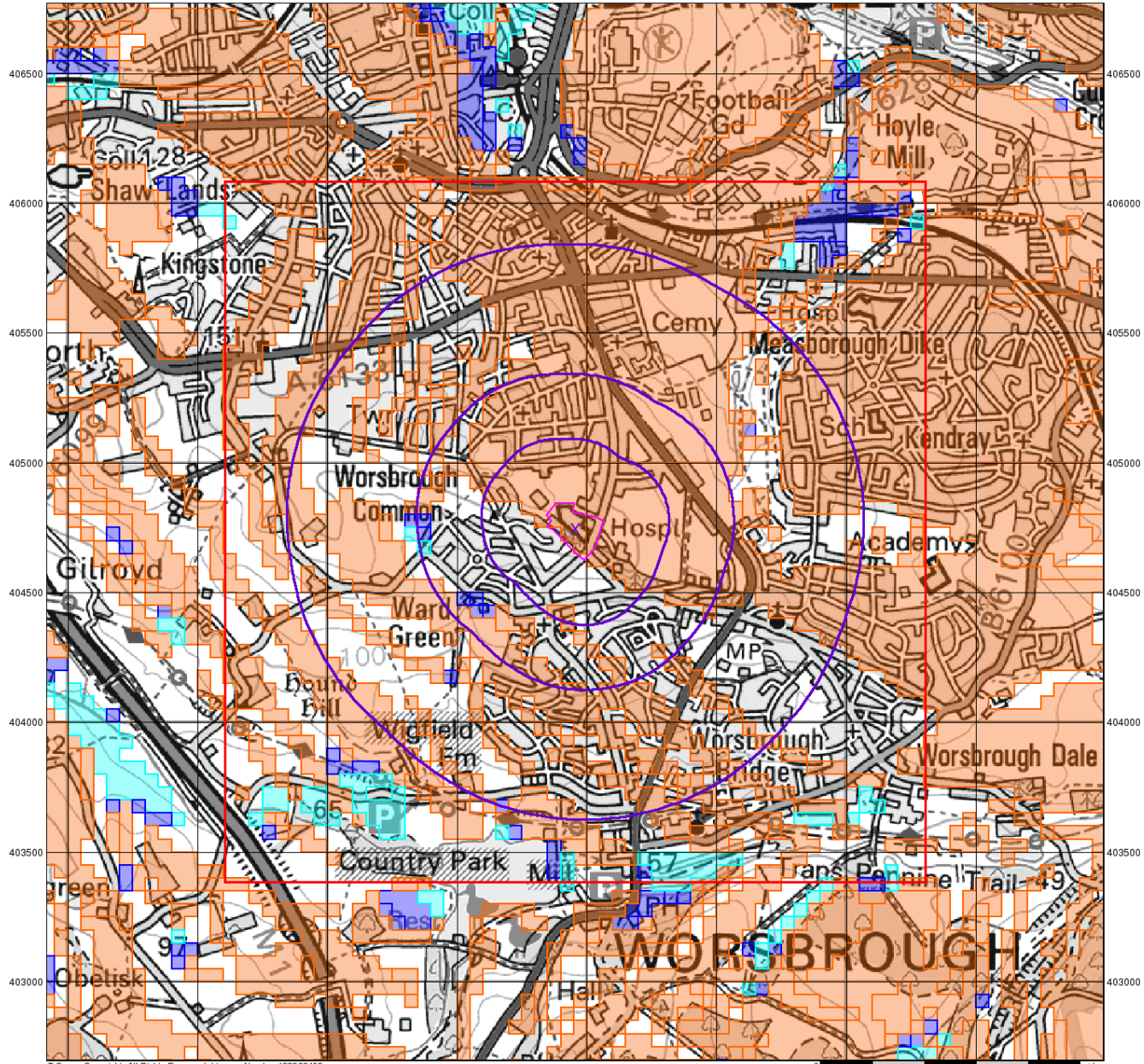
Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELEY, S70 4DP

Landmark
 INFORMATION GROUP

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

433000 433500 434000 434500 435000 435500 436000 436500



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ARP GEOTECHNICAL LIMITED
CHARTERED CONSULTING ENGINEERS

BGS Flood GFS Data

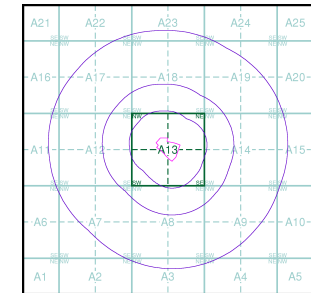
General

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

Agency and Hydrological (Flood)

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Slice: A
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP



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



Index Map

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

Slice

Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment

A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant

A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:



Envirocheck reports are compiled from 136 different sources of data.

Prepared For

South West Yorkshire Partnership

Client Details

Mr J Race, ARP Geotechnical Ltd, Northwest House, 5-6
 Northwest Business Park, Servia Hill, Leeds, LS6 2QH

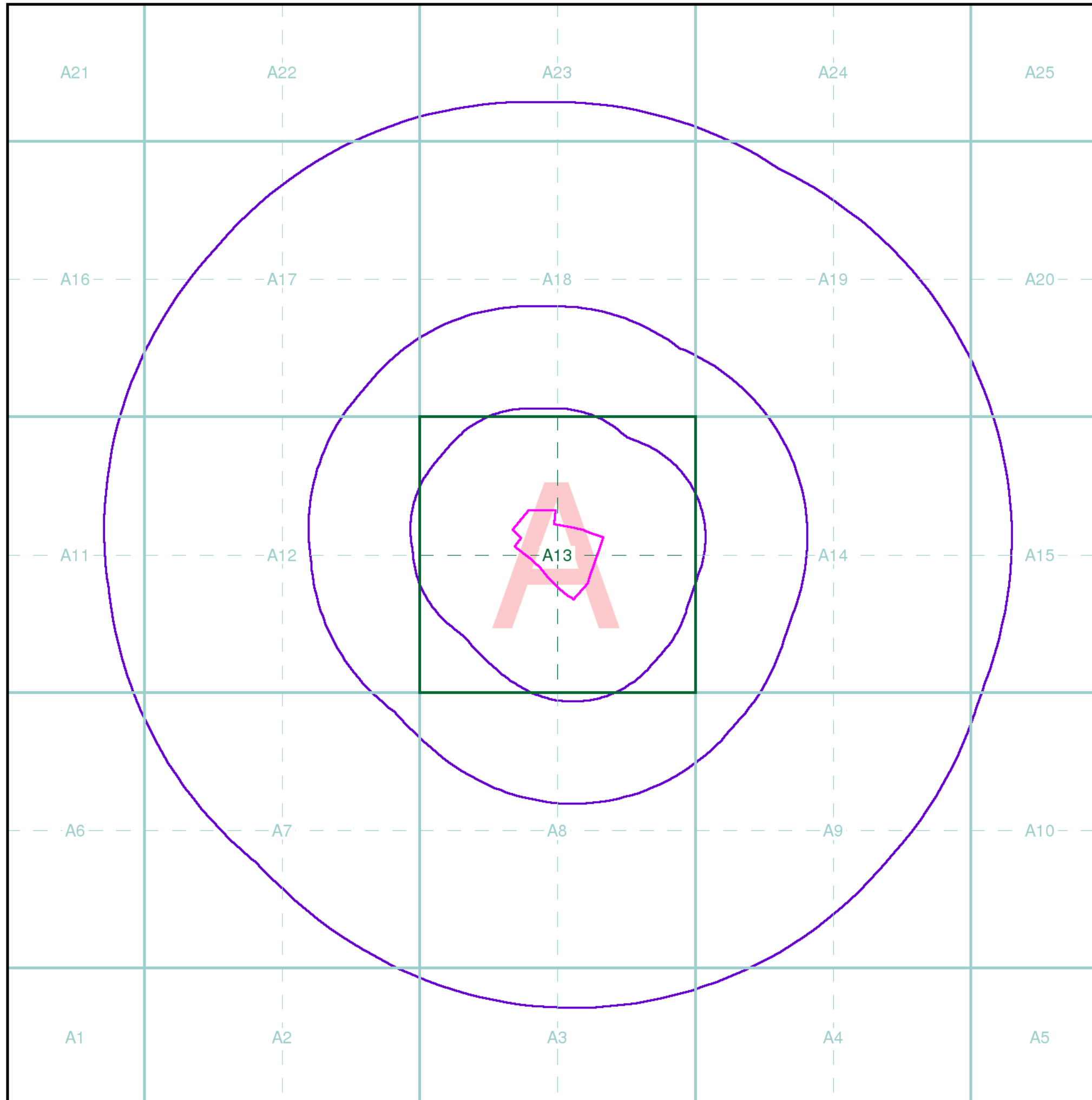
Order Details

Order Number: 142447936_1_1
 Customer Ref: SWY/02
 National Grid Reference: 434960, 404750
 Site Area (Ha): 2.7
 Search Buffer (m): 1000

Site Details

Mount Vernon Hospital, Mount Vernon Road, BARNSELY, S70 4DP

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



APPENDIX F

RISK CATEGORISATION TABLES

Severity of Consequence

Severe	Short term (acute) risks to human health, likely to result in significant harm. Major pollution of (watercourses or groundwater)
Medium	Long-term (Chronic) damage (significant harm) to human health. Pollution of sensitive water resources.
Mild	Pollution of non-sensitive water resources.
Minor	Non-permanent health effects easily prevented by use of personal protective equipment during site works.

Probability of Risk Event Occurring

High Likelihood	There is a pollutant linkage and an event that either appears very likely in the short term, almost inevitable in the long term, or there is evidence of harm or pollution at the receptor.
Likely	There is a pollution linkage and all the elements are present and in the right place, so that a risk event is possible in the short term and likely over the long term.
Low Likelihood	There is a pollution linkage and circumstances are possible under which a risk event could occur. However, it is not certain that such an event would take place even over a longer period, and even less likely in the short term.
unlikely	There is a pollution linkage, but circumstances are such that it is improbable that an event would occur even in the very long term.

Comparison of Probability Against Severity of Consequence

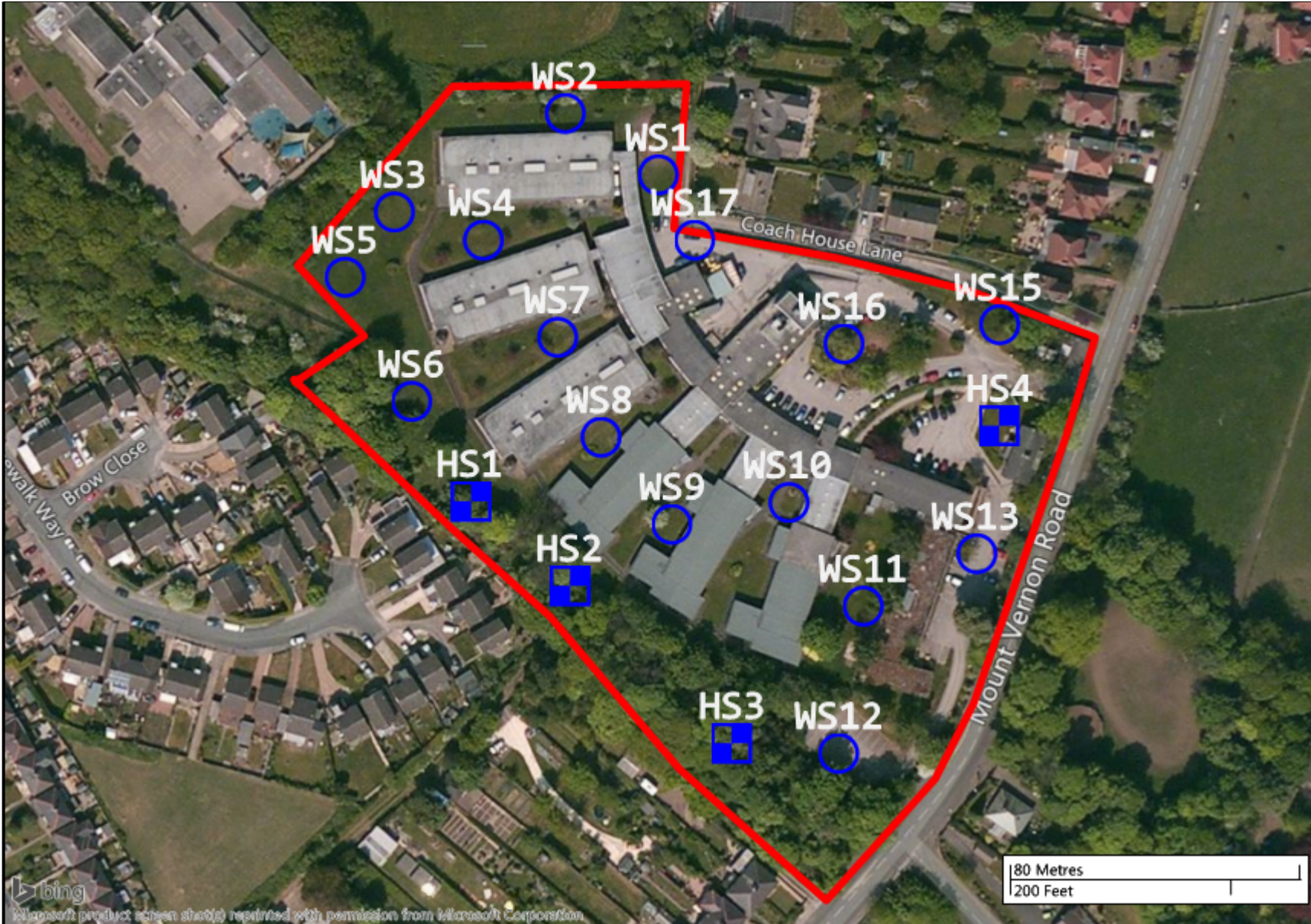
		Severity of Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate/ Low Risk
	Likely	High Risk	Moderate Risk	Moderate/ Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate/ Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate/ Low Risk	Low Risk	Very Low Risk	Very Low Risk

Risk Categories - Definitions

Very High Risk	High probability that severe harm could arise to a receptor, or there is evidence that severe harm is already occurring. Urgent investigation is required and urgent remediation is likely to be required.
High Risk	Harm is likely to arise to a receptor. Urgent investigation is required and remediation may be necessary in the short term and likely over the longer term.
Moderate Risk	Possible that harm could arise to a receptor, but low likelihood that such harm would be severe. Harm is likely to be mild. Investigation normally required to clarify risk. Some remedial works may be required in the long-term.
Moderate/ Low Risk	Possible that harm could arise to a receptor, but where a combination of likelihood and consequence results in a risk that is above low, but is not of sufficient concern to be classified as mild. Limited further investigation may be required to clarify the risk. If necessary, remediation works are likely to be limited in extent.
Low Risk	Possible that harm could arise to a receptor. Such harm, at worst, would normally be mild.
Very Low Risk	Low possibility that harm could arise to a receptor. Such harm is unlikely to be any worse than mild.

APPENDIX G

SITE INVESTIGATION PLAN AND LOGS



Legend Key

- Locations By Type - Empty
- Locations By Type - TP
- Locations By Type - WLS
- ▭ Project Bounds - Project Bounds

Project	Mount Vernon Hospital
Client	South West Yorkshire Partnership

Title	Site Investigation Plan
-------	-------------------------



Date	15/11/2017
Drawn	ARP

Scale	1:1600
No	SWY/02

Project Name: Mount Vernon Hospital

Project No. SWY/02

Co-ords: 434942.35 - 404825.89

 Date
15/11/2017

Location: Mount Vernon Road, Barnsley

Level:

 Scale
1:40

Client: South West Yorkshire Partnership

Rig Crew: RP Drilling Ltd.

 Logged:
HM

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.30	D	50 (6,7/50 for 200mm)	0.30		Dark brown slightly sandy TOPSOIL.		
		0.50 - 0.70	D		0.90		MADE GROUND: Brown yellow orange sand and gravel of mixed lithologies with fragments of brick.	1	
		1.00	SPT		1.35		Pale yellow SANDSTONE.	2	
							End of Borehole at 1.350m Refusal at 1.35m.	3	
								4	
								5	
								6	
								7	
								8	

Groundwater: No groundwater entries.

Backfill: Backfilled with arisings.

Remarks: Remained stable.

Project Name: Mount Vernon Hospital

Project No. SWY/02

Co-ords: 434916.27 - 404842.73

 Date
15/11/2017

Location: Mount Vernon Road, Barnsley



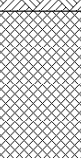


Level:

 Scale
1:40

Client: South West Yorkshire Partnership

Rig Crew: RP Drilling Ltd.

 Logged:
HMM

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.00 - 0.20	D		0.20		Dark brown TOPSOIL.		
		1.00 - 1.20	D		1.60		MADE GROUND: brown yellow orange sand and gravel of mixed lithologies with fragments of brick.	1	
		1.00	SPT	N=45 (7,18/20,10,10,5)	1.90		Yellow orange very gravelly SAND. Gravel is coarse angular of sandstone.		
		2.00	SPT	50 (25 for 95mm/50 for 125mm)	2.20		Pale yellow SANDSTONE.	2	
		End of Borehole at 2.200m Refusal at 2.2m.							3
									4
									5
									6
									7
									8

Groundwater: No groundwater entries.

Backfill:

Remarks: Remained stable. Gas well installed to 2m, with the lower 1m comprising slotted pipe with gravel surround and the upper 1m comprising solid pipe with bentonite seal, bung and tap on top, with a lockable flush cover.

Project Name: Mount Vernon Hospital

Project No. SWY/02

Co-ords: 434868.83 - 404815.07

Date
15/11/2017

Location: Mount Vernon Road, Barnsley




Level:

Scale
1:40

Client: South West Yorkshire Partnership

Rig Crew: RP Drilling Ltd.

Logged:
HMM

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.00 - 0.20	D		0.30		Dark brown TOPSOIL.		
		0.50 - 0.70	D		0.70		Orange brown very gravelly SAND. Gravel is coarse angular of sandstone.		
		1.00	SPT	50 (25 for 80mm/50 for 60mm)	1.14		Pale yellow SANDSTONE.	1	
							End of Borehole at 1.140m Refusal at 1.14m.	2	
								3	
								4	
								5	
								6	
								7	
								8	

Groundwater: No groundwater entries.
 Backfill: Backfilled with arisings upon completion.
 Remarks: Remained stable.

Project Name: Mount Vernon Hospital

Project No. SWY/02

Co-ords: 434893.42 - 404807.44

Date: 15/11/2017

Location: Mount Vernon Road, Barnsley


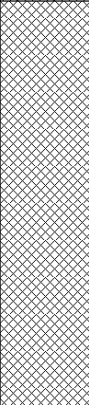


Level:

Scale: 1:40

Client: South West Yorkshire Partnership

Rig Crew: RP Drilling Ltd.

Logged: HMM

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.30	D		0.30		Dark brown TOPSOIL.		
		0.50 - 0.70	D				MADE GROUND: orange reddish pink sand and gravel of mixed lithologies with fragments of brick.		
		1.00	SPT	N=8 (2,2/2,2,2,2)					1
		2.00	SPT	N=24 (4,5/6,6,6,6)					2
					2.50		Orange brown very gravelly SAND. Gravel is coarse angular of sandstone.		
					2.90		Pale yellow SANDSTONE.		
					3.00		End of Borehole at 3.000m Refusal at 3.0m.	3	
								4	
								5	
								6	
								7	
								8	

Groundwater: No groundwater entries.

Backfill: Backfilled with arisings upon completion.

Remarks: Remained stable. No SPT undertaken at 3.0m as refused on tube

Project Name: Mount Vernon Hospital

Project No. SWY/02

Co-ords: 434855.45 - 404796.88

Date
15/11/2017

Location: Mount Vernon Road, Barnsley

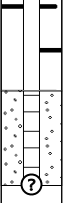




Level:

Scale
1:40

Client: South West Yorkshire Partnership

Rig Crew: RP Drilling Ltd.

Logged:
HMM

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.30	D		0.30		Dark brown TOPSOIL.		
		0.60 - 0.80	D		0.60		Dark brown orange slightly gravelly slightly clayey SAND. Gravel is coarse angular to sub-angular of sandstone.		
					0.90		Orange light orange very gravelly SAND. Gravel is coarse angular of sandstone.		
		1.00	SPT	50 (7,13/50 for 225mm)	1.38		Pale yellow SANDSTONE.	1	
							End of Borehole at 1.375m Refusal at 1.375m.	2	
								3	
								4	
								5	
								6	
								7	
								8	

Groundwater: No groundwater entries.




Backfill:

Remarks: Remained stable. Gas well installed to 1m, with the lower 0.5m comprising slotted pipe with gravel surround and the upper 0.5m comprising solid pipe with bentonite seal, bung and tap on tap, with a lockable flush cover.

Project Name: Mount Vernon Hospital	Project No. SWY/02	Co-ords: 434874.19 - 404762.61	Date: 15/11/2017
-------------------------------------	--------------------	--------------------------------	------------------

Location: Mount Vernon Road, Barnsley	Level:	Scale: 1:40
---------------------------------------	--------	-------------

Client: South West Yorkshire Partnership	Rig Crew: RP Drilling Ltd.	Logged: HMM
--	----------------------------	-------------

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.00 - 0.20	D		0.30		Dark brown TOPSOIL.		
		0.60 - 0.80	D		0.70		Pale orange brown very gravelly SAND. Gravel is fine to coarse angular of sandstone.		
		1.00	SPT	50 (25 for 80mm/50 for 5mm)	1.09		Pale yellow SANDSTONE.	1	
							End of Borehole at 1.085m Refusal at 1.085m.	2	
								3	
								4	
								5	
								6	
								7	
								8	

Groundwater: No groundwater entries.
 Backfill: Backfilled with arisings upon completion.
 Remarks: Remained stable.

Project Name: Mount Vernon Hospital

Project No. SWY/02

Co-ords: 434914.59 - 404780.64

Date
15/11/2017

Location: Mount Vernon Road, Barnsley




Level:

Scale
1:40

Client: South West Yorkshire Partnership

Rig Crew: RP Drilling Ltd.

Logged:
HMM

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20 - 0.40	D				Dark brown TOPSOIL.		
		0.40 - 0.70	D		0.40		Orange brown very gravelly slightly clayey SAND. Gravel is coarse angular to sub-angular of sandstone.		
		0.80	SPT	50 (25 for 5mm/50 for 10mm)	0.82		Grey and pale yellow SANDSTONE. End of Borehole at 0.820m Refusal at 0.815m.	1	
								2	
								3	
								4	
								5	
								6	
								7	
								8	

Groundwater: No groundwater entries.
Backfill: Backfilled with arisings upon completion.
Remarks: Remained stable.

Project Name: Mount Vernon Hospital

Project No. SWY/02

Co-ords: 434926.53 - 404753.06

Date: 16/11/2017

Location: Mount Vernon Road, Barnsley





Level:

Scale: 1:40

Client: South West Yorkshire Partnership

Rig Crew: RP Drilling Ltd.

Logged: HMM

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.30	D				Dark brown TOPSOIL.		
		0.40 - 0.60	D		0.30		Orange brown very gravelly slightly clayey SAND. Gravel is coarse angular of sandstone.		
					0.70		Orange yellow sub-angular to angular cobbles of SANDSTONE.	1	
					1.40		End of Borehole at 1.400m Refusal at 1.4m.	2 3 4 5 6 7 8	

Groundwater: No groundwater entries.

Backfill:

Remarks: Remained stable. Gas well installed to 1.4m, with the lower 1.0m comprising slotted pipe with gravel surround and the upper 0.4m comprising solid pipe with bentonite seal, bung and tap on top, with a lockable flush cover. No SPT undertaken as refused on tube.

Project Name: Mount Vernon Hospital

Project No. SWY/02

Co-ords: 434946.97 - 404729.10

Date
16/11/2017

Location: Mount Vernon Road, Barnsley

Level:

Scale
1:40

Client: South West Yorkshire Partnership

Rig Crew: RP Drilling Ltd.

Logged:
HMM

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.00 - 0.20	D		0.30		Dark brown TOPSOIL.		
		0.60 - 0.80	D				Orange brown very gravelly SAND. Gravel is coarse angular of sandstone.		
		0.80	SPT	50 (25 for 5mm/50 for 5mm)	0.80 0.81		Pale yellow SANDSTONE. End of Borehole at 0.820m Refusal at 0.81m.	1	
								2	
								3	
								4	
								5	
								6	
								7	
								8	

Groundwater: No groundwater entries.
 Backfill: Backfilled with arisings upon completion.
 Remarks: Remained stable.

RrWS_v1.054

Project Name: Mount Vernon Hospital

Project No. SWY/02

Co-ords: 434978.92 - 404735.36

Date
16/11/2017

Location: Mount Vernon Road, Barnsley

Level:

Scale
1:40

Client: South West Yorkshire Partnership

Rig Crew: RP Drilling Ltd.

Logged:
HMM

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.30	D				Dark brown TOPSOIL.		
		0.40 - 0.60	D		0.30		Orange brown very gravelly SAND. Gravel is coarse angular of sandstone.		
		1.00	SPT	50 (25 for 125mm/50 for 180mm)	0.90		Pale yellow SANDSTONE.	1	
					1.31		End of Borehole at 1.305m Refusal at 1.305m.	2	
								3	
								4	
								5	
								6	
								7	
								8	

Groundwater: No groundwater entries.
 Backfill: Backfilled with arisings upon completion.
 Remarks: Remained stable.

Project Name: Mount Vernon Hospital

Project No. SWY/02

Co-ords: 435000.11 - 404706.79

Date
16/11/2017

Location: Mount Vernon Road, Barnsley

Level:

Scale
1:40

Client: South West Yorkshire Partnership

Rig Crew: RP Drilling Ltd.

Logged:
HMM

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.00 - 0.20	D		0.20		Dark brown TOPSOIL.		
		1.00	SPT	N=3 (0,0/0,0,1,2)	1.50		MADE GROUND: orange grey brown sand and gravel of mixed lithologies with fragments of brick.	1	
		2.00	SPT	N=6 (2,2/1,1,2,2)			Loose becoming dense orange brown very gravelly SAND. Gravel is coarse angular of sandstone (Probable Made Ground).	2	
		3.00 - 3.20 3.00	D SPT	N=39 (3,4/10,10,10,9)				3	
		4.00	SPT	N=9 (3,3/3,3,1,2)				4	
					4.45 4.50		Pale yellow SANDSTONE. End of Borehole at 4.500m Refusal at 4.5m	5	
								6	
								7	
								8	

Groundwater: No groundwater entries.

Backfill: Backfilled with arisings upon completion.

Remarks: Remained stable. Refusal immediately after SPT.

Project Name: Mount Vernon Hospital

Project No. SWY/02

Co-ords: 434993.66 - 404665.95

 Date
16/11/2017

Location: Mount Vernon Road, Barnsley

Level:

 Scale
1:40

Client: South West Yorkshire Partnership

Rig Crew: RP Drilling Ltd.

 Logged:
HMM

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30		Bitmac/Tarmac		
		0.50 - 0.70	D				MADE GROUND: orange grey brown sand and gravel of mixed lithologies with fragments of brick.	1	
		1.00	SPT	N=8 (2,2/2,2,2,2)					
		1.70 - 1.90	D		1.50		Orange brown very gravelly SAND. Gravel is coarse angular of sandstone.		
		2.00	SPT	50 (25 for 105mm/50 for 5mm)	1.90		Pale yellow SANDSTONE.	2	
					2.11		End of Borehole at 2.110m Refusal at 2.11m.		
								3	
								4	
								5	
								6	
								7	
								8	

Groundwater: No groundwater entries.

Backfill: Backfilled with arisings upon completion and surface core reinstatement

Remarks: Remained stable.

Project Name: Mount Vernon Hospital

Project No. SWY/02

Co-ords: 435031.29 - 404721.56

Date
16/11/2017

Location: Mount Vernon Road, Barnsley

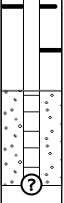



Level:

Scale
1:40

Client: South West Yorkshire Partnership

Rig Crew: RP Drilling Ltd.

Logged:
HMM

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30 - 0.50	D		0.30		Tarmac/Bitmac		
		0.70 - 0.90	D		0.50		MADE GROUND: grey orange brown gravel and brick fill.		
		1.00	SPT	50 (25 for 30mm/50 for 5mm)	0.90 1.04		Orange brown very gravelly SAND. Gravel is coarse angular of sandstone.		
								Pale yellow SANDSTONE. End of Borehole at 1.035m Refusal at 1.035m.	1
								2	
								3	
								4	
								5	
								6	
								7	
								8	

Groundwater: No groundwater entries.

Backfill:

Remarks: Remained stable. Gas well installed to 1m, with the lower 0.5m comprising slotted pipe with gravel surround and the upper 0.5m comprising solid pipe with bentonite seal, bung and tap on top, with a lockable flush cover.

Project Name: Mount Vernon Hospital

Project No. SWY/02

Co-ords: 435037.22 - 404785.09

 Date
15/11/2017

Location: Mount Vernon Road, Barnsley


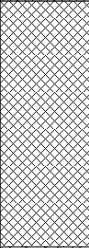


Level:

 Scale
1:40

Client: South West Yorkshire Partnership

Rig Crew: RP Drilling Ltd.

 Logged:
HMM

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.30	D		0.30		Dark brown slightly sandy TOPSOIL.		
		0.90 - 1.10 1.00	D SPT	N=8 (4,3/2,2,2,2)	1.60		MADE GROUND: orange yellow brown sand and gravel of mixed lithologies.	1	
		2.00	SPT	50 (25 for 105mm/50 for 180mm)	1.90		Yellow orange very gravelly SAND. Gravel is coarse angular of sandstone.	2	
					2.29		Pale yellow SANDSTONE.		
							End of Borehole at 2.285m Refusal at 2.285m.	3 4 5 6 7 8	

Groundwater: No groundwater entries.

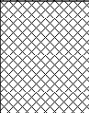

Backfill: Backfilled with arisings upon completion.

Remarks: Remained stable.

Project Name: Mount Vernon Hospital	Project No. SWY/02	Co-ords: 434993.89 - 404779.45	Date: 15/11/2017
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Location: Mount Vernon Road, Barnsley	Level:	Scale: 1:40
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Client: South West Yorkshire Partnership	Rig Crew: RP Drilling Ltd.	Logged: HMM
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Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10 - 0.30	D		0.30		Dark brown TOPSOIL.		
		0.60 - 0.80	D		0.90		MADE GROUND: brown yellow orange sand and gravel of mixed lithologies with fragments of brick.		
		1.00	SPT	50 (25 for 60mm/50 for 95mm)	1.16		Pale yellow SANDSTONE.	1	
							End of Borehole at 1.155m Refusal at 1.155m.	2	
								3	
								4	
								5	
								6	
								7	
								8	

Groundwater: No groundwater entries.
 Backfill: Backfilled with arisings upon completion.
 Remarks: Remained stable.

Project Name: Mount Vernon Hospital

Project No. SWY/02

Co-ords: 434952.79 - 404807.88

 Date
16/11/2017

Location: Mount Vernon Road, Barnsley

Level:

 Scale
1:40

Client: South West Yorkshire Partnership

Rig Crew: RP Drilling Ltd.

 Logged:
HMM


Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.30 - 0.50	D		0.30		Bitmac/Tarmac.		
		0.90 - 1.10 1.00	D SPT	N=38 (4,5/10,10,10,8)	0.80		MADE GROUND: orange grey brown sand and gravel of mixed lithologies with fragments of brick.	1	
		1.80	SPT	50 (25 for 105mm/50 for 80mm)	1.70 1.99		Dense orange brown very gravelly SAND. Gravel is coarse angular of sandstone. Pale yellow SANDSTONE.	2	
							End of Borehole at 1.985m Refusal at 1.985m.	3 4 5 6 7 8	

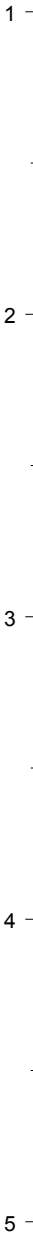
Groundwater: No groundwater entries.

Backfill: Backfilled with arisings upon completion and surface core reinstatement

Remarks: Remained stable.


Project Name: Mount Vernon Hospital	Project No. SWY/02	Co-ords: - Level:	Date 15/11/2017
Location: Mount Vernon Road, Barnsley		Pit Dimensions (m): Length: m Width: m Depth: 0.20 m	Scale 1:25
Client: South West Yorkshire Partnership			Logged: HMM

Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
Depth	Type	Results				
0.00 - 0.20	D		0.20			Dark brown slightly sandy TOPSOIL.
						End of Pit at 0.200m



Groundwater: No groundwater entries.
 Backfill: Backfilled with arisings upon completion.
 Stability: Remained stable.
 Remarks: Hand dug pit for sampling.

Project Name: Mount Vernon Hospital	Project No. SWY/02	Co-ords: - Level:	Date 15/11/2017
Location: Mount Vernon Road, Barnsley		Pit Dimensions (m): Length: m Width: m Depth: 0.20 m	Scale 1:25
Client: South West Yorkshire Partnership			Logged: HMM

Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
Depth	Type	Results				
0.00 - 0.20	D		0.20			Dark brown slightly sandy TOPSOIL.
						End of Pit at 0.200m


Groundwater: No groundwater entries.
 Backfill: Backfilled with arisings upon completion.
 Stability: Remained stable.
 Remarks: Hand dug pit for sampling.

RrTP_v1.052

Project Name: Mount Vernon Hospital	Project No. SWY/02	Co-ords: - Level:	Date 16/11/2017
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Location: Mount Vernon Road, Barnsley	Pit Dimensions (m): Length: m	Scale 1:25
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Client: South West Yorkshire Partnership	Width: m Depth: 0.30 m	Logged: HMM
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Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
Depth	Type	Results				
0.10 - 0.30	D		0.30			Dark brown slightly sandy TOPSOIL. End of Pit at 0.300m
						<div style="display: flex; align-items: center;"> <div style="flex: 1; border-left: 1px dashed black; border-right: 1px dashed black;"></div> <div style="margin-left: 5px;">1</div> </div> <div style="display: flex; align-items: center; margin-top: 100px;"> <div style="flex: 1; border-left: 1px dashed black; border-right: 1px dashed black;"></div> <div style="margin-left: 5px;">2</div> </div> <div style="display: flex; align-items: center; margin-top: 100px;"> <div style="flex: 1; border-left: 1px dashed black; border-right: 1px dashed black;"></div> <div style="margin-left: 5px;">3</div> </div> <div style="display: flex; align-items: center; margin-top: 100px;"> <div style="flex: 1; border-left: 1px dashed black; border-right: 1px dashed black;"></div> <div style="margin-left: 5px;">4</div> </div> <div style="display: flex; align-items: center; margin-top: 100px;"> <div style="flex: 1; border-left: 1px dashed black; border-right: 1px dashed black;"></div> <div style="margin-left: 5px;">5</div> </div>

Groundwater: No groundwater entries.
 Backfill: Backfilled with arisings upon completion.
 Stability: Remained stable.
 Remarks: Hand dug pit for sampling.

APPENDIX H

LABORATORY TEST CERTIFICATES AND SCREENING VALUES



ARP GEOTECHNICAL LIMITED
SOIL CONTAMINANT SCREENING VALUES
RESIDENTIAL WITH HOME-GROWN PRODUCE

Determinand	S4UL (mg/kg)			C4SL (mg/kg)		
	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM
Arsenic	37			37		
Cadmium	11			22		
Chromium (trivalent)	910					
Chromium (hexavalent)	6			21		
Lead				200		
Inorganic Mercury	40					
Selenium	250					
Copper	2400					
Nickel	130					
Zinc	3700					
Acidity (pH)	*Should be Greater Than 5			*Should be Greater Than 5		
	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM
Acenaphthene	210	510	1,100			
Acenaphthylene	170	420	920			
Anthracene	2,400	5,400	11,000			
Benzo(a)anthracene	7.2	11	13			
Benzo(a)pyrene	2.2	2.7	3			5
Benzo(b)fluoranthene	2.6	3.3	3.7			
Benzo(g,h,i)perylene	320	340	350			
Benzo(k)fluoranthene	77	93	100			
Chrysene	15	22	27			
Dibenzo(a,h)anthracene	0.24	0.28	0.3			
Fluoranthene	280	560	890			
Fluorene	170	400	860			
Indeno(1,2,3-cd)pyrene	27	36	41			
Naphthalene	2.3	5.6	13			
Phenanthrene	95	220	440			
Pyrene	620	1,200	2,000			
Phenols	120	200	380			
Total TPH	*Above 500, speciate and compare with values below:					
C5 to C6 Aliphatic	42	78	160			
C6 to C8 Aliphatic	100	230	530			
C8 to C10 Aliphatic	27	65	150			
C10 to C12 Aliphatic	130	48	760			
C12 to C16 Aliphatic	1100	2,400	4,300			
C16 to C35 Aliphatic	65,000	92,000	110,000			
C35 TO C44 Aliphatic	65,000	92,000	110,000			
C5 to C7 Aromatic (Benzene)	70	140	300			
C7 to C8 Aromatic (Toluene)	130	290	660			
C8 to C10 Aromatic	34	83	190			
C10 to C12 Aromatic	74	180	380			
C12 to C16 Aromatic	140	330	660			
C16 to C21 Aromatic	260	540	930			
C21 TO C35 Aromatic	1100	1,500	1,700			
C35 TO C44 Aromatic	1100	1,500	1,700			
Asbestos	*Should be None Detected			*Should be None Detected		

* In House Value/Approach S4UL = Suitable 4 Use Level, CIEH/LQM 2014 C4SL = Cat 4 Screening Level, DEFRA, 2014

Blank cell indicates no published value or in-house value. Some values presented are above saturation limits.

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**ARP GEOTECHNICAL LIMITED
SOIL CONTAMINANT SCREENING VALUES
PUBLIC OPEN SPACE NEAR RESIDENTIAL**

Determinand	S4UL (mg/kg)			C4SL (mg/kg)		
	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM
Arsenic		79			79	
Cadmium		120			220	
Chromium (trivalent)		1500				
Chromium (hexavalent)		7.7			21	
Lead					630	
Inorganic Mercury		120				
Selenium		1100				
Copper		12000				
Nickel		230				
Zinc		81000				
Acidity (pH)	*Should be Greater Than 5					
	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM
Acenaphthene	15000	15000	15000			
Acenaphthylene	15000	15000	15000			
Anthracene	74000	74000	74000			
Benzo(a)anthracene	29	29	29			
Benzo(a)pyrene	5.7	5.7	5.7			10
Benzo(b)fluoranthene	7.1	7.2	7.2			
Benzo(g,h,i)perylene	640	640	640			
Benzo(k)fluoranthene	190	190	190			
Chrysene	57	57	57			
Dibenzo(a,h)anthracene	0.57	0.57	0.57			
Fluoranthene	3100	3100	3100			
Fluorene	9900	9900	9900			
Indeno(1,2,3-cd)pyrene	82	82	82			
Naphthalene	4900	4900	4900			
Phenanthrene	3100	3100	3100			
Pyrene	7400	7400	7400			
Phenols	440	690	1300			
Total TPH	*Above 3,800, speciate and compare with values below:					
C5 to C6 Aliphatic	570000	590000	600000			
C6 to C8 Aliphatic	600000	610000	620000			
C8 to C10 Aliphatic	13000	13000	13000			
C10 to C12 Aliphatic	13000	13000	13000			
C12 to C16 Aliphatic	13000	13000	13000			
C16 to C35 Aliphatic	250000	250000	250000			
C35 TO C44 Aliphatic	250000	250000	250000			
C5 to C7 Aromatic (Benzene)	56000	56000	56000			
C7 to C8 Aromatic (Toluene)	56000	56000	56000			
C8 to C10 Aromatic	5000	5000	5000			
C10 to C12 Aromatic	5000	5000	5000			
C12 to C16 Aromatic	5100	5100	5000			
C16 to C21 Aromatic	3800	3800	3800			
C21 TO C35 Aromatic	3800	3800	3800			
C35 TO C44 Aromatic	3800	3800	3800			
Asbestos	*Should be None Detected			*Should be None Detected		

* In House Value/Approach S4UL = Suitable 4 Use Level, CIEH/LQM 2014 C4SL = Cat 4 Screening Level, DEFRA, 2014

Blank cell indicates no published value or in-house value. Some values presented are above saturation limits.

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DETS

Certificate of Analysis

Certificate Number 17-16278

28-Nov-17

Client ARP Geotechnical
5/6 Northwest Business Park
Servia Hill
Leeds
LS6 2QH

Our Reference 17-16278

Client Reference SWY/02

Order No (not supplied)

Contract Title Mount Vernon Hospital

Description 29 Soil samples.

Date Received 21-Nov-17

Date Started 21-Nov-17

Date Completed 28-Nov-17

Test Procedures Identified by prefix DETSn (details on request).

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

Approved By



Adam Fenwick
Contracts Manager



Summary of Chemical Analysis Soil Samples

Our Ref 17-16278

Client Ref SWY/02

Contract Title Mount Vernon Hospital

Lab No	1261596	1261597	1261598	1261599	1261600	1261601
Sample ID	WS1	WS1	WS2	WS2	WS3	WS3
Depth	0.10-0.30	0.50-0.70	0.00-0.20	1.00-1.20	0.00-0.20	0.50-0.70
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	15/11/17	15/11/17	15/11/17	15/11/17	15/11/17	15/11/17
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	12	10	15	12	8.6	
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.2	0.2	0.2	0.2	
Chromium III	DETSC 2301*	0.15	mg/kg	19	9.8	19	8.0	9.2	
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Copper	DETSC 2301#	0.2	mg/kg	39	36	36	25	24	
Lead	DETSC 2301#	0.3	mg/kg	57	58	55	59	48	
Mercury	DETSC 2325#	0.05	mg/kg	0.12	0.09	0.12	0.15	0.08	
Nickel	DETSC 2301#	1	mg/kg	16	11	17	10	10	
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	0.8	0.6	< 0.5	
Zinc	DETSC 2301#	1	mg/kg	88	68	91	76	58	
Inorganics									
pH	DETSC 2008#			8.2	8.0	7.1	7.7	6.9	7.5
Organic matter	DETSC 2002#	0.1	%	4.9	2.3	7.4	3.3	4.5	
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	14	< 10	25	56	15	< 10
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.05	0.03	0.09	0.06	0.06	< 0.01
Petroleum Hydrocarbons									
EPH (C10-C40)	DETSC 3311#	10	mg/kg	47	26	< 10	22	< 10	
PAHs									
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Phenanthrene	DETSC 3301	0.1	mg/kg	0.9	0.2	0.3	0.6	< 0.1	
Anthracene	DETSC 3301	0.1	mg/kg	0.2	< 0.1	< 0.1	< 0.1	< 0.1	
Fluoranthene	DETSC 3301	0.1	mg/kg	1.8	0.5	0.5	0.9	0.1	
Pyrene	DETSC 3301	0.1	mg/kg	1.8	0.5	0.6	0.9	0.1	
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	0.9	0.2	0.2	0.4	< 0.1	
Chrysene	DETSC 3301	0.1	mg/kg	1.0	0.2	0.3	0.4	< 0.1	
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	0.7	0.2	0.2	0.3	< 0.1	
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	0.5	0.2	0.2	0.2	< 0.1	
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	1.0	0.3	0.4	0.5	< 0.1	
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	0.6	0.2	< 0.1	0.4	< 0.1	
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	0.6	0.1	< 0.1	0.2	< 0.1	
PAH Total	DETSC 3301	1.6	mg/kg	10	2.6	2.9	4.9	< 1.6	
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3	< 0.3	0.3	< 0.3	< 0.3	

Summary of Chemical Analysis

Soil Samples

Our Ref 17-16278

Client Ref SWY/02

Contract Title Mount Vernon Hospital

Lab No	1261602	1261603	1261604	1261605	1261606	1261607
Sample ID	WS4	WS4	WS5	WS6	WS7	WS8
Depth	0.10-0.30	0.50-0.70	0.10-0.30	0.00-0.20	0.20-0.40	0.10-0.30
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	15/11/17	15/11/17	15/11/17	15/11/17	15/11/17	16/11/17
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units	1261602	1261603	1261604	1261605	1261606	1261607
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	13	6.0	19	11	13	13
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.2	0.3	0.2	0.2	0.2
Chromium III	DETSC 2301*	0.15	mg/kg	13	5.1	14	9.0	12	11
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	27	12	59	21	28	25
Lead	DETSC 2301#	0.3	mg/kg	47	17	74	46	50	54
Mercury	DETSC 2325#	0.05	mg/kg	0.08	< 0.05	0.15	0.08	0.07	0.15
Nickel	DETSC 2301#	1	mg/kg	14	6.9	16	12	13	12
Selenium	DETSC 2301#	0.5	mg/kg	0.8	< 0.5	0.8	< 0.5	0.6	0.7
Zinc	DETSC 2301#	1	mg/kg	75	26	210	53	87	65
Inorganics									
pH	DETSC 2008#			7.2	8.7	7.0	6.6	7.0	7.8
Organic matter	DETSC 2002#	0.1	%	4.1	0.4	5.9	3.5	5.5	5.3
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	11	< 10	12	< 10	12	17
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.05	0.03	0.05	0.04	0.28	0.08
Petroleum Hydrocarbons									
EPH (C10-C40)	DETSC 3311#	10	mg/kg	30	< 10	< 10	< 10	< 10	< 10
PAHs									
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	0.3	< 0.1	0.3	0.1	0.3	0.3
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	1.0	0.2	0.6	0.3	0.7	0.9
Pyrene	DETSC 3301	0.1	mg/kg	1.0	0.2	0.6	0.3	0.7	0.9
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	0.6	< 0.1	0.3	0.1	0.4	0.4
Chrysene	DETSC 3301	0.1	mg/kg	0.6	< 0.1	0.3	< 0.1	0.4	0.3
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	0.6	< 0.1	0.2	0.1	0.3	0.3
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	0.4	< 0.1	0.2	0.1	0.2	0.2
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	0.8	< 0.1	0.3	0.7	0.7	0.9
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	0.4	< 0.1	0.2	0.2	< 0.1	0.4
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	0.3	< 0.1	0.2	0.1	< 0.1	0.2
PAH Total	DETSC 3301	1.6	mg/kg	6.0	< 1.6	3.2	2.1	3.9	5.0
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.6	0.5	0.9	< 0.3	0.4	0.4

Summary of Chemical Analysis Soil Samples

Our Ref 17-16278

Client Ref SWY/02

Contract Title Mount Vernon Hospital

Lab No	1261608	1261609	1261610	1261611	1261612	1261613
Sample ID	WS9	WS9	WS10	WS11	WS12	WS13
Depth	0.00-0.20	0.60-0.80	0.10-0.30	0.00-0.20	0.50-0.70	0.30-0.50
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	16/11/17	16/11/17	16/11/17	16/11/17	16/11/17	16/11/17
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	14		14	15	6.7	2.9
Cadmium	DETSC 2301#	0.1	mg/kg	0.3		0.6	0.3	0.3	< 0.1
Chromium III	DETSC 2301*	0.15	mg/kg	16		12	10	15	4.1
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	29		23	28	20	8.3
Lead	DETSC 2301#	0.3	mg/kg	64		71	120	110	7.8
Mercury	DETSC 2325#	0.05	mg/kg	0.18		0.15	0.18	0.16	< 0.05
Nickel	DETSC 2301#	1	mg/kg	13		9.9	12	6.2	7.8
Selenium	DETSC 2301#	0.5	mg/kg	0.7		< 0.5	0.9	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	71		150	52	48	18
Inorganics									
pH	DETSC 2008#			8.0	8.1	8.0	6.9	10.1	8.7
Organic matter	DETSC 2002#	0.1	%	5.9		4.1	4.5	1.9	0.1
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	24	< 10	11	15	29	< 10
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.08	0.02	0.06	0.06	0.06	0.01
Petroleum Hydrocarbons									
EPH (C10-C40)	DETSC 3311#	10	mg/kg	< 10		140	51	25	< 10
PAHs									
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1		0.1	< 0.1	< 0.1	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1		0.2	< 0.1	< 0.1	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	0.2		1.9	0.3	0.6	0.2
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1		0.6	0.1	0.2	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	0.6		3.2	1.2	1.6	0.5
Pyrene	DETSC 3301	0.1	mg/kg	0.6		2.9	1.4	1.5	0.6
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	0.3		1.5	0.6	0.8	1.5
Chrysene	DETSC 3301	0.1	mg/kg	0.3		1.2	0.4	0.7	0.3
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	0.2		0.9	0.5	0.5	0.3
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	0.2		0.6	0.3	0.4	0.2
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	0.6		1.5	1.0	0.8	0.5
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	0.3		0.7	0.5	0.6	0.3
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1		0.3	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	0.2		0.8	0.4	0.5	0.2
PAH Total	DETSC 3301	1.6	mg/kg	3.6		16	6.8	8.4	4.7
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.4		0.4	0.3	< 0.3	< 0.3

Summary of Chemical Analysis

Soil Samples

Our Ref 17-16278

Client Ref SWY/02

Contract Title Mount Vernon Hospital

Lab No	1261614	1261615	1261616	1261617	1261618	1261619
Sample ID	WS13	WS15	WS15	WS16	WS16	WS17
Depth	0.70-0.90	0.10-0.30	0.90-1.10	0.10-0.30	0.60-0.80	0.30-0.50
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	16/11/17	16/11/17	16/11/17	16/11/17	16/11/17	16/11/17
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg		15	22	19	19	1.5
Cadmium	DETSC 2301#	0.1	mg/kg		0.2	0.3	0.3	0.2	0.8
Chromium III	DETSC 2301*	0.15	mg/kg		11	13	9.7	8.5	110
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg		26	40	30	34	12
Lead	DETSC 2301#	0.3	mg/kg		99	380	93	170	7.6
Mercury	DETSC 2325#	0.05	mg/kg		0.15	0.25	0.21	0.70	< 0.05
Nickel	DETSC 2301#	1	mg/kg		10	14	11	12	2.2
Selenium	DETSC 2301#	0.5	mg/kg		0.5	< 0.5	0.6	< 0.5	0.8
Zinc	DETSC 2301#	1	mg/kg		57	140	62	73	39
Inorganics									
pH	DETSC 2008#			9.4	7.3	8.3	7.4	8.0	11.1
Organic matter	DETSC 2002#	0.1	%		4.8	3.9	4.3	5.1	3.1
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	11	< 10	19	14	35	160
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.03	0.06	0.11	0.06	0.07	0.32
Petroleum Hydrocarbons									
EPH (C10-C40)	DETSC 3311#	10	mg/kg		67	37	29	14	2900
PAHs									
Naphthalene	DETSC 3301	0.1	mg/kg		< 0.1	< 0.1	< 0.1	< 0.1	< 0.5
Acenaphthylene	DETSC 3301	0.1	mg/kg		< 0.1	< 0.1	< 0.1	< 0.1	1.1
Acenaphthene	DETSC 3301	0.1	mg/kg		< 0.1	< 0.1	< 0.1	< 0.1	1.4
Fluorene	DETSC 3301	0.1	mg/kg		< 0.1	< 0.1	< 0.1	< 0.1	2.5
Phenanthrene	DETSC 3301	0.1	mg/kg		0.6	0.4	0.2	0.4	20
Anthracene	DETSC 3301	0.1	mg/kg		0.2	0.1	< 0.1	0.1	4.9
Fluoranthene	DETSC 3301	0.1	mg/kg		2.0	1.2	0.6	1.2	120
Pyrene	DETSC 3301	0.1	mg/kg		2.1	1.3	0.7	1.2	130
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg		1.8	0.8	0.3	0.6	74
Chrysene	DETSC 3301	0.1	mg/kg		1.0	0.6	0.3	0.6	69
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg		0.7	0.5	0.3	0.4	57
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg		0.4	0.3	< 0.1	0.3	40
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg		1.5	0.8	0.4	0.8	80
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg		0.6	0.5	< 0.1	0.5	53
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg		0.3	< 0.1	< 0.1	< 0.1	8.7
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg		0.6	0.5	< 0.1	0.4	46
PAH Total	DETSC 3301	1.6	mg/kg		12	7.2	2.8	6.5	710
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg		< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Summary of Chemical Analysis

Soil Samples

Our Ref 17-16278

Client Ref SWY/02

Contract Title Mount Vernon Hospital

Lab No	1261620	1261621	1261622	1261623	1261624
Sample ID	WS17	HS1	HS2	HS3	HS4
Depth	0.90-1.10	0.20	0.20	0.20	0.10-0.30
Other ID					
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	16/11/17	16/11/17	16/11/17	16/11/17	16/11/17
Sampling Time	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Metals								
Arsenic	DETSC 2301#	0.2	mg/kg		8.7	7.0	8.3	15
Cadmium	DETSC 2301#	0.1	mg/kg		0.3	0.2	0.3	< 0.1
Chromium III	DETSC 2301*	0.15	mg/kg		6.1	6.8	12	23
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg		18	16	22	52
Lead	DETSC 2301#	0.3	mg/kg		120	23	50	43
Mercury	DETSC 2325#	0.05	mg/kg		0.12	< 0.05	0.10	0.16
Nickel	DETSC 2301#	1	mg/kg		6.4	9.2	7.6	36
Selenium	DETSC 2301#	0.5	mg/kg		< 0.5	< 0.5	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg		61	35	64	38
Inorganics								
pH	DETSC 2008#			9.7	7.8	8.4	7.4	7.8
Organic matter	DETSC 2002#	0.1	%		10	4.1	8.2	6.6
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	44	48	16	28	82
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.03	0.13	0.06	0.11	0.22
Petroleum Hydrocarbons								
EPH (C10-C40)	DETSC 3311#	10	mg/kg		120	55	140	< 10
PAHs								
Naphthalene	DETSC 3301	0.1	mg/kg		< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg		< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg		< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg		< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg		0.5	0.2	0.3	0.1
Anthracene	DETSC 3301	0.1	mg/kg		0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg		1.1	0.3	1.1	0.3
Pyrene	DETSC 3301	0.1	mg/kg		1.3	0.3	1.2	0.4
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg		0.6	0.1	0.6	0.1
Chrysene	DETSC 3301	0.1	mg/kg		0.4	0.1	0.5	0.2
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg		1.5	< 0.1	0.4	0.2
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg		0.4	< 0.1	0.3	0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg		1.1	0.2	1.0	0.3
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg		0.4	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg		0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg		0.4	< 0.1	< 0.1	< 0.1
PAH Total	DETSC 3301	1.6	mg/kg		8.0	< 1.6	5.4	1.7
Phenols								
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg		< 0.3	< 0.3	< 0.3	< 0.3

Summary of Asbestos Analysis

Soil Samples

Our Ref 17-16278

Client Ref SWY/02

Contract Title Mount Vernon Hospital

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1261596	WS1 0.10-0.30	SOIL	NAD	none	Steven Lambert
1261597	WS1 0.50-0.70	SOIL	NAD	none	Steven Lambert
1261598	WS2 0.00-0.20	SOIL	NAD	none	Steven Lambert
1261599	WS2 1.00-1.20	SOIL	NAD	none	Steven Lambert
1261600	WS3 0.00-0.20	SOIL	NAD	none	Steven Lambert
1261602	WS4 0.10-0.30	SOIL	NAD	none	Steven Lambert
1261603	WS4 0.50-0.70	SOIL	NAD	none	Steven Lambert
1261604	WS5 0.10-0.30	SOIL	NAD	none	Steven Lambert
1261605	WS6 0.00-0.20	SOIL	NAD	none	Steven Lambert
1261606	WS7 0.20-0.40	SOIL	NAD	none	Steven Lambert
1261607	WS8 0.10-0.30	SOIL	NAD	none	Steven Lambert
1261608	WS9 0.00-0.20	SOIL	NAD	none	Steven Lambert
1261610	WS10 0.10-0.30	SOIL	NAD	none	Steven Lambert
1261611	WS11 0.00-0.20	SOIL	NAD	none	Steven Lambert
1261612	WS12 0.50-0.70	SOIL	NAD	none	Steven Lambert
1261613	WS13 0.30-0.50	SOIL	NAD	none	Steven Lambert
1261615	WS15 0.10-0.30	SOIL	NAD	none	Steven Lambert
1261616	WS15 0.90-1.10	SOIL	NAD	none	Steven Lambert
1261617	WS16 0.10-0.30	SOIL	NAD	none	Steven Lambert
1261618	WS16 0.60-0.80	SOIL	NAD	none	Steven Lambert
1261619	WS17 0.30-0.50	SOIL	NAD	none	Steven Lambert
1261621	HS1 0.20	SOIL	NAD	none	Steven Lambert
1261622	HS2 0.20	SOIL	NAD	none	Steven Lambert
1261623	HS3 0.20	SOIL	NAD	none	Steven Lambert
1261624	HS4 0.10-0.30	SOIL	NAD	none	Steven Lambert

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 17-16278

Client Ref SWY/02

Contract Mount Vernon Hospital

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1261596	WS1 0.10-0.30 SOIL	15/11/17	GJ 60ml, PG		
1261597	WS1 0.50-0.70 SOIL	15/11/17	GJ 60ml, PG		
1261598	WS2 0.00-0.20 SOIL	15/11/17	GJ 60ml, PG		
1261599	WS2 1.00-1.20 SOIL	15/11/17	GJ 60ml, PG		
1261600	WS3 0.00-0.20 SOIL	15/11/17	GJ 60ml, PG		
1261601	WS3 0.50-0.70 SOIL	15/11/17	GJ 60ml, PG		
1261602	WS4 0.10-0.30 SOIL	15/11/17	GJ 60ml, PG		
1261603	WS4 0.50-0.70 SOIL	15/11/17	GJ 60ml, PG		
1261604	WS5 0.10-0.30 SOIL	15/11/17	GJ 60ml, PG		
1261605	WS6 0.00-0.20 SOIL	15/11/17	GJ 60ml, PG		
1261606	WS7 0.20-0.40 SOIL	15/11/17	GJ 60ml, PG		
1261607	WS8 0.10-0.30 SOIL	16/11/17	GJ 60ml, PG		
1261608	WS9 0.00-0.20 SOIL	16/11/17	GJ 60ml, PG		
1261609	WS9 0.60-0.80 SOIL	16/11/17	GJ 60ml, PG		
1261610	WS10 0.10-0.30 SOIL	16/11/17	GJ 60ml, PG		
1261611	WS11 0.00-0.20 SOIL	16/11/17	GJ 60ml, PG		
1261612	WS12 0.50-0.70 SOIL	16/11/17	GJ 60ml, PG		
1261613	WS13 0.30-0.50 SOIL	16/11/17	GJ 60ml, PG		
1261614	WS13 0.70-0.90 SOIL	16/11/17	GJ 60ml, PG		
1261615	WS15 0.10-0.30 SOIL	16/11/17	GJ 60ml, PG		
1261616	WS15 0.90-1.10 SOIL	16/11/17	GJ 60ml, PG		
1261617	WS16 0.10-0.30 SOIL	16/11/17	GJ 60ml, PG		
1261618	WS16 0.60-0.80 SOIL	16/11/17	GJ 60ml, PG		
1261619	WS17 0.30-0.50 SOIL	16/11/17	GJ 60ml, PG		
1261620	WS17 0.90-1.10 SOIL	16/11/17	GJ 60ml, PG		
1261621	HS1 0.20 SOIL	16/11/17	GJ 60ml, PG		
1261622	HS2 0.20 SOIL	16/11/17	GJ 60ml, PG		
1261623	HS3 0.20 SOIL	16/11/17	GJ 60ml, PG		
1261624	HS4 0.10-0.30 SOIL	16/11/17	GJ 60ml, PG		

Key: G-Glass P-Plastic J-Jar G-Bag

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

APPENDIX J

CONTAMINATION REMEDIATION STATEMENT



CONTAMINATION REMEDIATION STATEMENT

AT

**MOUNT VERNON HOSPITAL
BARNSELY**

ON BEHALF OF

**SOUTH WEST YORKSHIRE PARTNERSHIP
NHS FOUNDATION TRUST**

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CLIENT: SOUTH WEST YORKSHIRE PARTNERSHIP
 JOB NUMBER: SWY/02
 PROJECT: MOUNT VERNON HOSPITAL, MOUNT VERNON ROAD, BARNSELY
 REPORT TYPE: CONTAMINATION REMEDIATION STATEMENT
 REPORT REFERENCE: SWY/02Rem1

	Name	Signature
Prepared By:	H McPhail BSc FGS	
Reviewed By:	J Race BSc CGeol FGS EurGeol	
Authorised By:	A Radcliffe BEng (Hons) CEng MStructE	

ISSUE	DATE	STATUS
1	2 nd FEBRUARY 2018	V1 FINAL

**SOUTH WEST YORKSHIRE PARTNERSHIP
MOUNT VERNON HOSPITAL, MOUNT VERNON ROAD, BARNSELY
2nd FEBRUARY 2018**

CONTAMINATION REMEDIATION STATEMENT

1.0 Introduction

1.1 This document has been prepared to provide information for the Client and other interested parties, such as the Regulatory Authorities, outlining how contamination encountered on the site will be managed to ensure that the site is environmentally suitable for the intended residential use. The document should be agreed, prior to implementation, with the relevant Regulatory Authorities, usually the local Planning Authority and NHBC or other building control provider.

2.0 The Site

2.1 The ARP Geotechnical Ltd Combined Stage 1/2 Geo-environmental Report, dated February 2018 under reference SWY/02r1, makes an assessment of contamination, along with other aspects.

2.2 The conceptual site model is for residential properties with private gardens.

2.3 At the time of the investigation, the site was occupied by Mount Vernon Hospital, with several buildings and car parks. A steep wooded slope is present on the southwestern edge of the site.

2.4 The site is bounded to the north by residential buildings and a playing field. Both of these are at a similar level to the site. To the east is open ground with mature trees and a number of detached buildings. To the southwest, at the bottom of the slope which forms the southwestern boundary, are residential properties with associated gardens and access roads. A school is present to the northwest, and Mount Vernon Road is present to the southeast.

2.5 The geological maps show the site to be underlain by Woolley Edge Rock (sandstone). There are no faults shown to affect the site. A coal seam outcrops just inside the southwestern boundary, with undifferentiated strata and further coal seams beyond. There are no faults shown to affect the site.

2.6 The coal mining report indicates there is the possibility of shallow workings and this will need to be assessed by an intrusive investigation using a rotary drilling rig. There are no known coal mine entries within, or within 20m of, the site. However, there is a risk of unrecorded mine entries in the local area. Bell pits may also be present.

- 2.7 The strata beneath the site are classed as a 'Secondary A' aquifer. There are no groundwater abstractions within 1km of the site.
- 2.8 The nearest downslope surface water is a stream 214m to the south. Any surface water run-off is likely to reach the surface water drainage of the surrounding public highway and residential areas. There are no surface water abstractions within 1km of the site.
- 2.9 Basic radon protection measures are recommended for the site. There are no landfills within 250m of the site, but there is a risk of coal/mine gas. Monitoring of gas wells, installed into boreholes on the site, is ongoing and the results will be reported on completion.
- 2.10 Ordnance Survey archive maps show the site was occupied by a small number of buildings possibly comprising a large residential property and grounds, later used as a sanatorium. There is evidence of coal mining and sandstone quarrying in the wider area. A small sandstone quarry was once indicated just outside the western boundary, but this is an area comprising a steep slope and is unlikely to have received any significant backfill.
- 2.11 The boreholes revealed a covering layer of dark brown topsoil to a maximum depth of 0.4m, with the exception of WS12, WS13 and WS17 which had a covering layer of bituminous surfacing. Below the surface materials, made ground was encountered in nine out of sixteen locations, to depths of between 0.5m and 2.5m. The natural strata, below any topsoil or made ground, were found to comprise very gravelly sand, over bedrock. Sandstone was encountered from depths of between 0.6m and 4.45m. Further penetration was halted by the sandstone at depths of between 0.82m and 4.5m. All excavations remained stable for the short period of exposure. No groundwater seepages were encountered.
- 2.12 The contamination testing revealed the topsoil to be suitable for re-use on the site, in terms of human health risks. However, the made ground was found to contain elevated lead at WS15 and several PAH compounds at WS17. Further sampling at and around WS17, for PAH only, and at WS15, for lead only, would be beneficial in determining any significant presence of lead and PAH in these areas, and the extent of the affected material. Without this, the affected area should be assumed to continue up to the nearest uncontaminated sampling location. These areas are indicated on the plan attached.

3.0 Remediation Strategy

- 3.1 An asbestos survey should be carried out prior to any demolition or work on the existing buildings on the site, and any identified asbestos should be removed and disposed to a licenced facility. The work should be carried out by appropriately qualified Contractors.
- 3.2 Where any garden or landscape areas overlie the contaminated made ground in the areas of WS17 and WS15 (the likely worst case extent is indicated on the attached plan), a minimum 600mm thickness of uncontaminated soils (topsoil and subsoil) should be provided. In areas of hardstanding or building footprints, the cover blanket is not required. It may be beneficial to determine the extent of the affected area in advance of any such measures, by further sampling.

- 3.3 Where a soil cover blanket is used, this must be clean and uncontaminated, and at least 600mm thick. Details are provided below.

Thickness (mm)	Description
Minimum 100	Topsoil
Minimum 500	Subsoil

- 3.4 Alternatively, the affected made ground can be removed off site and taken to a suitably licensed landfill. The waste receiver may require Waste Acceptance Criteria Testing (WAC). Following removal, validation inspection would be required, to demonstrate that the unsuitable soil had been successfully removed.

4.0 Validation

- 4.1 To satisfy the Regulatory Authorities, verification that the above measures have been successfully implemented needs to be independently confirmed, in accordance with the guidance supplied in the document produced by the Yorkshire and Lincolnshire Pollution Advisory Group (YALPAG): "Guidance on the Verification Requirements for Cover Systems". The measures described below will be required to ensure compliance with the document.
- 4.2 If the contaminated made ground is retained on site, then it will be necessary to either confirm that the material has been placed below hard areas and excluded from landscaping by inspecting the ground surface of garden areas, or, if retained in gardens, excavate inspection pits on one in every two gardens, to confirm the required 600mm cover of uncontaminated material has been placed. Appropriate photographs will be taken for inclusion in the validation report.
- 4.3 If the contaminated made ground is removed from site, then the surface will need to be inspected by an Engineer, the area photographed and all the details included within a Validation Letter Report, including the disposal/transfer documents.
- 4.4 For economic and operation purposes, it is necessary for the developer to retain all of the above options for use on the site, and any one or more may be utilised.

5.0 Materials Testing

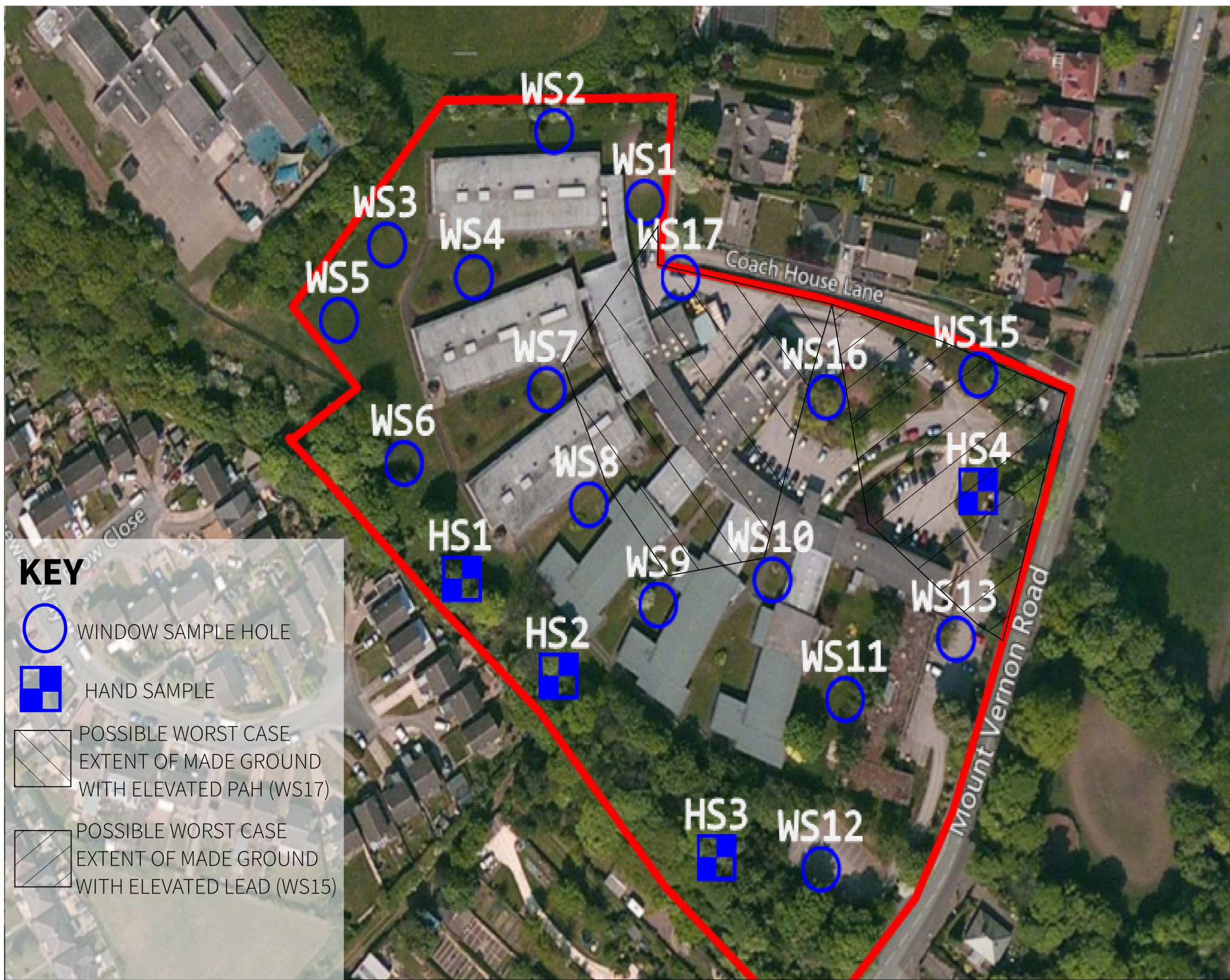
- 5.1 For any imported subsoil and topsoil to be used on the site, or any on-site arisings proposed for use as cover blanket to contamination on the site, the source will need to be confirmed, and the material tested for the attached suite of contaminants, to comply with the maximum screening values listed. The frequency of testing is given on the table below. Any samples already tested in the site investigation carried out to date can be considered part of the overall total required.

Material Type	Number of Samples
Topsoil or subsoil from greenfield site	Minimum 3No. or 1 per 250m ³ (whichever is greater)
Topsoil or subsoil from brownfield site	Minimum 6No. or 1 per 100m ³ (whichever is greater)





- 5.2 The material should be placed in quarantined stockpiles and once a stockpile has been approved by the Engineer, no further material should be added to the stockpile, and any further import should be stockpiled separately. Any cross contamination of materials should be avoided, and further testing carried out where any cross contamination is suspected to have occurred.
- 5.3 If space is insufficient on the site to store quarantined stockpiles, topsoil/subsoil can be placed directly into the appropriate gardens/landscape areas, but samples of each material would need to be tested by means of validation trial pits on one per three plots.
- 5.4 The results of all the laboratory analysis, excavation logs, plans, photographs, and import documents will form part of the Remediation Validation Report.
- 5.5 In order to enable the scheme to progress and sales of properties to continue throughout the construction of the development, interim Validation Reports may be prepared for specific plots, if required, showing how the contamination has been dealt with. This will enable enquiries during the sales of the properties to be satisfied. On completion of the development, the discharge of any associated planning condition may be achieved by submission of all the interim validation letters, or issuing the information as a single combined Validation Report.

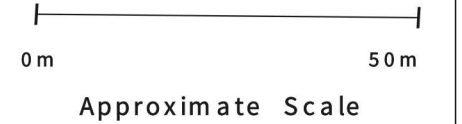
6.0 Unexpected Contamination

- 6.1 Any unexpected contamination uncovered during the works shall be inspected, sampled and analysed in laboratory for the suite of determinands appended to this Remediation Statement, and compared to the maximum concentration levels listed on the enclosure. Works on the affected materials shall cease until the appraisal is complete and, if necessary, a revised Remediation Statement is to be prepared and approved by the Planning Authority before work is recommenced.



KEY

-  WINDOW SAMPLE HOLE
-  HAND SAMPLE
-  POSSIBLE WORST CASE EXTENT OF MADE GROUND WITH ELEVATED PAH (WS17)
-  POSSIBLE WORST CASE EXTENT OF MADE GROUND WITH ELEVATED LEAD (WS15)



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Project
 MOUNT VERNON HOSPITAL

Client
 SOUTH WEST YORKSHIRE PARTNERSHIP

Title
 AREAS WITH ELEVATED CONTAMINANTS

Date
 JANUARY 2018

Drawn @ A3	Scale AS SHOWN
---------------	-------------------

Job No.
 SWY/02



**ARP GEOTECHNICAL LIMITED
SOIL CONTAMINANT SCREENING VALUES
RESIDENTIAL WITH HOME-GROWN PRODUCE**

Determinand	S4UL (mg/kg)			C4SL (mg/kg)		
	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM
Arsenic		37			37	
Cadmium		11			22	
Chromium (trivalent)		910				
Chromium (hexavalent)		6			21	
Lead					200	
Inorganic Mercury		40				
Selenium		250				
Copper		2400				
Nickel		130				
Zinc		3700				
Acidity (pH)	*Should be Greater Than 5			*Should be Greater Than 5		
	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM
Acenaphthene	210	510	1,100			
Acenaphthylene	170	420	920			
Anthracene	2,400	5,400	11,000			
Benzo(a)anthracene	7.2	11	13			
Benzo(a)pyrene	2.2	2.7	3			5
Benzo(b)fluoranthene	2.6	3.3	3.7			
Benzo(g,h,i)perylene	320	340	350			
Benzo(k)fluoranthene	77	93	100			
Chrysene	15	22	27			
Dibenzo(a,h)anthracene	0.24	0.28	0.3			
Fluoranthene	280	560	890			
Fluorene	170	400	860			
Indeno(1,2,3-cd)pyrene	27	36	41			
Naphthalene	2.3	5.6	13			
Phenanthrene	95	220	440			
Pyrene	620	1,200	2,000			
Phenols	120	200	380			
Total TPH	*Above 500, speciate and compare with values below:					
C5 to C6 Aliphatic	42	78	160			
C6 to C8 Aliphatic	100	230	530			
C8 to C10 Aliphatic	27	65	150			
C10 to C12 Aliphatic	130	48	760			
C12 to C16 Aliphatic	1100	2,400	4,300			
C16 to C35 Aliphatic	65,000	92,000	110,000			
C35 TO C44 Aliphatic	65,000	92,000	110,000			
C5 to C7 Aromatic (Benzene)	70	140	300			
C7 to C8 Aromatic (Toluene)	130	290	660			
C8 to C10 Aromatic	34	83	190			
C10 to C12 Aromatic	74	180	380			
C12 to C16 Aromatic	140	330	660			
C16 to C21 Aromatic	260	540	930			
C21 TO C35 Aromatic	1100	1,500	1,700			
C35 TO C44 Aromatic	1100	1,500	1,700			
Asbestos	*Should be None Detected			*Should be None Detected		

* In House Value/Approach S4UL = Suitable 4 Use Level, CIEH/LQM 2014 C4SL = Cat 4 Screening Level, DEFRA, 2014

Blank cell indicates no published value or in-house value. Some values presented are above saturation limits.

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**ARP GEOTECHNICAL LIMITED
SOIL CONTAMINANT SCREENING VALUES
PUBLIC OPEN SPACE NEAR RESIDENTIAL**

Determinand	S4UL (mg/kg)			C4SL (mg/kg)		
	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM
Arsenic		79			79	
Cadmium		120			220	
Chromium (trivalent)		1500				
Chromium (hexavalent)		7.7			21	
Lead					630	
Inorganic Mercury		120				
Selenium		1100				
Copper		12000				
Nickel		230				
Zinc		81000				
Acidity (pH)	*Should be Greater Than 5					
	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM
Acenaphthene	15000	15000	15000			
Acenaphthylene	15000	15000	15000			
Anthracene	74000	74000	74000			
Benzo(a)anthracene	29	29	29			
Benzo(a)pyrene	5.7	5.7	5.7			10
Benzo(b)fluoranthene	7.1	7.2	7.2			
Benzo(g,h,i)perylene	640	640	640			
Benzo(k)fluoranthene	190	190	190			
Chrysene	57	57	57			
Dibenzo(a,h)anthracene	0.57	0.57	0.57			
Fluoranthene	3100	3100	3100			
Fluorene	9900	9900	9900			
Indeno(1,2,3-cd)pyrene	82	82	82			
Naphthalene	4900	4900	4900			
Phenanthrene	3100	3100	3100			
Pyrene	7400	7400	7400			
Phenols	440	690	1300			
Total TPH	*Above 3,800, speciate and compare with values below:					
C5 to C6 Aliphatic	570000	590000	600000			
C6 to C8 Aliphatic	600000	610000	620000			
C8 to C10 Aliphatic	13000	13000	13000			
C10 to C12 Aliphatic	13000	13000	13000			
C12 to C16 Aliphatic	13000	13000	13000			
C16 to C35 Aliphatic	250000	250000	250000			
C35 TO C44 Aliphatic	250000	250000	250000			
C5 to C7 Aromatic (Benzene)	56000	56000	56000			
C7 to C8 Aromatic (Toluene)	56000	56000	56000			
C8 to C10 Aromatic	5000	5000	5000			
C10 to C12 Aromatic	5000	5000	5000			
C12 to C16 Aromatic	5100	5100	5000			
C16 to C21 Aromatic	3800	3800	3800			
C21 TO C35 Aromatic	3800	3800	3800			
C35 TO C44 Aromatic	3800	3800	3800			
Asbestos	*Should be None Detected			*Should be None Detected		

* In House Value/Approach S4UL = Suitable 4 Use Level, CIEH/LQM 2014 C4SL = Cat 4 Screening Level, DEFRA, 2014

Blank cell indicates no published value or in-house value. Some values presented are above saturation limits.

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