

**BRUNSWICK STREET & REEMA ESTATE,
THURNSCOE,
SOUTH YORKSHIRE**

**PHASE I/II
GEO-ENVIRONMENTAL INVESTIGATION
FOR
BARRATT SHEFFIELD**

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Executive Summary

This presents the salient points of the report and should not be referred to in isolation. All recommendations are subject to Regulatory Authority approval.

<p>Site Location, Description & History</p>	<p>Location: Brunswick Street (NGR 446490mE, 406320mN) and the REEMA Estate (NGR 445810mE, 406130mN) occupy land to the north of Thurnscoe, which is located approximately 18km to the north-west of Doncaster, South Yorkshire.</p> <p>Description: The <u>Brunswick Street</u> site occupies an irregular shaped parcel of land approximately 1.4ha (approximately 3.5 Acres) in size. The site lies within an existing residential estate and comprises houses of traditional construction with associated garden areas and highways. The infrastructure does not appear to have been well maintained and several of the houses are empty and/or abandoned.</p> <p>The <u>REEMA Estate</u> site can be divided into two distinct parcels of land, the first comprising the existing council estate situated in the south-western corner of the site, the second being agricultural land to the east and north. The site occupies an irregular shaped parcel of relatively level land, with an area of approximately 20ha (approximately 49.5 Acres).</p> <p>The estate area is bounded to the north and east by agricultural land under arable use, whilst residential housing lies to the south and west. Many of the council houses are neglected and/or abandoned/fire damaged/boarded-up. Agricultural land lies immediately to the far north of the site, whilst a now disused/infilled railway runs parallel with the site's far eastern boundary.</p> <p>History: The <u>Brunswick Street</u> site is shown to have been used for agricultural purposes up until around the late 1920s early 1930s, at which time the housing estate, of which it forms part of, is shown to have been constructed. No significant changes to the layout of the site, or surrounding area, are shown up to the most recent OS plans.</p> <p>Historical OS plans dating back to 1851 indicate the <u>REEMA Estate</u> site to have been used primarily for agricultural purposes, although a small wooded area (Whin Wood) to the north was present at the site until around 1955. With the exception of the construction of residential housing to the south-west around the mid 1930s and localised redevelopment within the general locale, no significant changes to the layout of the site, or surrounding area, are recorded.</p> <p>A railway was constructed along the site's eastern boundary in the 1890s. The line remains in use up to the present time, although a second line which spurred-off towards the north-east became disused and was part infilled (See <i>Environmental Data Summary</i> below).</p>
<p>Geology, Mining & Ground Stability, Hydrogeology and Hydrology</p>	<p>Geology, Mining & Ground Stability: The site is shown on BGS map, Sheet 87, Barnsley (1:50,000 scale) to be underlain by mudstone of the Middle Coal Measures (Upper Carboniferous). There may also be localised sandstones present within the vicinity of the site. There are no drift deposits shown to be present at the site.</p>

	<p>There are no faults or other lines of weakness within the immediate vicinity of the site.</p> <p>Information given in the Coal Authority mining reports indicate that the Brunswick Street site lies within the likely zone of influence from workings in seven seams of coal (160m to 790m depth), whilst the REEMA Estate site lies within the likely zone of influence from workings in eight seams of coal (130m to 800m depth). The last date of working in both instances is 1981.</p> <p>All ground movement associated with the working of these seams should, by now, have ceased.</p> <p>There are no records of shallow mining in the area, which may affect the site, and there are no recorded mine entries within, or within 20m of the site.</p> <p>Hydrogeology: The Brunswick Street site is shown on the groundwater vulnerability map for the area (Sheet 12, Vale of York, 1:100,000 scale) to be situated above a minor aquifer with overlying soils of high leaching potential.</p> <p>The REEMA Estate is also shown to be situated above a minor aquifer, although the overlying soils are shown to have both a high leaching potential (i.e. the housing estate and some agricultural land to the north) and low leaching potential (i.e. the remaining area of agricultural land).</p> <p>Hydrology: Information presented in the Envirocheck report indicates that there are no significant surface water features within 250m of the sites. Drainage features are however apparent at the REEMA Estate.</p> <p>Floodplains: Information provided by the Environment Agency and that given in the Envirocheck report indicates that the sites do not lie in areas which may be affected by flooding.</p>
<p>Environmental Data Summary</p>	<p>Waste Management: Information given in the Envirocheck report indicates that there are two principal waste management facilities within 500m of the Brunswick Street site, these being situated at Chapel Lane (former railway cutting to the north-west) and the brickworks quarry to the south-east. Available information suggests that the railway landfill was certified to accept wastes including tar, bitumen, sewage sludge, slag/boiler/flue cuttings as well as general inert household and commercial wastes (the licence appears to have been revoked around 1980). No further information regarding the brickworks quarry site, other than that permitted wastes included household materials, appears to be available.</p> <p>Information presented in the Envirocheck report indicates that the southern end of the Chapel Lane landfill lies within 15m of the REEMA Estate's eastern site boundary.</p> <p>Pollution Incidents: There are no recorded pollution incidents to controlled waters within 500m of the sites. The nearest incident was located approximately 620m south of the REEMA Estate site, involving the release of storm overflow to freshwater stream/river (tributary of River Dearne).</p> <p>Discharge Consents: Information given in the Envirocheck reports indicate that there are no discharge consents within 250m of the site boundaries.</p>

	<p>Radon: Information given in the Envirocheck report indicates that no radon precautions are required in the construction of new dwellings or extensions.</p> <p>Water Abstractions: Information given in the Envirocheck report indicates that there are no water abstractions within 1km of the sites.</p>
Geotechnical Assessment	<p>Made ground: was encountered during the site investigation at the position of WS09 (0.3m deep). It is possible however that made ground soils may be encountered elsewhere during redevelopment within the housing estate areas.</p> <p>Natural strata: was encountered in all of the trial pits and boreholes. The undisturbed natural strata at the <u>Brunswick Street</u> site typically comprised firm becoming stiff orange-brown gravelly clay to between about 0.5m and 1.7m bgl, being underlain by sandstone.</p> <p>The undisturbed natural strata at the <u>REEMA Estate</u> typically comprised firm becoming stiff orange-brown-grey sandy clay to between about 1.0m and 1.5m bgl across the northern half of the site, whilst stiff very gravelly clay was generally encountered across the southern half of the site to a similar depth.</p> <p>An upper discontinuous layer of clayey sand (about 0.5m thick) was proven in some of the trial pits (i.e. TP02-04) towards the western/central part of the site, whilst gravelly sand was proven to a depth of about 0.8m bgl in trial pits TP13-15 located towards the southern site boundary.</p> <p>Sandstone bedrock, or localised pockets of mudstone, was observed to underlie the cohesive/granular soils at a depth of between about 1.0m and 1.5m bgl, although some localised deepening to about 3.0m bgl (WS09) was recorded where deeper clay deposits were encountered.</p> <p>An allowable bearing pressure of 125kN/m² may be assumed in the natural strata. However, there were areas of softer soils (see the <i>Foundations</i> section below).</p> <p>Coal: Information given in the Coal Authority mining report indicates that the site is unlikely to be affected by any shallow mining activity which may have taken place below the site.</p> <p>Groundwater: No significant groundwater strikes were encountered during the site investigation.</p>
Environmental Assessment	<p>No evidence of significant potential contamination was observed during the ground investigation and no elevated concentrations of general contaminants of concern or speciated PAH have been measured during the testing to date.</p> <p>The agricultural fields within the northern and eastern parts of the REEMA Estate site are still in use. It is possible that there may be elevated concentrations of chemicals (e.g. fertilizers historically used at the site) within the near surface soils which may be potentially harmful to human health. At this stage the risk is considered to be low, but further sampling/testing may be required (subject to discussion with the farmer/Environmental Health Officer and review of available MAFF documentation).</p> <p>Asbestos containing materials were not identified in the soils</p>

	<p>during the site investigation. However, because of the age of the houses it is possible that they could contain asbestos containing materials. A pre-demolition asbestos survey should therefore be carried out.</p> <p>Ecology: At the time of the works no evidence of Japanese Knotweed or other invasive plants was found. However, it would be prudent to have a full ecological survey of the site carried out.</p>
<p>Development & Construction Proposals</p>	<p>Enabling Works/Ground Treatment: Both sites are occupied by significant numbers of houses and associated infrastructure, with areas of tarmac hardstanding as well as areas of unsurfaced ground. It may be possible to crush and re-use some on-site demolition materials, such as below car parking areas / hardstanding (subject to planning layout and agreement with the EHO), but it may be that much of the demolition soils will need to be removed during redevelopment.</p> <p>Historic foundation obstructions may be encountered, although the removal of all floor slabs, old foundations / substructures and any underground obstructions should be carried out as part of the enabling works where encountered. Further localised excavations may be required during enabling / demolition to check for additional old foundations and sub-structures associated with former development at the site.</p> <p>Site clearance works will need to be integrated with the removal or infilling of any basements, foundations or other obstructions associated with the previous development. Any areas which may require remediation (e.g. unforeseen areas of contaminated soils) will require special consideration during site clearance.</p> <p>On the basis of available information, some re-grading of the site may be required given the variation in ground levels (subject to proposed finished floor levels).</p> <p>Asbestos containing materials may be present in the fabric of the old council properties given their date of construction. This should be confirmed.</p> <p>Ground Treatment: None anticipated.</p> <p>Foundations: On the basis of the site investigation, it is considered that strip/trench fill foundations will be suitable. These will need to be taken through any made ground soils into the underlying granular/cohesive soils or sandstone/mudstone strata where this is present at founding depth. The minimum founding depth on granular soils should be 600mm, and 900mm on cohesive soils.</p> <p>On the basis of the <i>in situ</i> testing, an allowable bearing pressure of 125kN/m² may be assumed on the natural undisturbed soils. It should be noted however that localised areas of softer ground have been encountered. Further assessment of foundation options/localised deepening may therefore be required.</p> <p>Where foundations are found to straddle sand/clay/rock they will need to be thickened and reinforced. A plot specific foundation schedule will need to be completed.</p> <p>Slope Stability: An assessment of the nearby railway embankment may need to be carried out.</p>

Precautions Near Trees: Geotechnical testing indicates that the cohesive soils at the site have a medium volume change potential. Where heave precautions are required, recommendations will be made in the foundation schedule. Footings will need to be deepened in accordance with NHBC Standards, Chapter 4.2 (Building Near Trees). A tree survey may need to be carried out.

Floor Slabs: *In situ* suspended floor slabs should be assumed, subject to confirmation of proposed finished ground levels.

Sulphate Precautions: In accordance with BRE Special Digest 1 (2005), it is considered that Class DS1/ACEC-AC1s conditions may be assumed.

Road Construction: At this stage a CBR of 1% should be assumed on any made ground soils. A CBR of between 2 and 3% at road formation may generally be assumed for pavement design on the natural strata. This would however be subject to Local Authority approval prior to finalising design. Soils should be assumed to be frost susceptible.

Potable Water Supply: No precautions are anticipated. However, it would be prudent to consult with Yorkshire Water regarding any specific precautions they may require.

Ground Gas Precautions: Gas monitoring has been carried out at the REEMA Estate site. On the basis of monitoring to date, no methane has been detected, although carbon dioxide up to 3.8% has been measured. No flow was recorded during monitoring works.

At this stage, and in accordance with the NHBC Traffic Light System (NHBC, 2007), the site would be indicatively recorded as 'Green'. On this basis, it is considered that no gas precautions will be required. Confirmation for the need of gas precautions will be given following completion of the monitoring works.

Gas monitoring will need to be completed at the Brunswick Street site before recommendations regarding the need for gas precautions can be given.

Radon: No radon precautions are required in the construction of new dwellings or extensions at either the Brunswick Street site or at the REEMA Estate site.

Soakaways and Site Drainage: Permeability testing indicates that the underlying sandstone may be suitable for the use of trench soakaways where they are proposed for houses. *In situ* testing carried out at the REEMA Estate site resulted in an infiltration rate of $2.2E^{-05}$ m/s at the position of test pit S02, whilst the infiltration rate in test pit S01 could not be determined over the duration of the test. Should soakaways be proposed further testing will need to be carried out to confirm design infiltration rates, which are expected to be around 10^{-05} m/s. Where mudstone strata are encountered a network system would be required to take surface water to areas where more permeable strata are present at shallow depth.

Soakaway design would be subject to Local Authority/Highways Authority approval prior to finalising the design. Soakaways must not be positioned any nearer than 5.0m from buildings.

	<p>Groundwater: No significant groundwater strikes were encountered during the site investigation.</p> <p>Excavations: Instability of the near surface soils should be expected. Where man entry is required, support must always be provided.</p> <p>Flooding: Information provided by the Environment Agency and that given in the Envirocheck report indicates that the sites do not lie in an area which may be affected by flooding.</p> <p>Remediation & Environmental Management: On the basis of laboratory test results and risk assessment, it is considered that no specific remediation is likely to be required at the site. However, given that site investigation works have not been undertaken in all areas of the site, there may unforeseen areas of contamination that may present a risk to human health. Further works will need to be carried out to confirm this, during the demolition/enabling works.</p> <p>Excavation/remediation of any impacted soils (should these be identified) may need to be carried out following risk assessment. Further sampling and testing may also be needed during redevelopment, should areas of suspected contamination be encountered. Where excavations to remediate contaminated soils are made, validation sampling will be carried out in agreement with the local authority. A validation report will need to be submitted to the NHBC following completion of the works.</p> <p>The site has a supply of topsoil which could be re-used. The use of fertilizers on the arable land may however preclude the use of existing topsoil materials in gardens. Further sampling and testing may need to be carried out. The results of any further testing will need to be discussed with the NHBC/EHO.</p> <p>Any materials imported to site will need to be tested at source, to confirm that they are clean and suitable for use.</p> <p>On the basis of the site investigation and laboratory test results, it is considered that risk to controlled waters is likely to be very low.</p> <p>No evidence of Japanese Knotweed was observed during the site investigation. However, a full ecological survey is recommended to confirm this and to identify if any other notifiable plants are present on or within the immediate vicinity of the site.</p>
Further Work	<ol style="list-style-type: none"> 1. Ground gas monitoring (to be completed). Additional monitoring may be required given the proximity of the railway cutting 'landfill' (subject to consultation with the EHO/NHBC); 2. Supplementary soils testing of topsoil from across the arable land (REEMA Estate site) for fertilizers (to include dichloro-diphenyl-trichloroethane (DDT) and breakdown products DDE (1,1-dichloro-2,2-bis (p-dichlorodiphenyl) ethylene) and DDD (1,1-dichloro-2,2-bis (p-chlorophenyl) ethane); 3. Type III (pre-demolition) asbestos survey of existing buildings and the site; 4. Plot specific foundation schedule; 5. Tree survey (where required); 6. Slope stability assessment (where required); 7. Ecological and habitat survey (to include Japanese Knotweed);

	<ol style="list-style-type: none">8. Noise and vibration survey given the close proximity of the railway (if required);9. Remediation method statement (should the need arise following site clearance works);10. Follow-on permeability testing.
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1.0 INTRODUCTION

1.1 Preamble

Abatech International Ltd. were appointed by Barratt Sheffield to undertake a Phase I/II Geo-Environmental investigation of land located at the REEMA Estate and Brunswick Street in Thurnscoe, Doncaster.

1.2 Report Status

This report provides factual and interpretative geotechnical and environmental information, together with provisional construction proposals and recommendations, in relation to the proposed redevelopment of the site. The report has been prepared for the sole use and reliance of Barratt Sheffield.

1.3 Sources and Conditions

The findings and recommendations given in this investigation report are based on published information, a 'walkover' carried out on 1st June 2007 and site investigation works carried out between 24th and 26th September 2007 (trial pitting and window sampling).

Abatech International Ltd. accepts no responsibility for the reliability and authenticity of published information, or for reports prepared by third parties.

Whilst every effort has been made to carry out an intrusive investigation that enables a realistic and reliable characterisation of the geotechnical and environmental parameters, the possibility of significant variation in ground conditions existing between sampling locations cannot be discounted, given the history of the site.

Groundwater conditions reported herein are also based on observations made at the time of the investigation, but may be subject to variation because of seasonal fluctuation or other effects.

2.0 SITE LOCATION AND DESCRIPTION

2.1 Location

The sites occupy land at Brunswick Street (NGR 446490mE, 406320mN) and the REEMA Estate (NGR 445810mE, 406130mN), Thurnscoe, which is located approximately 18km to the north-west of Doncaster, South Yorkshire. The two sites have a combined area of about 21.3ha (approximately 53 Acres). The location of the two site areas is shown on the appended site location plans (S7/032/001 and S7/032/002, Appendix I).

2.2 Description

The Brunswick Street site occupies an irregular shaped parcel of land approximately 1.4ha (approximately 3.5 Acres) in size. The site lies within an existing residential estate and comprises houses of typical construction with associated garden areas and highway. The infrastructure does not appear to have been well maintained and several of the houses are empty and/or abandoned.

The REEMA Estate site can be divided into two distinct parcels of land, the first comprising the existing council estate situated in the south-western corner of the site, the second being agricultural land to the east and north. The site occupies an irregular shaped parcel of relatively level land, with an area of approximately 20ha (approximately 49.5 Acres).

The estate area is bounded to the north and east by tilled land, whilst residential housing lies to the south and west. Many of the council houses are neglected and/or abandoned/fire damaged/boarded-up. Agricultural land lies immediately to the far north of the site, whilst a now disused/infilled railway runs parallel with the site's far eastern boundary.

3.0 GEO-ENVIRONMENTAL SETTING

3.1 Geology, Hydrogeology, Hydrology and Mining

Table 3.1 – Geological Information

Superficial Deposits	No superficial deposits are shown to be present at the sites.
Solid Geology	The solid geology comprise sandstone and/or mudstone of the Upper Carboniferous (Middle Coal Measures).
Discontinuities	There are no faults or other lines of weakness within the immediate vicinity of the site.
Hydrogeology	<p>The Brunswick Street site is shown to be situated above a minor aquifer with overlying soils of high leaching potential.</p> <p>The REEMA Estate is also shown to be situated above a minor aquifer, although the overlying soils are shown to have both a high leaching potential (i.e. the housing estate and some agricultural land to the north) and low leaching potential (i.e. the remaining area of agricultural land).</p>
Hydrology	Information presented in the Envirocheck report indicates that there are no significant surface water features within 250m of the sites. Drainage features are however apparent at the REEMA Estate.
Mining	<p>Information given in the Coal Authority mining reports indicate that the Brunswick Street site lies within the likely zone of influence from workings in seven seams of coal (160m to 790m depth), whilst the REEMA Estate site lies within the likely zone of influence from workings in eight seams of coal (130m to 800m depth). The last date of working in both instances is 1981.</p> <p>All ground movement associated with the working of these seams should, by now, have ceased.</p> <p>There are no records of shallow mining in the area, which may affect the site, and there are no recorded mine entries within, or within 20m of the site.</p>
Radon	Information given in the Envirocheck report indicates that the sites lie within an area where no radon precautions are required in the construction of new dwellings.

3.2 Environmental Data Search

The principal considerations of immediate relevance are given below. For a comprehensive list of environmental data, refer to Appendices II (Brunswick Street) and III (REEMA Estate):

Table 3.2 - Environmental Data

Discharge Consents	Information given in the Envirocheck reports indicate that there are no discharge consents within 250m of the site boundaries.
Pollution Incidents to Controlled Waters	There are no recorded pollution incidents to controlled waters within 500m of the sites. The nearest incident was located approximately 620m south of the REEMA Estate site, involving the release of storm overflow to freshwater stream/river (tributary of River Dearne).
Water Abstractions	Information given in the Envirocheck report indicates that there are no water abstractions within 1km of the sites.
Flooding	Information provided by the Environment Agency and that given in the Envirocheck report indicates that the sites do not lie areas which may be affected by flooding.
Landfill Sites, Waste Management / Transfer / Treatment and Disposal sites	<p>Information given in the Envirocheck report indicates that there are two principal waste management facilities within 500m of the Brunswick Street site, these being situated at Chapel Lane (former railway cutting to the north-west) and the brickworks quarry to the south-east. Available information suggests that the railway landfill was certified to accept wastes including tar, bitumen, sewage sludge, slag/boiler/flue cuttings as well as general inert household and commercial wastes (the licence appears to have been revoked around 1980). No further information regarding the brickworks quarry site, other than that permitted wastes included household materials, appears to be available.</p> <p>Information presented in the Envirocheck report indicates that the Chapel Lane landfill lies within close proximity to the REEMA Estate's eastern site boundary.</p>

4.0 HISTORY OF LAND USE

The following section provides an assessment of the site's historical land use, dating back to the first available OS plans. An assessment of the existing land use and that of the surrounding area is also given, along with information pertinent to the site's proposed redevelopment.

4.1 Historical Land Use

The Brunswick Street site is shown to have been used for agricultural purposes up until around the late 1920s early 1930s, at which time the housing estate, of which it forms part of, is shown to have been constructed. With the exception of the localised redevelopment no significant changes to the layout of the site, or surrounding area, are shown up to the most recent OS plans.

Historical OS plans dating back to 1851 indicate the REEMA Estate site to have been used primarily for agricultural purposes, although a small wooded area (Whin Wood) to the north was present at the site until around 1955. With the exception of the construction of residential housing to the south-west around the mid 1930s and localised redevelopment within the general locale of the site, no significant changes to the layout of the site, or surrounding area, are recorded.

A railway was constructed along the site's eastern boundary towards the late 1890s. The line remains in use to date, although a second line, which spurred-off towards the north-east, became disused and was part infilled.

4.2 Current Land Use

A section of the REEMA Estate site is occupied by residential housing, of which many of the properties are unoccupied. The estate is adjoined by agricultural land to the north and east.

Brunswick Street is occupied by residential housing. Many of the properties are abandoned, or have been demolished.

4.3 Proposed Land Use (Redevelopment)

On the basis of available information, it is proposed that residential houses of typical construction with private garden areas are to be constructed at the site. Surrounding land is to comprise soft landscaping with associated car parking.

5.0 PHASE I GEOTECHNICAL ASSESSMENT

5.1 Ground Conditions

5.1.1 Soils

Made ground materials of variable thickness and quality may be present across some of the site areas, having been used to level or raise the ground surface. On the basis of available information, the following potential sources of made ground have been identified:

- Materials derived from the construction of the residential housing;
- Materials associated with historic railway construction to the east.

The underlying natural soils are anticipated to largely comprise near surface firm becoming stiff clays (weathered mudstone and sandstone) overlying competent strata at shallow depth.

5.1.2 Groundwater

Groundwater may be present as perched water at shallow depth within any made ground and/or near surface natural soils. The dewatering of excavations may therefore be required.

5.1.3 Stability Issues

Instability of near surface made ground soils are anticipated, particularly where these are deep.

No coal mining instability is anticipated. A copy of the Coal Authority mining reports is given in Appendix IV.

6.0 PHASE I ENVIRONMENTAL ASSESSMENT

6.1 Phase I Conceptual Model

The following is based on desk study information and that gathered during the site 'walkover'.

6.1.1 Site Summary

Approximately three-quarters of the REEMA Estate site has been under continual agricultural end-use, with the remaining land being used for residential housing. The Brunswick Street site has been and remains in use as residential development.

Although no significant levels of contaminants harmful to human health are anticipated, elevated metals/metalloids and organics (e.g. arsenic, PAH and TPH) as well as anthropogenic materials (demolition soils) may be present within the housing estate areas. These contaminants have been found on sites of a similar nature. No significant levels of contamination (not including pesticides) are expected in land used for farming.

6.1.2 Tier 1 Risk Screening

The policy of the Environment Agency is to follow a tiered approach when assessing risk posed to human health from contaminated soils. Initially, this framework allows decisions to be informed by Tier 1 risk screening, which comprises the identification of potential contaminant sources, pathways and receptors (e.g. establishing pollutant linkages). A potential source is defined as, 'a contaminant, which is in, or under the land and has the potential to cause harm or to cause pollution of controlled waters'.

Although no significant levels of contaminants harmful to human health are anticipated, elevated metals/metalloids and organics (e.g. arsenic and PAH) as well as anthropogenic materials, may be present. Review of available desk study information has revealed the following preliminary potential on- and off-site contaminant sources (listed in Tables 6.1 and 6.2 below). Where possible, associated potential contaminants have been identified, with reference to the Environment Agency (EA) and the Department for Environment, Food and Rural Affairs (DEFRA) R & D Publication CLR8: Potential Contaminants for the Assessment of Land and the relevant Department of the Environment Industry Profiles. A list of potential pathways and receptors is given in Table 6.3.

Table 6.1 - Potential On-site Sources of Contamination

Potential On-site Sources	Associated Potential Contaminants	
	Metals and Inorganics (not limited to)	Organics (not limited to)
Made ground materials of unknown origin having been used to infill and raise levels	Heavy metals and phytotoxic contaminants	Aromatic/Aliphatic Hydrocarbons, PAH
Historic Buildings (including demolition materials in made ground)	Asbestos containing materials (including pipe lagging, roof and panel sheeting)	Hydrocarbons, PAH

* Tables 2.3 and 2.4 Defra and EA R&D Publication CLR 8: Potential Contaminants for the Assessment of Land.

Table 6.2 - Potential Off-site Sources of Contamination

Potential Off-site Sources	Associated Potential Contaminants	
	Metals and Inorganics (not limited to)	Organics (not limited to)
Landfill(s)	None anticipated	CH ₄ and/or CO ₂

* Tables 2.3 and 2.4 Defra and EA R&D Publication CLR 8: Potential Contaminants for the Assessment of Land;

Table 6.3 - Potential Pathways and Receptors

Potential Pathways	Potential Receptors
Direct ingestion of soil and dust	Ground workers employed in the redevelopment of the site
Dermal contact with soil and dust	Future end users of the site
Inhalation of airborne contaminants	Neighbouring land users (part agricultural, part residential)
Vertical and lateral migration of contaminants into controlled waters	Minor aquifer

A potential pollutant linkage is defined as 'the relationship between a contaminant, a pathway and a receptor' where the pollutant is the contaminant in the pollutant linkage. For land to be identified as contaminated under the current UK guidance all three elements of the pollutant linkage must be present. In many cases there may be more than one pollutant linkage on any given site.

A review of the desk study information, the features noted in the site walkover and the potential sources, pathways and receptors listed above has led to the following potential significant pollutant linkages (SPL) being considered (Table 6.4 below):

Table 6.4 - Potential Pollutant Linkages

Potential Source	Pathway	Receptors					SPL
		Controlled Waters	Ground workers	End-users	Flora	Building materials	
Metal/metalloids and inorganics in SOIL	Direct Ingestion		✓	✓			✓
	Dermal Contact		✓	✓			✓
	Inhalation		✓	✓			✓
	Leaching/direct movement	✓			✓	✓	✓
Asbestos containing materials in SOIL	Inhalation		✓	✓			✓
Organics in SOIL (hydrocarbons) including ground gases	Direct Ingestion		✓	✓			✓
	Dermal Contact		✓	✓			✓
	Inhalation		✓	✓			✓
	Leaching/direct movement	✓			✓	✓	✓
Metal/metalloids and inorganics in GROUNDWATER	Direct Ingestion		✓				✓
	Dermal Contact	✓	✓				✓
	Inhalation						
	Leaching/direct movement	✓			✓	✓	✓
Organics in GROUNDWATER (hydrocarbons including PAH)	Direct Ingestion		✓				✓
	Dermal Contact	✓	✓				✓
	Inhalation						
	Leaching/direct movement	✓			✓	✓	✓

6.1.3 Model Status and Uncertainty

The potential significant linkages listed above are based on available data and the features noted during the 'walkover'. Therefore, the linkages identified are tentative in nature and are subject to the following uncertainties:

- Nature of any made ground and the underlying strata;
- Actual distribution of contaminants in soils;
- Actual distribution of contaminants in groundwater;
- Water levels below the site.

6.1.4 Radon

No radon protective measures are required in the construction of new dwellings at the sites.

7.0 RATIONALE FOR PHASE II INVESTIGATION

7.1 Rationale for Phase II Works

On the basis of available Phase I desk study information, the following recommendations for intrusive site investigation works were proposed. These works were carried out to identify environmental and geotechnical liabilities in relation to the proposed redevelopment of the site:

- facilitate the collection of soil samples from across the site from within any made ground and the underlying natural strata;
- assess the thickness and nature of any made ground materials at the site;
- assess the geotechnical properties of the made ground and underlying natural strata and the depth to competent strata;
- take groundwater samples for chemical testing (where encountered);
- carry out gas monitoring to determine the presence and flow rate of ground gases.

7.2 Investigation Design

Site investigation works were designed in general accordance with the guidelines prescribed in BS 10175:2001 (*Investigation of Potentially Contaminated Sites: Code of Practice*) and BS 5930:1999 (*Code of Practice for Site Investigations*).

Trial pits and window sample boreholes (as shown on the appended drawings S7/032/003 and S7/032/004) were positioned on the basis of the desk study and walkover, being located wherever possible to obtain samples representative of the ground conditions and contamination status of the underlying soils. However, constraints were placed on the positions of the window sample boreholes (at the time of the works) given access constraints into the occupied parts of the Brunswick Street and REEMA Estate sites. No trial pitting works were carried out within these areas.

Given the layout of the site, the spacing between the investigation locations was approximately 20-30m. This spacing was considered adequate and consistent with the objectives of the investigation, given that the site is to be redeveloped for residential end-use.

7.3 Environmental

Typically, samples of soil were taken from the site on the basis of non-targeted sampling, although where potential contaminant sources were identified during

the desk study and/or where soils displayed obvious signs of olfactory and visual evidence of contamination, these were also sampled.

Samples were selected for analysis on the basis of visual and olfactory evidence. All samples were collected in snap-top plastic containers, unless samples were suspected of containing hydrocarbon or volatile compounds. In these instances samples were collected in 250ml amber glass jars or vials. All samples were placed in cooled containers prior to transfer to a UKAS / MCERTS accredited laboratory.

Samples taken from the made ground and the underlying natural strata were analysed for a range of metal/metalloid and organic contaminants in accordance with NHBC Standards Chapter 4.1 'Land Quality - Managing Ground Conditions' and CLR 8 'Potential Contaminants for the Assessment of Land'. As a minimum, soil samples were analysed for the following parameters: arsenic, cadmium, chromium(VI), lead, mercury, copper, nickel, zinc, boron, selenium, speciated polynuclear aromatic hydrocarbons (PAH), sulphide, sulphur, phenols, total and free cyanide, pH, water soluble sulphate and total organic carbon.

7.4 Geotechnical

The geotechnical investigation comprised the excavation of trial pits and the boring of window sample boreholes to obtain information on the depth and condition of the made ground and natural soils at the site. A visual description of the soils was recorded as part of the investigation. *In-situ* SPTs were taken to determine the strength profile of the underlying soils.

Where the underlying natural strata comprised cohesive soils, samples were taken so that the shrinkability of the clay could be determined. The geotechnical testing was carried out in accordance with BS1377:1990 'Standard Methods of Test for Soils for Civil Engineering purposes'.

8.0 SITE WORKS

Site works were carried out between the 24th and 26th September (trial pitting and window sampling) with permeability testing being carried out on 18th October 2007. The works comprised the following:

- Twenty two trial pits (TP01 – TP22);
- Twenty four window sample boreholes (WS01 – WS24);
- Two permeability tests (SO1 – SO2).

The positions of the investigation locations are shown on the appended site investigation Plan (S7/032/003 and S7/032/004).

A copy of the investigation logs are presented in Appendix V.

9.0 LABORATORY ANALYSIS AND TEST RESULTS

9.1 Laboratory Analyses

Environmental analyses were scheduled by Abatech and carried out by Chemtest, Newmarket. Samples of made ground and natural strata were collected and tested for metals, non-metal inorganics and organics in order to assess the degree and nature of contamination within the soil. In summary:

- Twenty six No. soil samples were sent for chemical testing.

9.2 Summary of Laboratory Chemical Test Results

A summary of the test results is given in the following tables, whilst a copy of the individual test results (and supporting MCERTS certification from the laboratory) are presented in Appendix VI. Risk assessment is discussed in Section 12.0 below, whilst data sheets are presented in Appendix VII.

Table 9.1 - Summary Table of Chemical Test Results (CLEA SGVs)

Contaminant	Measured Concentration		Tier 2 Soil Screening Value (mg/kg)*	No. of results exceeding criteria
	Min	Max		
Arsenic	2.2	40	20	2 (26)
Cadmium	<0.1	0.36	2 (pH of 7)	0 (26)
Chromium (VI)	<5	-	130	0 (26)
Lead (log) ^{***}	1.1	1.7	2.65	0 (26)
Mercury	<0.1	0.15	8	0 (26)
Nickel	12	62	50	1 (26)
Selenium	0.10	2.5	35	0 (26)
Phenol	<0.3	-	150	0 (26)

*Threshold criteria determined as the Soil Guideline Value (SGV) with reference to CLEA residential with plant uptake;

^{***} The geometric mean, rather than the arithmetic mean, is used as the basis for the comparison of soil concentration data with the Soil Guideline Value (450mg/kg). All calculations are therefore transposed to log (after SEGH (1993) Lead in Soil: Recommended Guidelines, Wixson, BG and Davies, BE (eds.) Society for Environmental Geochemistry and Health, Science Reviews;

-Number of samples tested given in (brackets);

-All results given in mg/kg;

-Where < is given, this indicates that the result is less than the laboratory detection limit;

ND Not determined.

Table 9.2 - Summary Table of Chemical Test Results (PAH)

Contaminant	Measured Concentration		Tier 2 Soil Screening Value (mg/kg)*	No. of results exceeding Soil Screening Value
	Min	Max		
Naphthalene	<0.1	0.6	37	0 (26)
Acenaphthene	<0.1	3.2	317	0 (26)
Fluorene	<0.1	-	74	0 (26)
Anthracene	<0.1	0.4	17	0 (26)
Fluoranthene	<0.1	1.7	58	0 (26)
Pyrene	<0.1	1.3	280	0 (26)
Benz(a)anthracene	<0.1	1.0	5.8	0 (26)
Chrysene	<0.1	0.9	3.3	0 (26)
Benzo(b)fluoranthene	<0.1	0.7	6.4	0 (26)
Benzo(k)fluoranthene	<0.1	-	9.2	0 (26)
Benzo(a)pyrene	<0.1	0.6	1.1**	0 (26)
Dibenzo(a,h)anthracene	<0.1	-	1.3	0 (26)
Indeno(1,2,3-cd)pyrene	<0.1	-	10.4	0 (26)
Benzo(g,h,i)perylene	<0.1	0.5	36	0 (26)

*Tentative non-validated Tier 2 Soil Screening Values (SSV) assuming the presence of the most sensitive CLR receptor (female aged 0-6 years);

**Based on an assessment of TOX Report 2, Benzo(a)pyrene, April 2002 for residential with plant uptake;

-All results given in mg/kg;

-Number of samples tested given in (brackets);

-Where < is given, this indicates that the result is less than the laboratory detection limit.

-All results given in mg/kg;

-Where < is given, this indicates that the result is less than the laboratory detection limit.

10.0 PHASE II GEOTECHNICAL ASSESSMENT

10.1 Ground Conditions

10.1.1 Soils – Made Ground

Made ground of variable quality was encountered in an isolated window sample borehole location, WS09. The made ground comprised 300mm sandy gravelly clay. The gravel fraction comprised of sandstone, brick and concrete. It is thought that the made ground materials in this location were derived during the construction of the housing estate.

Although made ground materials were only identified at one location, it is thought possible that made ground soils could exist elsewhere on sites.

10.1.2 Soils – Natural Ground

Natural ground was encountered in all of the trial pits and boreholes. The undisturbed natural strata at the Brunswick Street site typically comprised firm becoming stiff orange-brown gravelly clay to between about 0.5m and 1.7m bgl, being underlain by sandstone.

The undisturbed natural strata at the REEMA Estate typically comprised firm becoming stiff orange-brown-grey sandy clay to between about 1.0m and 1.5m bgl across the northern half of the site, whilst stiff very gravelly clay was generally encountered across the southern half of the site to a similar depth.

An upper discontinuous layer of clayey sand (about 0.5m thick) was proven in some of the trial pits (i.e. TP02-04) towards the western/central part of the site, whilst gravelly sand was proven to a depth of about 0.8m bgl in trial pits TP13-15 located towards the southern site boundary.

Sandstone bedrock, or localised pockets of mudstone, was observed to underlie the cohesive/granular soils at a depth of between about 1.0m and 1.5m bgl, although some localised deepening to about 3.0m bgl (WS09) was recorded where deeper clay deposits were encountered.

10.1.3 Mining

Information given in the Coal Authority mining reports indicate that the Brunswick Street site lies within the likely zone of influence from workings in seven seams of coal (160m to 790m depth), whilst the REEMA Estate site lies within the likely zone of influence from workings in eight seams of coal (130m to 800m depth). The last date of working in both instances is 1981.

All ground movement associated with the working of these seams should, by now, have ceased.

There are no records of shallow mining in the area, which may affect the site, and there are no recorded mine entries within, or within 20m of the site.

10.1.4 Stability

On the basis of existing site investigation data, no ground treatment is anticipated.

Localised instability of near surface soils is anticipated during excavation. Where man entry is required, support must always be provided.

10.1.5 Groundwater

Groundwater was encountered in borehole WS18 (approximately 2.5m bgl) during the site investigation.

10.2 Contamination and Performance of Building Materials

10.2.1 Sulphate

In accordance with BRE Special Digest 1 (2005) therefore, it is considered that Class DS1/ACEC-AC1s conditions should be assumed.

10.2.2 Other Contaminants

Samples of near surface soil from the tilled land are to be taken to assess the concentration of any residual fertilizers.

On the basis of laboratory testing, the present chemical status of the on-site soils does not include significant quantities of any other substances that are likely to be detrimental to the performance of building materials during their expected lifespan. Consultation should however be made with the water supply company regarding the provision of potable water supply pipes and any specific protective measures they may require.

11.0 PHASE II ENVIRONMENTAL ASSESSMENT

11.1 Phase II Conceptual Model

11.1.1 History

Historical Ordnance Survey plans indicate the site to have been principally for agricultural end use and residential housing.

11.1.2 Ground Conditions

Made ground was identified in WS09 to 0.30m, although no obvious signs of contamination have been observed during the ground investigation works carried out to date.

Land to the east of the REEMA Estate site (on the opposite side of the existing railway) is shown on historical OS plans to have been landfilled. Information presented in the Envirocheck report indicates that permitted wastes included household as well as commercial (veterinary wastes) and industrial (including tyres, tar and asphalts, medical and liquids).

11.1.3 Anthropogenic Constituents of Made Ground

On the basis of historical information it is considered that the made ground soils at the site are most probably derived from local demolition/combustion works. In summary, made ground materials at the site and the risk they pose, comprise:

Demolition materials: consisting of relatively inert materials such as brick. Due to the physical form, this is not considered to represent a significant risk to human health via exposure pathways;

Hydrocarbon containing materials: no evidence of these were identified at the sites.

11.1.4 Hydrogeology

No significant groundwater was identified during the ground investigation. The sites are situated above a minor aquifer.

11.1.5 Ecological Constraints

Japanese Knotweed was not identified during the site investigation and no other ecological issues were identified during the investigations. It would be prudent however to have a full ecological survey of the site carried out.

12.0 RISK ASSESSMENT

12.1 Preamble

Current UK legislation on contaminated land is principally contained in Sections 78(A) to (YC) in Part IIA of the Environmental Protection Act 1990, which was retrospectively inserted by Section 57 of the Environment Act 1995. This legislation came into effect in April 2000 and is enacted by the Contaminated Land (England) Regulations 2000.

The legislation adopts the principle of a 'suitable for use' approach for the assessment of contaminated land, the rationale reflected in the site-specific risk assessment and determination of remedial strategy. Action is only required if unacceptable risks are posed to human health or to the environment, taking into account the current land-use and geo-environmental setting.

The legislation places a responsibility on the Local Authority to determine whether the land under its jurisdiction is contaminated by consideration of whether:

- ***Significant harm is being caused;***
- ***There is a significant possibility of significant harm being caused;***
- ***Significant pollution of controlled waters is being caused or is likely to be caused.***

The statutory guidance describes a risk assessment methodology in terms of 'significant pollutants' and 'pollutant linkages', using SOURCE-PATHWAY-RECEPTOR' scenarios for the site.

On the basis of the available data and associated guidance (e.g. DEFRA, EA and USEPA), the site's geo-environmental setting and proposed end-use, qualitative and quantitative risk assessments have been carried out.

12.2 Tier 2 Risk Screening (Soil)

In accordance with CLEA guidance (DEFRA and EA, R&D Publication CLR 7, 2002) soil analysis results were subject to quantitative statistical analysis to assess soil contamination issues at the site. Where possible, the Contaminated Land Exposure Assessment (CLEA) guidelines have been used to assess risk posed to human health where Soil Guideline Values (SGVs) have been derived. Where no suitable generic assessment criteria (e.g. DEFRA and Environment Agency published Soil Guideline Values) are currently available, in-house Tier 2 assessment values for individual PAH species and TPH (carbon bands C₅-C₃₅) have been calculated.

Abatech's in-house Tier 2 values were derived using the Defra/EA CLEA UK (Beta) model released in November 2005, which was developed to allow, where necessary, generic assessment criteria to be calculated. The generic simulation mode of the model was used to derive Tier 2 values given in Tables 12.2 and 12.3 below.

12.2.1 Input Parameters & Methodology

In-house generic assessment values have been calculated for contaminants not covered by existing CLEA Soil Guideline Values. A summary of the physico-chemical input parameters is presented in Appendix VII.

12.3 Statistical Analysis

Statistical analysis provides more accurate results the greater the data set available. The statistics have been designed to review an entire data set, as opposed to comparing individual results to a given SGV. The CLEA statistical methodology produces two key outputs:

- The Mean Value Test compares the Soil Guideline Value (SGV) with the Upper Bound Value (US_{95}) of the mean measured concentration. Where the mean value test is applied and the Upper Bound Value is less than the SGV, then it may be considered that the mean value test has been passed and that the site requires no further action. Conversely, if the test is failed, further sampling, analysis, assessment and possibly remediation may be required, subject to the local authority considering the benefits of undertaking such work in relation to the risk posed to human health;
- The Maximum Value Test (T) is applied to a set of data to calculate an Outlier Critical Value (OCV). This enables an assessment to be made as to whether the highest value(s) in a dataset belong(s) to the general 'population', or whether they represent a statistical outlier, e.g. a 'hotspot', or an area of elevated contamination that has not been identified. Caution should however be applied to the output of the maximum value test, since if the test is passed it merely indicates that the maximum value is reasonably consistent with the distribution of other contaminants in the data set. The following tables summarise the statistical analysis for the samples taken.

Table 12.1 – Summary Table of CLEA Statistical Analysis

Determinand	No. of samples analysed	Upper Bound Value (UBV) (mg/kg)	Soil Guideline Value (SGV) (mg/kg)*	Is UBV greater than SGV?	Outlier Critical Value (T)	10% Value [^]
Metals						
Arsenic	26	13.2	20	no	2.51	2.38
Cadmium	26	0.17	2	no	2.44	2.38
Mercury	26	0.11	8	no	4.28	2.38
Nickel	26	28.28	50	no	2.59	2.38
Lead	26	1.53	2.65	no	1.38	2.38
Chromium (VI)	26	5.00	130	no	0.00	2.38
Selenium	26	0.48	35	no	3.18	2.38
Phenol	26	0.30	150	no	0.00	2.38

*Threshold criteria determined as the Soil Guideline Value (SGV), with reference to CLEA residential with plant uptake;

[^]10% value (Tcrit) adopted from CLEA report CLR7 (EA, 2002), since this value is regarded to be the most stringent (i.e. health protective), in the context of contaminated land and the inclusion of potential outlier values in the data-set.

Table 12.2 - Summary Table of Statistical Analysis (PAH)

Determinand	No. of samples analysed	Upper Bound Value (UBV) (mg/kg)	Tier 2 Soil Screening Value (SSV) (mg/kg)*	Is UBV greater than Tier 2 SSV?	Outlier Critical Value (T)	10% Value [^]
Naphthalene	26	0.19	37	no	2.98	2.38
Acenaphthene	26	0.43	317	no	4.59	2.38
Fluorene	26	0.10	74	no	-	2.38
Anthracene	26	0.13	17	no	4.90	2.38
Fluoranthene	26	0.37	58	no	2.88	2.38
Pyrene	26	0.26	280	no	3.78	2.38
Benz(a)anthracene	26	0.23	5.8	no	3.59	2.38
Chrysene	26	0.20	3.3	no	4.31	2.38
Benzo(b)fluoranthene	26	0.17	6.4	no	4.28	2.38
Benzo(k)fluoranthene	26	0.14	9.2	no	4.90	2.38
Benzo(a)pyrene	26	0.19	1.1*	no	3.07	2.38
Dibenzo(a,h)anthracene	26	0.10	1.3	no	-	2.38
Indeno(1,2,3-cd)pyrene	26	0.10	10.4	no	-	2.38
Benzo(g,h,i)perylene	26	0.14	36	no	4.13	2.38

*Tentative non-validated Tier 2 Soil Screening Values (SSV) assuming the presence of the most sensitive CLR receptor (female aged 0-6 years);

[^]10% value (Tcrit) adopted from CLEA report CLR7 (EA, 2002), since this value is regarded to be the most stringent (i.e. health protective), in the context of contaminated land and the inclusion of potential outlier values in the data-set;

**Based on an assessment of TOX Report 2, Benzo(a)pyrene, April 2002.

12.4 Contamination Sources

Soil

On the basis of laboratory test results and risk assessment it appears that there are no elevated concentrations of 'general' contaminants of concern at the site. Although no evidence of potential contamination was observed during the ground investigation, it should be noted that the site investigation and testing was necessarily limited. It is possible therefore that areas of contamination may exist at the site which have not been identified to date.

Following completion of the laboratory testing and data analysis the following Source-Pathway-Receptor risk assessment table has been derived.

Table 12.4 - Risk Assessment Summary Table

SOURCE*	PATHWAY	TARGET (RECEPTOR)	COMMENTS	RISK LEVEL	ACTION
Metals/ Metalloids In soils	Direct Ingestion (active) Inhalation (passive)	Site users	End use is residential with private gardens and soft landscaping	LOW	No elevated 'general' contaminant concentrations identified. (see 'Options Appraisal' below)
Metals/ Metalloids In Soils	Topsoll in landscaped borders	Vegetation	As above	LOW	No elevated 'general' contaminant concentrations identified. (see 'Options Appraisal' below)
Organic Compounds In Soils	As above (plus skin contact)	Site users	Mainly a short-term exposure risk to ground workers, but may present longer-term risk to end-users at the site	LOW	No elevated 'PAH' contaminant concentrations identified. (see 'Options Appraisal' below) Fertilizers may be present in the near surface soils across arable land - to be confirmed
Leachate Burden (overall)	Sub-strata (beneath and adjacent site)	Groundwater/ Surface water	Potential for contaminants to migrate	LOW	Near surface soils are clayey and overlie a minor aquifer.
Radon and other ground gases	Subsurface soils/strata via services and buildings	Site users	Potential for migration into properties	LOW	No radon protective measures required. Precautions for CO ₂ and CH ₄ to be confirmed following completion of monitoring works/further works. None anticipated (See Appendix VI for test results)
Japanese Knotweed	Spread In contaminated soils	Environment/ Structures/ Roads	Potential for on/off-site migration if not treated properly	LOW	Knotweed not identified - ecological survey required to confirm

Notes:

LOW / MODERATE / HIGH - Risk level is assigned a low/moderate/high qualitative value, based on assessment requirement for action in context of Part II EPA 1990;

* Including anthropogenic materials where identified.

12.5 Options Appraisal

12.5.1 Preamble

On the basis of laboratory soils testing and risk assessment above, it is considered that arsenic and nickel in the made ground and upper natural soils may present an unacceptable risk to human health at the site given the pollutant linkages that exist. Those linkages given above comprise all risks identified at the site, being established either at the time of the Phase I study (e.g. the requirement for radon protective measures), or following completion of site works/laboratory testing (e.g. measures protective of human health for contaminated soils).

12.5.2 Options Appraisal (Overview)

In accordance with guidelines presented in the Contaminated Land Report (CLR) 11, Model Procedures for Management of Land Contamination (Environment Agency, September 2004), the following options appraisal has been carried out to determine the most effective method of managing the site and the identified pollutant linkages given above. As defined in Chapter 3 of CLR11:

"... there may be a number of ways to reduce or control unacceptable risks, all of which have advantages and limitations in any particular case. The role of options appraisal is to establish, taking all the circumstances of the site into account, which options (either singularly or in combination) offer the best overall approach to remediation for the site as a whole." (Environment Agency, 2004)

12.5.3 Remediation Objectives

As defined in CLR 11, there are a number of objectives that the remediation strategy needs to achieve. In this instance, the following pertinent objectives that relate to the reduction/control of the risks associated with one or more of the linkages, have been identified:

Table 12.5 - Remediation Objectives

Objectives:	Reasons:
1. The degree to which risks need to be reduced/controlled	To ensure protection of human health.
2. Practicability of implementing and, where needed, maintaining the strategy	To ensure remediation can be carried out effectively.
3. Technical effectiveness of the strategy in reducing identified risks	To ensure remediation methods employed are suitable for identified risks.

Table Cont'd.

4. Cost effectiveness	To ensure financial viability in terms of risk posed by identified contaminant(s).
5. Compliance	To ensure remediation complies with current legislation.

12.5.4 Remediation Options

The following section identifies remediation options that could be utilised to effectively manage the identified pollutant linkages, given that the site is to be redeveloped for residential end-use with gardens and areas of soft-landscaping.

In determining the most effective remediation option(s) for a site, consideration needs to be given to a number of techniques, stating (where appropriate) the suitability and limitations of each chosen method. On the basis of the identified pollutant linkages and remediation objectives, the following options have been considered.

Table 12.6 - Remediation Options (Assessment)

Contaminant Source	Metals/ Organics in Soil (including PAH)	Metals/ Metalloids in Soil (i.e. Arsenic)	Organic Compounds in Soil (i.e. PAH)	Organic Compounds in Soil (i.e. TPH)	Ground Gases (i.e. CH ₄ and/or CO ₂)	Radon
Pollutant Linkage	Plant uptake by vegetation	Direct ingestion/ inhalation by end users	Direct ingestion/ inhalation by end users inc skin contact	Direct ingestion/ inhalation by end users inc skin contact	Migration into properties	Migration into properties
Remediation Options						
Excavation with Disposal	NA	NA	NA	NA	NA	NA
In-situ or Ex-situ Treatment	NA	NA	NA	NA	NA	NA
On-site burial	Made ground materials to be covered with hardstanding/placed beneath buildings where encountered*	Made ground materials to be covered with hardstanding/placed beneath buildings where encountered*	Made ground materials to be covered with hardstanding/placed beneath buildings where encountered*	Made ground materials to be covered with hardstanding/placed beneath buildings where encountered*	NA	NA
Capping	Subject to risk assessment should contamination be encountered during development	Subject to risk assessment should contamination be encountered during development	Subject to risk assessment should contamination be encountered during development	Subject to risk assessment should contamination be encountered during development	NA	NA
Membrane	NA	NA	NA	NA	To be confirmed.	NA
Justification	Carry out further risk assessment prior to remediation (if/where required). Validation to assess residual contaminant concentrations	Carry out further risk assessment prior to remediation (if/where required). Validation to assess residual contaminant concentrations	Carry out further risk assessment prior to remediation (if/where required). Validation to assess residual contaminant concentrations	Carry out further risk assessment prior to remediation (if/where required). Validation to assess residual contaminant concentrations	None anticipated at this stage. Further monitoring needed to determine requirement	NA

NA - Not applicable *Subject to approval

Following completion of the laboratory testing, risk assessment and the options assessment, it is considered that, on the basis of current test results, no remediation is likely to be required at the site. Risk assessment using the RSK/ENSR/NHBC (2004) software (Cover Systems for Land Regeneration), coupled with the mean value testing carried out in accordance with Appendix A, CLR 7, indicates that no capping is required in garden areas or areas of soft landscaping.

Given that site investigation works were not undertaken in all areas of the site, there may be currently unforeseen areas of contamination which present a risk to human health. Excavation/remediation of any impacted soils (should these be identified) may need to be carried out following risk assessment. Further sampling and testing may also be needed when the hardstanding is removed during redevelopment, should areas of other currently unforeseen contamination be encountered. Where excavations to remediate contaminated soils are made, validation sampling will be carried out in agreement with the local authority. A validation report will need to be submitted to the NHBC following completion of the works.

Although no significant levels of ground gases have been measured at the site, further testing is required prior to confirming the need for precautions. Confirmation regarding the design of any gas protective measures required at the sites should be sought from the NHBC and/or Building Control prior to construction (if required).

A summary of the most appropriate remediation option(s), for each relevant pollution linkage, is given in the following table.

Table 12.7 – Summary of Remediation Options (Most Appropriate)

Contaminant Source	Metals/ Organics in Soil (including PAH/TPH)	Metals/ Metalloids in Soil (e.g. Arsenic)	Organic Compounds in Soil (i.e. PAH)	Organic Compounds in Soil (i.e. TPH)	Ground Gases	Radon
Pollutant Linkage	Plant uptake by vegetation	Direct ingestion/inhalation by end users	Direct ingestion/inhalation by end users inc skin contact	Direct ingestion/inhalation by end users inc skin contact	Migration into properties	Migration into properties

Table Cont'd.

Remediation Options	Remediation subject to further risk assessment should areas of impacted near surface soils be encountered (with follow-up validation)	Remediation subject to further risk assessment should areas of impacted near surface soils be encountered (with follow-up validation)	Remediation subject to further risk assessment should areas of impacted near surface soils be encountered (with follow-up validation)	Remediation subject to testing/risk assessment should areas of impacted near surface soils be encountered (with follow-up validation)	The need for precautions is to be confirmed	NA
Remediation Objectives met?	Yes	Yes	Yes	Yes	Yes	Yes

NA - Not applicable.

13.0 RECOMMENDATIONS

13.1 Enabling Works

Both sites are occupied by significant numbers of houses and associated infrastructure, with areas of tarmac hardstanding as well as areas of unsurfaced ground. It may be possible to crush and re-use some on-site demolition materials, such as below car parking areas / hardstanding (subject to planning layout and agreement with the EHO), but it may be that much of the demolition soils will need to be removed during redevelopment.

Historic foundation obstructions may be encountered, although the removal of all floor slabs, old foundations / substructures and any underground obstructions should be carried out as part of the enabling works where encountered. Further localised excavations may be required during enabling / demolition to check for additional old foundations and sub-structures associated with former development at the site.

Site clearance works will need to be integrated with the removal or infilling of any basements, foundations or other obstructions associated with the previous development. Any areas which may require remediation (e.g. unforeseen areas of contaminated soils) will require special consideration during site clearance.

On the basis of available information, some re-grading of the site may be required given the variation in ground levels (subject to proposed finished floor levels).

Asbestos containing materials may be present in the fabric of the old council properties given their date of construction. This should be confirmed.

13.2 Ground Treatment: None anticipated.

13.3 Foundations

On the basis of the site investigation, it is considered that strip/trench fill foundations will be suitable. These will need to be taken through any made ground soils into the underlying granular/cohesive soils or sandstone/mudstone strata where this is present at founding depth. The minimum founding depth on granular soils should be 600mm, and 900mm on cohesive soils.

On the basis of the *in situ* testing, an allowable bearing pressure of 125kN/m² may be assumed on the natural undisturbed soils. It should be noted however

that localised areas of softer ground have been encountered. Further assessment of foundation options/localised deepening may therefore be required.

Where foundations are found to straddle sand/clay/rock they will need to be thickened and reinforced. A plot specific foundation schedule will need to be completed.

13.4 Precautions Near Trees

Geotechnical testing indicates that the cohesive soils at the site have a medium volume change potential. Where heave precautions are required, recommendations will be made in the foundation schedule. Footings will need to be deepened in accordance with NHBC Standards, Chapter 4.2 (Building Near Trees). A tree survey may need to be carried out.

13.5 Floor Slabs

In situ suspended floor slabs should be assumed, subject to confirmation of proposed finished ground levels.

13.6 Slope Stability

An assessment of the nearby railway embankment may need to be carried out.

13.7 Sulphate Precautions

In accordance with BRE Special Digest 1 (2005), it is considered that Class DS1/ACEC-AC1s conditions may be assumed.

13.8 Road Construction

At this stage a CBR of 1% should be assumed on any made ground soils. A CBR of between 2 and 3% at road formation may generally be assumed for pavement design on the natural strata. This would however be subject to Local Authority approval prior to finalising design. Soils should be assumed to be frost susceptible.

13.9 Excavations

Instability of the near surface soils should be expected. Where man entry is required, support must always be provided.

13.10 Groundwater

No significant groundwater strikes were encountered during the site investigation.

13.11 Soakaways and Site Drainage

Permeability testing indicates that the underlying sandstone may be suitable for the use of trench soakaways where they are proposed for houses. *In situ* testing carried out at the REEMA Estate site resulted in an infiltration rate of $2.2E^{-05}$ m/s at the position of test pit S02, whilst the infiltration rate in test pit S01 could not be determined over the duration of the test. Should soakaways be proposed further testing will need to be carried out to confirm design infiltration rates, which are expected to be around 10^{-05} m/s. Where mudstone strata are encountered a network system would be required to take surface water to areas where more permeable strata are present at shallow depth.

Soakaway design would be subject to Local Authority/Highways Authority approval prior to finalising the design. Soakaways must not be positioned any nearer than 5.0m from buildings.

13.12 Ground Gas

Gas monitoring has been carried out at the REEMA Estate site. On the basis of monitoring to date, no methane has been detected, although carbon dioxide up to 3.8% has been measured. No flow was recorded during monitoring works.

At this stage, and in accordance with the NHBC Traffic Light System (NHBC, 2007), the site would be indicatively recorded as 'Green'. On this basis, it is considered that no gas precautions will be required. Confirmation for the need of gas precautions will be given following completion of the monitoring works.

Gas monitoring will need to be completed at the Brunswick Street site before recommendations regarding the need for gas precautions can be given.

13.13 Radon

No radon precautions are required in the construction of new dwellings or extensions at either the Brunswick Street or REEMA Estate site.

13.14 Potable Water Supplies

No precautions are anticipated. However, it would be prudent to consult with Yorkshire Water regarding any specific precautions they may require.

13.15 Flooding

Information provided by the Environment Agency and that given in the Envirocheck report indicates that the sites do not lie in an area which may be affected by flooding.

13.16 Remediation & Environmental Management

On the basis of laboratory test results and risk assessment, it is considered that no specific remediation is likely to be required at the site. However, given that site investigation works have not been undertaken in all areas of the site, there may be unforeseen areas of contamination that may present a risk to human health. Further works will need to be carried out to confirm this, during the demolition/enabling works.

Excavation/remediation of any impacted soils (should these be identified) may need to be carried out following risk assessment. Further sampling and testing may also be needed during redevelopment, should areas of suspected contamination be encountered. Where excavations to remediate contaminated soils are made, validation sampling will be carried out in agreement with the local authority. A validation report will need to be submitted to the NHBC following completion of the works.

The site has a supply of topsoil which could be re-used. The use of fertilizers on the arable land may however preclude the use of existing topsoil materials in gardens. Further sampling and testing may need to be carried out. The results of any further testing will need to be discussed with the NHBC/EHO.

Any materials imported to site will need to be tested at source, to confirm that they are clean and suitable for use.

On the basis of the site investigation and laboratory test results, it is considered that risk to controlled waters is likely to be very low.

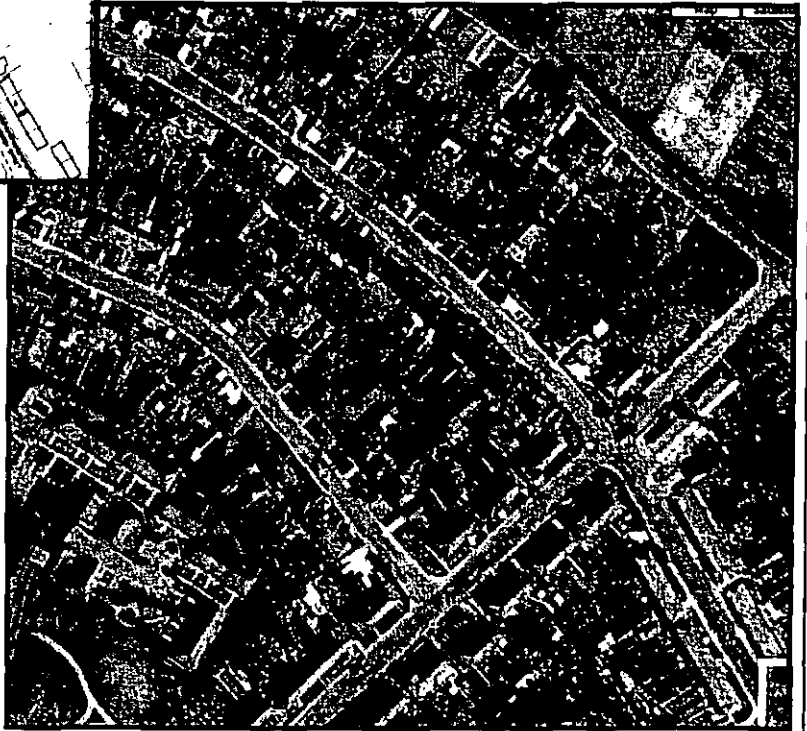
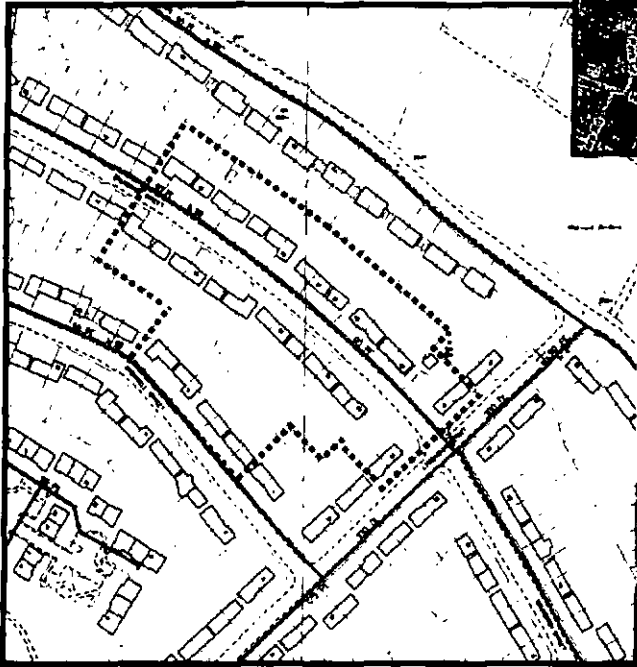
No evidence of Japanese Knotweed was observed during the site investigation. However, a full ecological survey is recommended to confirm this and to identify if any other notifiable plants are present on or within the immediate vicinity of the site.

14.0 FURTHER WORK

- Ground gas monitoring (to be completed). Additional monitoring may be required given the proximity of the railway cutting 'landfill' (subject to consultation with the EHO/NHBC);
- Supplementary soils testing of topsoil from across the arable land (REEMA Estate site) for fertilizers (to include dichloro-diphenyl-trichloroethane (DDT) and breakdown products DDE (1,1-dichloro-2,2-bis (p-dichlorodiphenyl) ethylene) and DDD (1,1-dichloro-2,2-bis (p-chlorophenyl) ethane);
- Type III (pre-demolition) asbestos survey of existing buildings and the site;
- Plot specific foundation schedule;
- Tree survey (where required);
- Slope stability assessment (where required);
- Ecological and habitat survey (to include Japanese Knotweed);
- Remediation method statement (should the need arise following site clearance works);
- Noise and vibration survey given the close proximity of the railway (if required);
- Follow-on permeability testing.

INFORMATION SOURCES

Geological, Mining and Hydrogeological data	<ul style="list-style-type: none"> -British Geological Survey, 1:50,000 Series, Sheet 87, Barnsley, Solid & Drift Edition; -Environment Agency Groundwater Vulnerability Map 1:100,000 scale Series, Sheet 12, Vale of York; - Coal Authority Mining Report(s).
Environmental	<ul style="list-style-type: none"> -Landmark EnviroCheck Report; - R&D Publication CLR7 Assessment of Risks to Human Health from Land Contamination: An overview of the development of Soil Guideline Values and Associated Research, EA and DEFRA, 2002; - R&D Publication CLR8 Potential Contaminants for the Assessment of Contaminated Land, EA and DEFRA, 2002; - Department of the Environment Industry Profiles; - Soil Guideline Values SGV1-16, Environment Agency R&D Publications, 2002/2005. Contaminants in Soil: Collation of Toxicological Data for intake of Humans; - EA, Contaminants in Soil: Collation of Toxicological Data and Intake Values for Humans: Benzo[a]Pyrene, Tox 2, 2002; - CIRIA Report 149: Protecting development from methane, 1995; - EA, Draft Technical Report P5-079/TR1, Review of the fate and transport of selected contaminants in the soil environment, 2003; - EA, Draft Technical Report P5-080/TR1, Principles for evaluating the human health risks from petroleum hydrocarbons in soil, 2003; - RISC User's Manual, Version 4.0; - RIVM, Technical evaluation of the intervention values for soil/sediment and groundwater, Report 711701 023, 2001; - TPHCWG Series, Selection of representative TPH fractions based on fate and transport considerations, Volume 3, 1997; - TPHCWG Series, Development of fraction specific reference doses and reference concentrations for total petroleum hydrocarbons, Volume 4, 1997; - USEPA, Provisional guidance for QRA of PAH, Report EPA/600/R-93/089.
Historical	As presented in Appendices II & III.



CLIENT : BARRATT SHEFFIELD

PROJECT : BRUNSWICK STREET, THURNSCOE, ROTHERHAM

FIGURE TITLE : SITE LOCATION PLAN

DRAWN: AJS

PROJECT ENG: EM

SCALE : NTS

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DATE : OCT '07

FIGURE N°: S7/032/001

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CLIENT : BARRATT SHEFFIELD

PROJECT : REEMA ESTATE, THURNSCOE, ROTHERHAM

FIGURE TITLE : SITE LOCATION PLAN

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SCALE : NTS

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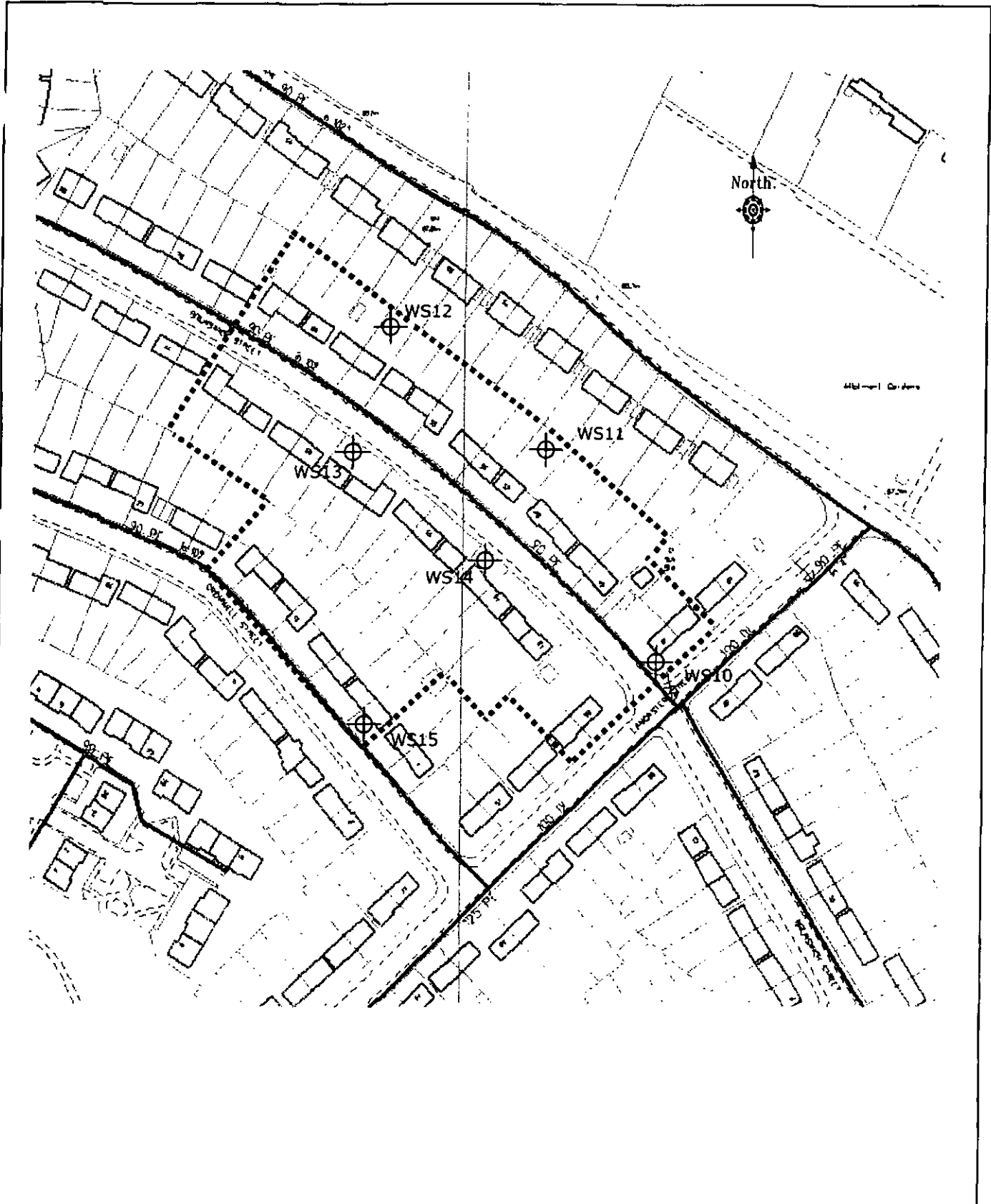
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FIGURE TITLE : SITE INVESTIGATION LOCATION PLAN

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SCALE : NTS

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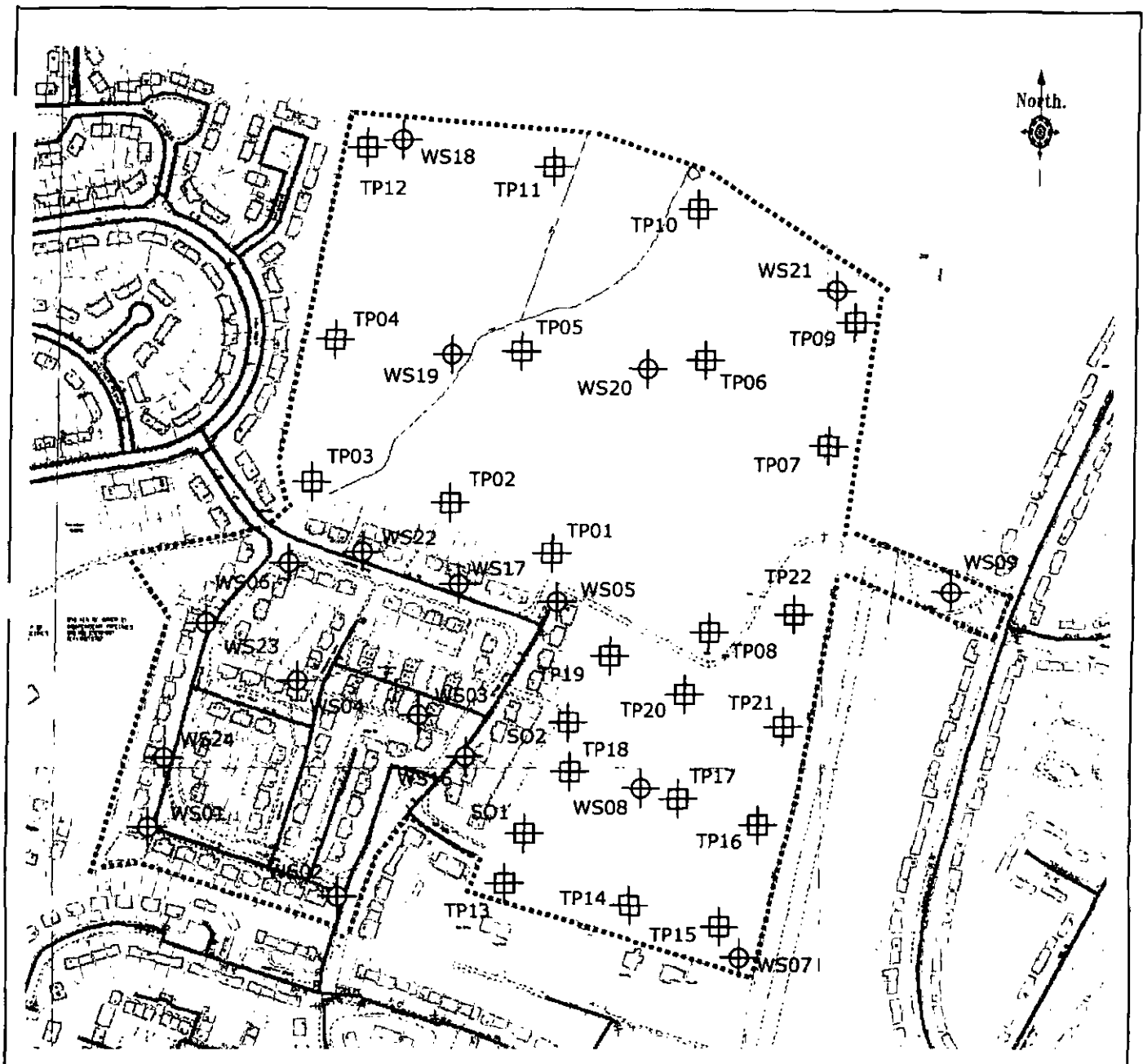


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PROJECT : REEMA ESTATE, THURNSCOE, ROTHERHAM		
FIGURE TITLE : SITE INVESTIGATION LOCATION PLAN		
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FIGURE N°: S7/032/004	REVISION : 0
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Envirocheck[®] Report:

BGS Boreholes Datasheet

Order Details:

Order Number:

21677106_1_1

Customer Reference:

S7/032

National Grid Reference:

445810, 406130

Slice:

A

Site Area (Ha):

19.94

Borehole Search Buffer (m):

1000

Site Details:

The Reema Estate

Thurnscoe

Rotherham

South Yorkshire

Client Details:

Mr A Spooner

Abatech International

4 Park Sq, Thorncliffe Park Est

Newton Chambers Road

Chapelton

Sheffield

S35 2PH

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
BGS Boreholes	pg 1	2	16	20	40

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

Report Version v28.2

BGS Boreholes Detail

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
75	BGS Boreholes BGS Reference: Se40ne20/A Drilled Length (m): 6.1 Borehole Name: Thurnscoe A-D	A11SW (NE)	0	4	446024 406242
76	BGS Boreholes BGS Reference: Se40ne20/B Drilled Length (m): 3.96 Borehole Name: Thurnscoe A-D	A7NW (SE)	0	4	445990 406039
77	BGS Boreholes BGS Reference: Se40ne20/C Drilled Length (m): 4.27 Borehole Name: Thurnscoe A-D	A7NW (SE)	1	4	445951 405863
78	BGS Boreholes BGS Reference: Se40ne90 Drilled Length (m): Not Supplied Borehole Name: Taylor Street Thurnscoe Tp2	A6NE (SW)	118	4	445563 405813
78	BGS Boreholes BGS Reference: Se40ne92 Drilled Length (m): Not Supplied Borehole Name: Taylor Street Thurnscoe Tp4	A6NE (SW)	118	4	445565 405812
78	BGS Boreholes BGS Reference: Se40ne89 Drilled Length (m): Not Supplied Borehole Name: Taylor Street Thurnscoe Tp1	A6NE (SW)	120	4	445558 405813
78	BGS Boreholes BGS Reference: Se40ne93 Drilled Length (m): Not Supplied Borehole Name: Taylor Street Thurnscoe Tp5	A6NE (SW)	120	4	445564 405811
78	BGS Boreholes BGS Reference: Se40ne94 Drilled Length (m): Not Supplied Borehole Name: Taylor Street Thurnscoe Tp6	A6NE (SW)	120	4	445559 405812
78	BGS Boreholes BGS Reference: Se40ne91 Drilled Length (m): Not Supplied Borehole Name: Taylor Street Thurnscoe Tp3	A6NE (SW)	121	4	445563 405810
78	BGS Boreholes BGS Reference: Se40ne95 Drilled Length (m): Not Supplied Borehole Name: Taylor Street Thurnscoe Tp7	A6NE (SW)	122	4	445560 405810
78	BGS Boreholes BGS Reference: Se40ne96 Drilled Length (m): Not Supplied Borehole Name: Taylor Street Thurnscoe Tp8	A6NE (SW)	122	4	445567 405808
78	BGS Boreholes BGS Reference: Se40ne97 Drilled Length (m): Not Supplied Borehole Name: Taylor Street Thurnscoe Tp9	A6NE (SW)	122	4	445561 405810
78	BGS Boreholes BGS Reference: Se40ne101 Drilled Length (m): 3.35 Borehole Name: Thurnscoe J+I School B	A6SE (SW)	163	4	445542 405772
79	BGS Boreholes BGS Reference: Se40ne50 Drilled Length (m): 40.28 Borehole Name: Hickleton Colliery No.19 Ugph	A10SE (NW)	122	4	445552 406367
80	BGS Boreholes BGS Reference: Se40ne49 Drilled Length (m): 40.23 Borehole Name: Hickleton Colliery No.18 Ugph	A10NE (NW)	153	4	445559 406504
81	BGS Boreholes BGS Reference: Se40ne100 Drilled Length (m): 3.05 Borehole Name: Thurnscoe J+I School A	A6SE (SW)	174	4	445528 405760

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
82	BGS Boreholes BGS Reference: Se40ne55 Drilled Length (m): Not Supplied Borehole Name: Hickleton Colliery Pillar Section	A10NE (N)	199	4	445759 406619
83	BGS Boreholes BGS Reference: Se40ne63 Drilled Length (m): Not Supplied Borehole Name: Hickleton Colliery No.27 Ugbh	A6SW (SW)	229	4	445481 405709
84	BGS Boreholes BGS Reference: Se40ne20/D Drilled Length (m): 1.83 Borehole Name: Thurnscoe A-D	A7SW (S)	260	4	445899 405608
85	BGS Boreholes BGS Reference: Se40ne117 Drilled Length (m): 3.2 Borehole Name: Thurnscoe Health Centre	A6SW (SW)	265	4	445450 405680
85	BGS Boreholes BGS Reference: Se40ne119 Drilled Length (m): 4.25 Borehole Name: Thurnscoe Health Centre	A6SW (SW)	268	4	445480 405670
85	BGS Boreholes BGS Reference: Se40ne118 Drilled Length (m): 3.35 Borehole Name: Thurnscoe Health Centre	A6SW (SW)	287	4	445440 405660
85	BGS Boreholes BGS Reference: Se40ne120 Drilled Length (m): 3.95 Borehole Name: Thurnscoe Health Centre	A6SW (SW)	289	4	445470 405650
86	BGS Boreholes BGS Reference: Se40ne111 Drilled Length (m): 3.05 Borehole Name: Thurnscoe 7	A10SW (W)	331	4	445220 406210
87	BGS Boreholes BGS Reference: Se40ne107 Drilled Length (m): 3.05 Borehole Name: Thurnscoe 3	A10SW (W)	348	4	445210 406240
87	BGS Boreholes BGS Reference: Se40ne106 Drilled Length (m): 3.05 Borehole Name: Thurnscoe 2	A10SW (W)	389	4	445170 406250
88	BGS Boreholes BGS Reference: Se40ne48 Drilled Length (m): 41.91 Borehole Name: Hickleton Colliery No.17 Ugbh	A10NW (NW)	355	4	445368 406575
89	BGS Boreholes BGS Reference: Se40ne38 Drilled Length (m): 36.17 Borehole Name: Hickleton Main Colliery No.7 Ugbh	A6NW (W)	356	4	445174 405876
90	BGS Boreholes BGS Reference: Se40ne19/D Drilled Length (m): 10.06 Borehole Name: Clayton With Frickley Railway Bores A-D	A11NW (NE)	360	4	446081 406711
91	BGS Boreholes BGS Reference: Se40ne114 Drilled Length (m): 3.35 Borehole Name: Thurnscoe 10	A10SW (W)	366	4	445180 406190
91	BGS Boreholes BGS Reference: Se40ne110 Drilled Length (m): 1.83 Borehole Name: Thurnscoe 6	A10SW (W)	372	4	445180 406220
91	BGS Boreholes BGS Reference: Se40ne113 Drilled Length (m): 3.05 Borehole Name: Thurnscoe 9	A10SW (W)	398	4	445150 406200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
92	BGS Boreholes BGS Reference: Se40ne109 Drilled Length (m): 3.05 Borehole Name: Thurnscoe 5	A9SE (W)	413	4	445140 406230
92	BGS Boreholes BGS Reference: Se40ne105 Drilled Length (m): 3.05 Borehole Name: Thurnscoe 1	A9SE (W)	431	4	445130 406260
92	BGS Boreholes BGS Reference: Se40ne112 Drilled Length (m): 3.05 Borehole Name: Thurnscoe 8	A9SE (W)	440	4	445110 406220
92	BGS Boreholes BGS Reference: Se40ne108 Drilled Length (m): 3.05 Borehole Name: Thurnscoe 4	A9SE (W)	447	4	445110 406250
93	BGS Boreholes BGS Reference: Se40ne54 Drilled Length (m): 89.42 Borehole Name: Goldthorpe High Gate Colliery No.39 Yrl 13348	A11NW (N)	423	4	446075 406784
94	BGS Boreholes BGS Reference: Se40ne64 Drilled Length (m): Not Supplied Borehole Name: Hickleton Colliery No.29 Ugbh	A10NE (NW)	426	4	445497 406804
95	BGS Boreholes BGS Reference: Se40ne77 Drilled Length (m): 34.06 Borehole Name: Hickleton Main Colliery No.8 Ugbh	A15SW (N)	595	4	446016 406985
96	BGS Boreholes BGS Reference: Se40nw187 Drilled Length (m): 2.44 Borehole Name: Thurnscoe Comp School 10	A9SE (W)	636	4	444934 406320
96	BGS Boreholes BGS Reference: Se40nw192 Drilled Length (m): 2.13 Borehole Name: Thurnscoe Comp School 15	A9SE (W)	659	4	444905 406303
96	BGS Boreholes BGS Reference: Se40nw186 Drilled Length (m): 2.13 Borehole Name: Thurnscoe Comp School 9	A9SE (W)	667	4	444906 406335
96	BGS Boreholes BGS Reference: Se40nw185 Drilled Length (m): 1.52 Borehole Name: Thurnscoe Comp School 8	A9SE (W)	695	4	444880 406346
96	BGS Boreholes BGS Reference: Se40nw191 Drilled Length (m): 1.22 Borehole Name: Thurnscoe Comp School 14	A9SE (W)	695	4	444867 406299
97	BGS Boreholes BGS Reference: Se40ne19/C Drilled Length (m): 5.18 Borehole Name: Clayton With Frickley Railway Bores A-D	A15SW (N)	653	4	446117 407013
98	BGS Boreholes BGS Reference: Se40ne61 Drilled Length (m): Not Supplied Borehole Name: Lane Thwaite Surf Bh26	A1NE (SW)	697	4	445029 405444
99	BGS Boreholes BGS Reference: Se40nw181 Drilled Length (m): 1.83 Borehole Name: Thurnscoe Comp School 4	A9SE (W)	716	4	444871 406385
99	BGS Boreholes BGS Reference: Se40nw184 Drilled Length (m): 2.44 Borehole Name: Thurnscoe Comp School 7	A9SE (W)	727	4	444849 406356

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
99	BGS Boreholes BGS Reference: Se40nw180 Drilled Length (m): 2.13 Borehole Name: Thurnscoe Comp School 3	A9SE (W)	759	4	444828 406393
100	BGS Boreholes BGS Reference: Se40nw190 Drilled Length (m): .91 Borehole Name: Thurnscoe Comp School 13	A9SE (W)	732	4	444832 406312
100	BGS Boreholes BGS Reference: Se40nw183 Drilled Length (m): 1.83 Borehole Name: Thurnscoe Comp School 6	A9SE (W)	752	4	444821 406349
100	BGS Boreholes BGS Reference: Se40nw189 Drilled Length (m): .91 Borehole Name: Thurnscoe Comp School 12	A9SW (W)	761	4	444800 406304
101	BGS Boreholes BGS Reference: Se40ne16 Drilled Length (m): 831.49 Borehole Name: Hickleton Main Colliery	A3NE (SE)	752	4	446471 405314
102	BGS Boreholes BGS Reference: Se40nw182 Drilled Length (m): 2.13 Borehole Name: Thurnscoe Comp School 5	A9SW (W)	775	4	444796 406345
102	BGS Boreholes BGS Reference: Se40nw179 Drilled Length (m): 1.83 Borehole Name: Thurnscoe Comp School 2	A9SW (W)	793	4	444794 406397
102	BGS Boreholes BGS Reference: Se40nw188 Drilled Length (m): 2.13 Borehole Name: Thurnscoe Comp School 11	A9SW (W)	798	4	444766 406320
102	BGS Boreholes BGS Reference: Se40nw178 Drilled Length (m): 2.13 Borehole Name: Thurnscoe Comp School 1	A9SW (W)	816	4	444760 406369
103	BGS Boreholes BGS Reference: Se40ne21 Drilled Length (m): 4.27 Borehole Name: South Of Thurnscol East Road Bridge	A2SE (S)	796	4	445790 405084
104	BGS Boreholes BGS Reference: Se40ne56 Drilled Length (m): Not Supplied Borehole Name: Derry Grove Surf Bh	A2NW (SW)	818	4	445185 405190
105	BGS Boreholes BGS Reference: Se40nw134 Drilled Length (m): 55.78 Borehole Name: Hickleton Colliery Ug28 & 28a	A9NE (NW)	833	4	444925 406755
105	BGS Boreholes BGS Reference: Se40nw94 Drilled Length (m): 119.18 Borehole Name: Houghton Main Colliery No.42 Ug28	A9NE (NW)	859	4	444906 406776
106	BGS Boreholes BGS Reference: Se40ne124 Drilled Length (m): 2 Borehole Name: Bt607 Lidget Lane Thurnscoe 7	A8SE (SE)	859	4	446860 405670
106	BGS Boreholes BGS Reference: Se40ne123 Drilled Length (m): 2.6 Borehole Name: Bt607 Lidget Lane Thurnscoe 6	A8SE (SE)	904	4	446900 405650
107	BGS Boreholes BGS Reference: Se40ne122 Drilled Length (m): 2.2 Borehole Name: Bt607 Lidget Lane Thurnscoe 2	A8SW (SE)	876	4	446830 405590

BGS Boreholes Detail

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
107	BGS Boreholes BGS Reference: Se40ne121 Drilled Length (m): 2 Borehole Name: Bt607 Lidget Lane Thurnscoe 1	A8SE (SE)	912	4	446860 405570
108	BGS Boreholes BGS Reference: Se40nw122 Drilled Length (m): 271.16 Borehole Name: Knabs Hill	A9NW (NW)	897	4	444792 406628
109	BGS Boreholes BGS Reference: Se40ne19/B Drilled Length (m): 3.35 Borehole Name: Clayton With Frickley Railway Bores A-D	A15NW (N)	926	4	446143 407292
110	BGS Boreholes BGS Reference: Se40se314 Drilled Length (m): Not Supplied Borehole Name: Fields End Business Park Barnsley 12	A3SW (S)	929	4	445840 404940
110	BGS Boreholes BGS Reference: Se40se324 Drilled Length (m): Not Supplied Borehole Name: Fields End Business Park Barnsley Tp10	A3SW (S)	948	4	445850 404920
111	BGS Boreholes BGS Reference: Se40se35 Drilled Length (m): 32.92 Borehole Name: Hickleton Main Colliery No.4 Ubh	A2SE (S)	940	4	445743 404947
111	BGS Boreholes BGS Reference: Se40se313 Drilled Length (m): Not Supplied Borehole Name: Fields End Business Park Barnsley 11	A2SE (S)	947	4	445790 404930
112	BGS Boreholes BGS Reference: Se40se322 Drilled Length (m): Not Supplied Borehole Name: Fields End Business Park Barnsley Tp8	A2SE (S)	952	4	445820 404920
112	BGS Boreholes BGS Reference: Se40se323 Drilled Length (m): Not Supplied Borehole Name: Fields End Business Park Barnsley Tp9	A2SE (S)	966	4	445790 404910
112	BGS Boreholes BGS Reference: Se40se321 Drilled Length (m): Not Supplied Borehole Name: Fields End Business Park Barnsley Tp7	A2SE (S)	981	4	445820 404890
112	BGS Boreholes BGS Reference: Se40se311 Drilled Length (m): Not Supplied Borehole Name: Fields End Business Park Barnsley 9	A2SE (S)	994	4	445800 404880
113	BGS Boreholes BGS Reference: Se40ne24 Drilled Length (m): 85.65 Borehole Name: Lidgett Wood Borehole	A8SE (SE)	968	4	446922 405562
114	BGS Boreholes BGS Reference: Se40se312 Drilled Length (m): Not Supplied Borehole Name: Fields End Business Park Barnsley 10	A3SW (S)	978	4	445850 404890
114	BGS Boreholes BGS Reference: Se40se326 Drilled Length (m): Not Supplied Borehole Name: Fields End Business Park Barnsley Tp12	A3SW (S)	997	4	445860 404870

BGS Boreholes	Version	Update Cycle
BGS Boreholes British Geological Survey - National Geoscience Information Service	April 2007	Quarterly

Contact Details	Contact Logo
<p>4 British Geological Survey - Enquiry Service</p> <p>British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG</p> <p>Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk</p>	 <p>British Geological Survey <small>NATURAL ENVIRONMENT RESEARCH COUNCIL</small></p>
<p>- Landmark Information Group Limited</p> <p>The Smith Centre, Henley On Thames, Oxfordshire, RG9 6AB</p> <p>Telephone: 0870 850 6670 Fax: 0870 850 6671 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk</p>	 <p>LANDMARK[®] Information Group</p>



Agency and Hydrological

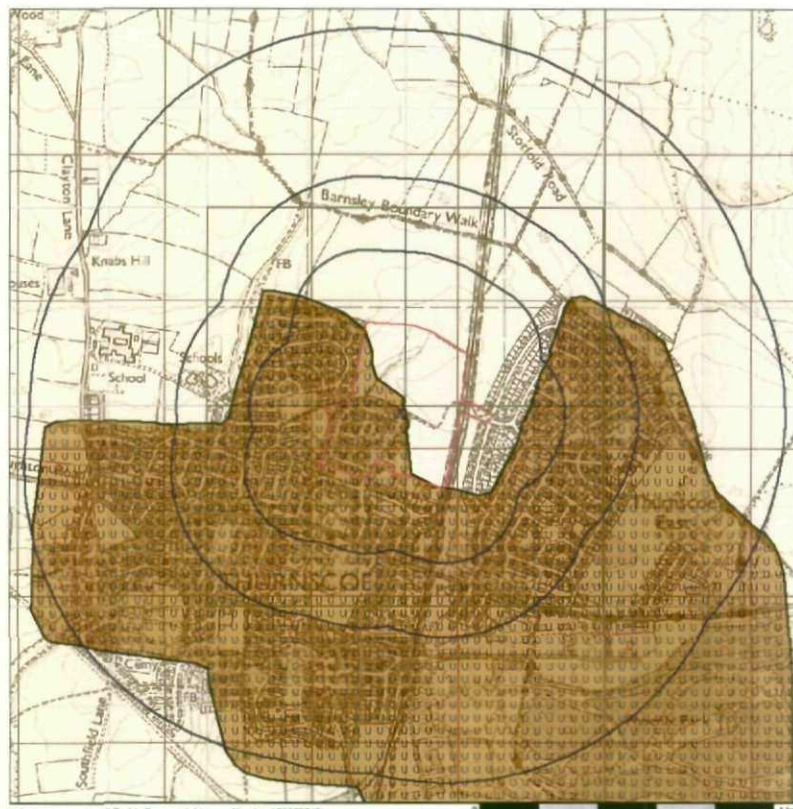
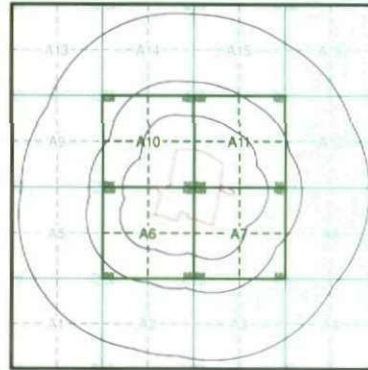
Groundwater Vulnerability - Slice A

Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 1000

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



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Background	General	Agency & Hydrological															
<ul style="list-style-type: none"> Footpath Bridleway Byway open to all traffic Road Used as a Public Path Other routes with Public Access National Trail or Long Distance Route Contour Fishing Nature Reserve 	<ul style="list-style-type: none"> Specified Site Specified Buffer(s) Bearing Reference Point 	<table border="0"> <tr> <td>Geological Classes</td> <td>Soil Classes</td> </tr> <tr> <td>Major Aquifer (Highly Permeable)</td> <td>High (H) 1, 2, 3, U</td> </tr> <tr> <td rowspan="3">Minor Aquifer (Variably Permeable)</td> <td>Intermediate (I) 1, 2</td> </tr> <tr> <td>Low</td> </tr> <tr> <td>High (H) 1, 2, 3, U</td> </tr> <tr> <td rowspan="2">Non Aquifer (Negligibly Permeable)</td> <td>Intermediate (I) 1, 2</td> </tr> <tr> <td>Low</td> </tr> <tr> <td>Water or Sea</td> <td></td> </tr> <tr> <td>Drift Deposit</td> <td></td> </tr> </table>	Geological Classes	Soil Classes	Major Aquifer (Highly Permeable)	High (H) 1, 2, 3, U	Minor Aquifer (Variably Permeable)	Intermediate (I) 1, 2	Low	High (H) 1, 2, 3, U	Non Aquifer (Negligibly Permeable)	Intermediate (I) 1, 2	Low	Water or Sea		Drift Deposit	
Geological Classes	Soil Classes																
Major Aquifer (Highly Permeable)	High (H) 1, 2, 3, U																
Minor Aquifer (Variably Permeable)	Intermediate (I) 1, 2																
	Low																
	High (H) 1, 2, 3, U																
Non Aquifer (Negligibly Permeable)	Intermediate (I) 1, 2																
	Low																
Water or Sea																	
Drift Deposit																	

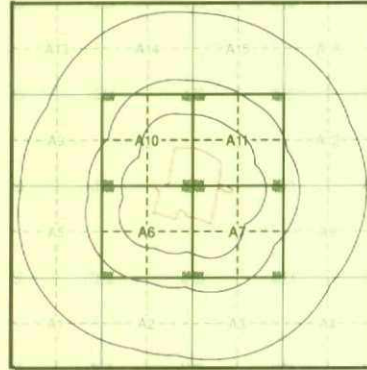


Agency and Hydrological

Order Details

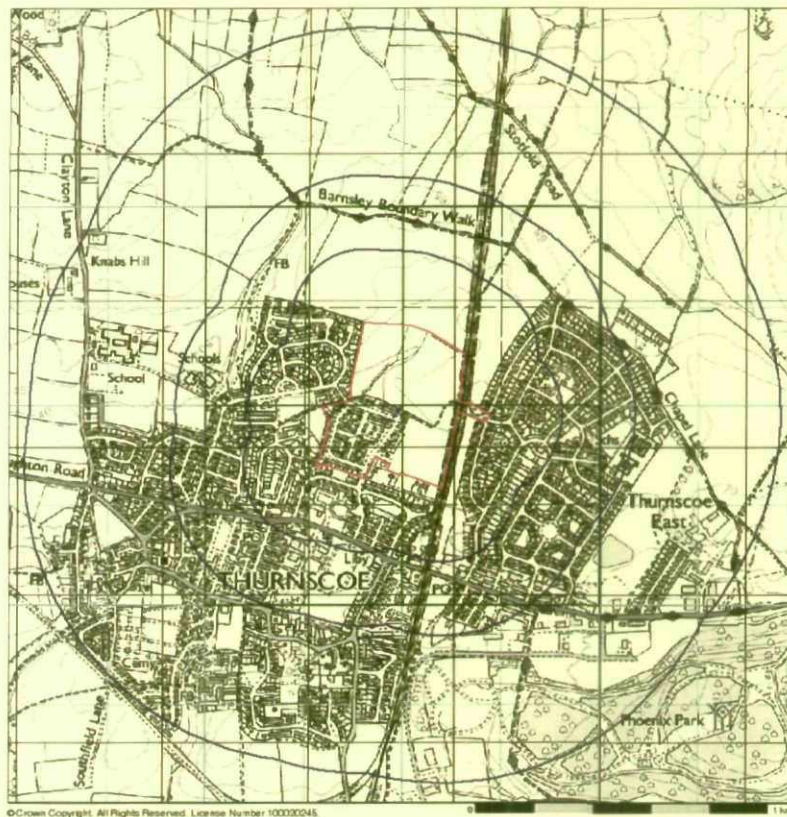
Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 1000

Source Protection Zones - Slice A



Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



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Background	General	Agency and Hydrological
Footpath	Specified Site	Source Protection Zone I
Bridleway	Specified Buffer(s)	Source Protection Zone II
Byway open to all traffic	X Bearing Reference Point	Source Protection Zone III
Road Used as a Public Path	Map ID	Zone of Special Interest
Other routes with Public Access		Source Protection Zone Borehole
National Trail or Long Distance Route		
Contour		
Fishing		
Nature Reserve		

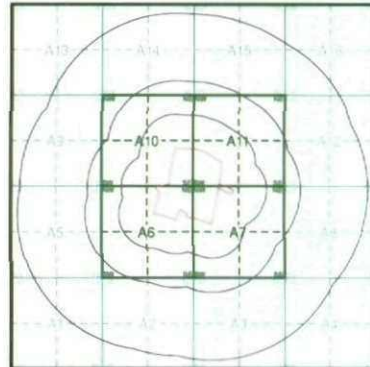


Sensitive Land Uses

Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 1000

Sensitive Land Uses - Slice A



Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



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<p>Background</p> <ul style="list-style-type: none"> Footpath Bridleway Byway open to all traffic Road Used as a Public Path Other routes with Public Access National Trail or Long Distance Route Contour Fishing Nature Reserve 	<p>General</p> <ul style="list-style-type: none"> Specified Site Specified Buffer(s) Bearing Reference Point Map ID <p>Sensitive Land Uses</p> <ul style="list-style-type: none"> Area of Adopted Green Belt Area of Unadopted Green Belt Area of Outstanding Natural Beauty Environmentally Sensitive Area Forest Park 	<ul style="list-style-type: none"> 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
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Envirocheck[®] Report: Datasheet

Order Details:

Order Number:

21677106_1_1

Customer Reference:

S7/032

National Grid Reference:

445810, 406130

Slice:

A

Site Area (Ha):

19.94

Search Buffer (m):

1000

Site Details:

The Reema Estate

Thurnscoe

Rotherham

South Yorkshire

Client Details:

Mr A Spooner

Abatech International

4 Park Sq, Thorncliffe Park Est

Newton Chambers Road

Chapelton

Sheffield

S35 2PH



Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	8
Hazardous Substances	-
Geological	13
Industrial Land Use	15
Sensitive Land Use	19
Data Currency	20
Data Suppliers	24
Useful Contacts	25

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 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 v28.2

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1				10
Enforcement and Prohibition Notices					
Integrated Pollution Controls	pg 3				1
<i>Integrated Pollution Prevention And Control</i>					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 3				4
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 4	Yes			
Pollution Incidents to Controlled Waters	pg 4				5
Prosecutions Relating to Authorised Processes					
Prosecutions Relating to Controlled Waters					
Registered Radioactive Substances					
River Quality	pg 5				2
River Quality Biology Sampling Points	pg 5				1
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 5		1		2
Water Abstractions	pg 6				(*3)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 7	Yes	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
Waste					
BGS Recorded Landfill Sites	pg 8				1
Historical Landfill Sites	pg 8	1		1	2
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 9				2
Local Authority Recorded Landfill Sites	pg 9	1		2	3
Registered Landfill Sites	pg 10		1		1
Registered Waste Transfer Sites	pg 11				3
Registered Waste Treatment or Disposal Sites					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
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 Recorded Mineral Sites	pg 13				3
BGS 1:625,000 Solid Geology	pg 13	Yes	n/a	n/a	n/a
Brine Compensation Areas			n/a	n/a	n/a
Coal Mining Affected Areas	pg 13	Yes	n/a	n/a	n/a
Mining Instability	pg 13	Yes	n/a	n/a	n/a
Natural and Mining Cavities					
Potential for Collapsible Ground Stability Hazards				n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 13	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards				n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 13	Yes		n/a	n/a
Radon Affected Areas	pg 14	Yes	n/a	n/a	n/a
Radon Protection Measures			n/a	n/a	n/a
Shallow Mining Hazards		Yes		n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 15		5	16	22
Fuel Station Entries	pg 18			1	

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Areas of Adopted Green Belt	pg 19	1		1	
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 19	1			
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	<p>Discharge Consents</p> <p>Operator: Yorkshire Forward Property Type: Coal Extraction, Deep Mine - Abandoned Location: Hickleton Former Colliery Site, Thurnscoe, South Yorkshire, England Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: Wra7499 Permit Version: 1 Effective Date: 16th March 1999 Issued Date: 16th March 1999 Revocation Date: 31st December 1999 Discharge Type: Trade Discharges - Site Drainage Discharge: Ditch Environment: Receiving Water: Thurnscoe Dyke Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A3NE (SE)	688	1	446250 405240
1	<p>Discharge Consents</p> <p>Operator: Yorkshire Forward Property Type: Coal Extraction, Deep Mine - Abandoned Location: Hickleton Former Colliery Site, Thurnscoe, South Yorkshire, England Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: Wra7499 Permit Version: 2 Effective Date: 1st January 2000 Issued Date: 16th March 1999 Revocation Date: 23rd September 2003 Discharge Type: Trade Discharges - Site Drainage Discharge: Ditch Environment: Receiving Water: Thurnscoe Dyke Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A3NE (SE)	688	1	446250 405240
2	<p>Discharge Consents</p> <p>Operator: British Coal Corporation Property Type: Undefined Or Other Location: Hickleton Colliery (Ncb) Outlet No., 1-Yard Drainage Interceptor Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: 3516 Permit Version: 1 Effective Date: 12th September 1983 Issued Date: 12th September 1983 Revocation Date: 1st March 1991 Discharge Type: Trade Effluent Discharge: Freshwater Stream/River Environment: Receiving Water: Not Supplied Status: Authorisation revoked Revoked Positional Accuracy: Located by supplier to within 100m</p>	A3NE (SE)	746	1	446300 405200
3	<p>Discharge Consents</p> <p>Operator: British Coal Corporation Property Type: Undefined Or Other Location: Hickleton Colliery (Ncb) Outlet No., 6-New Outlet Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: 3168 Permit Version: 1 Effective Date: 12th September 1983 Issued Date: 12th September 1983 Revocation Date: 1st March 1991 Discharge Type: Trade Effluent Discharge: Freshwater Stream/River Environment: Receiving Water: Not Supplied Status: Authorisation revoked Revoked Positional Accuracy: Located by supplier to within 100m</p>	A3NE (SE)	797	1	446400 405200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	<p>Discharge Consents</p> <p>Operator: Yorkshire Forward Property Type: Coal Extraction, Deep Mine - Abandoned Location: Hickleton Former Colliery Site, Thurnscoe, South Yorkshire, England Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: Wra7499 Permit Version: 1 Effective Date: 16th March 1999 Issued Date: 16th March 1999 Revocation Date: 31st December 1999 Discharge Type: Trade Discharges - Site Drainage Discharge: Ditch Environment: Receiving Water: Thurnscoe Dyke Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A3SW (S)	832	1	445980 405030
4	<p>Discharge Consents</p> <p>Operator: Yorkshire Forward Property Type: Coal Extraction, Deep Mine - Abandoned Location: Hickleton Former Colliery Site, Thurnscoe, South Yorkshire, England Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: Wra7499 Permit Version: 2 Effective Date: 1st January 2000 Issued Date: 16th March 1999 Revocation Date: 23rd September 2003 Discharge Type: Trade Discharges - Site Drainage Discharge: Freshwater Stream/River Environment: Receiving Water: Thurnscoe Dyke Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A3SW (S)	832	1	445980 405030
5	<p>Discharge Consents</p> <p>Operator: National Coal Board, South Yorkshire Area Property Type: Undefined Or Other Location: Hickleton Colliery (Ncb) Outlet No., 7-Settlement Lagoon Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: 3517 Permit Version: 1 Effective Date: 10th February 1981 Issued Date: 10th February 1981 Revocation Date: 9th August 1995 Discharge Type: Trade Discharge - Process Water Discharge: Freshwater Stream/River Environment: Receiving Water: Trib Of Thurnscoe Dike Status: Authorisation revoked Revoked Positional Accuracy: Located by supplier to within 100m</p>	A3SE (S)	896	1	446200 405000
6	<p>Discharge Consents</p> <p>Operator: The Coal Authority, Property Type: Undefined Or Other Location: Derry Grove Pumping Station Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: C4891 Permit Version: 1 Effective Date: 17th December 1987 Issued Date: 17th December 1987 Revocation Date: 28th September 1999 Discharge Type: Trade Discharge - Mineral Workings Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Of Thurnscoe Dike Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m</p>	A1SE (SW)	937	1	445080 405110

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	<p>Discharge Consents</p> <p>Operator: THE COAL AUTHORITY Property Type: Coal Extraction, Deep Mine Location: DERRY GROVE PUMPING STN., GOLDTHORPE/HICKLETON COLLIERY, NEAR ROTHERHAM, SOUTH YORKSHIRE Authority: Environment Agency, North East Region Catchment Area: Don Reference: C4891 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 28th September 1999 Revocation Date: Not Supplied Discharge Type: Trade Effluent Discharge-Minewater Discharge: Not Supplied Environment: Receiving Water: TRIB.OF THURNSCOE DIKE Revoked Status: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	A1SE (SW)	945	1	445080 405100
7	<p>Discharge Consents</p> <p>Operator: Doncaster M.B.C. Property Type: Household, Commercial and Industrial Waste Landfills Location: Chapel Lane Landfill Adjacent To Chapel Lane, Thurnscoe, Barnsley, South Yorkshire Authority: Environment Agency, North East Region Catchment Area: Don Tributaries Reference: C5092 Permit Version: 1 Effective Date: 17th June 1988 Issued Date: 17th June 1988 Revocation Date: 14th March 2007 Discharge Type: Trade Effluent Discharge: Freshwater Stream/River Environment: Receiving Water: Tributary Of Frickley Beck Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m</p>	A16SW (NE)	962	1	446720 406990
8	<p>Integrated Pollution Controls</p> <p>Name: Hanley Swiffen & Co Ltd Location: 107 High Street, Thurnscoe, ROTHERHAM, South Yorkshire, S63 0QZ Authority: Environment Agency, North East Region Permit Reference: A14689 Dated: 5th April 1993 Process Type: Application since found to be exempt from IPC Description: 2.2 A (C) Non-ferrous Metal processes within the Metal Industry Status: Application since found to be exempt from IPC Exempt Positional Accuracy: Unknown</p>	A5SE (SW)	628	1	445039 405536
9	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Larratt Pepper & Sons Ltd Location: 6 Clayton Lane, Thurnscoe, ROTHERHAM, South Yorks, S63 0RU Authority: Barnsley Metropolitan Borough Council, Environmental Health and Trading Standards Permit Reference: Epa70 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Authorisation revoked Revoked Positional Accuracy: Automatically positioned to the address</p>	A5NW (W)	748	2	444777 405910
10	<p>Local Authority Pollution Prevention and Controls</p> <p>Name: Lidgett Concrete Co Ltd Location: Plot 6, Albion Drive, Thurnscoe, ROTHERHAM, South Yorks, S63 0BA Authority: Barnsley Metropolitan Borough Council, Environmental Health and Trading Standards Permit Reference: Ppc/B/20 Dated: 19th April 1994 Process Type: Local Authority Pollution Prevention and Control Description: PG3/1Blending, packing, loading and use of bulk cement Status: Permitted Positional Accuracy: Manually positioned to the road within the address or location</p>	A8SE (E)	863	2	446895 405733

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	Local Authority Pollution Prevention and Controls Name: English Partnerships Location: Former Hickleton Colliery, Lidget Lane, Thurnscoe, Rotherham Authority: Barnsley Metropolitan Borough Council, Environmental Health and Trading Standards Permit Reference: Epa96 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG3/5 Coal, coke and coal product processes Status: Authorisation revoked Revoked Positional Accuracy: Manually positioned to the road within the address or location	A4NW (SE)	913	2	446760 405429
12	Local Authority Pollution Prevention and Controls Name: R G Wastecare Limited Location: Lidget Lane Industrial Estate, Albion Drive, THURNSCOE, Rotherham, S63 0BA Authority: Barnsley Metropolitan Borough Council, Environmental Health and Trading Standards Permit Reference: Epa112 Dated: 12th February 2002 Process Type: Local Authority Air Pollution Control Description: PG3/8 Quarry processes including roadstone plants and the size reduction of bricks, tiles and concrete Status: Authorisation revoked Revoked Positional Accuracy: Manually positioned to the road within the address or location	A8SE (SE)	929	2	446883 405574
	Nearest Surface Water Feature	A11SW (N)	0	-	445910 406385
13	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Storm Overflow Location: Walbert Avenue, Thurnscoe, ROTHERHAM Authority: Environment Agency, North East Region Pollutant: Unknown Sewage Note: No Fish Killed Incident Date: 21st September 1995 Incident Reference: SH950004 Catchment Area: Dearne Tributaries Receiving Water: Freshwater Stream/River Cause of Incident: Not Given Incident Severity: Category 1 - Major Incident Positional Accuracy: Located by supplier to within 100m	A2NE (S)	625	1	445500 405300
14	Pollution Incidents to Controlled Waters Property Type: Other General Premises Location: THURNSCOE Authority: Environment Agency, North East Region Pollutant: Oils - Waste Oil Note: No Fish Killed Incident Date: 21st August 1997 Incident Reference: SH970396 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	A2NW (SW)	713	1	445200 405300
15	Pollution Incidents to Controlled Waters Property Type: Water Company Sewage: Foul Sewer Location: Southfield Lane Authority: Environment Agency, North East Region Pollutant: Unknown Sewage Note: Not Supplied Incident Date: 1st February 1989 Incident Reference: 6753 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	A1NW (SW)	900	1	444800 405400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Water Company Sewage: Foul Sewer Location: Rd Brdg/Markers Brdg B6273 Dearne 07 Authority: Environment Agency, North East Region Pollutant: Crude Sewage Note: Not Supplied Incident Date: 12th August 1992 Incident Reference: 135725 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>	A1SE (SW)	936	1	445100 405100
17	<p>Pollution Incidents to Controlled Waters</p> <p>Property Type: Miscellaneous Premises: Unknown Location: Rd Brdg/Markers Brdg B6273 Dearne 07 Authority: Environment Agency, North East Region Pollutant: Miscellaneous - Unknown Note: Not Supplied Incident Date: 27th July 1990 Incident Reference: 113148 Catchment Area: Not Given 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>	A1NW (SW)	983	1	444700 405400
	<p>River Quality</p> <p>Name: Ings/Carr/Thurnscoe_Dikes GQA Grade: River Quality C Reach: Hickleton_Main_Colli_Houghton_Bec Estimated Distance (km): 2.6 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000</p>	A3NE (SE)	744	1	446225 405168
	<p>River Quality</p> <p>Name: Houghton_Beck GQA Grade: River Quality E Reach: Great_Houghton_Sewag_Carr_Dik Estimated Distance (km): 2.2 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000</p>	A5SW (W)	985	1	444582 405632
18	<p>River Quality Biology Sampling Points</p> <p>Name: Ings/Carr/Thurnscoe Dikes Reach: Hickleton Main Colliery To Houghton Beck Estimated Distance: 2.60 Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Biology GQA Grade D - Fair Year: 1995 GQA Grade: River Quality Biology GQA Grade D - Fair Year: 2000 GQA Grade: River Quality Biology GQA Grade F - Bad Year: 2002 GQA Grade: River Quality Biology GQA Grade D - Fair Year: 2003 GQA Grade: River Quality Biology GQA Grade D - Fair Year: 2004 GQA Grade: River Quality Biology GQA Grade D - Fair Year: 2005 GQA Grade: River Quality Biology GQA Grade D - Fair</p>	A3SE (SE)	960	1	446412 405017
19	<p>Substantiated Pollution Incident Register</p> <p>Authority: Environment Agency - North East Region, Ridings Area Incident Date: 12th February 2003 Incident Reference: 136628 Water Impact: Category 4 - No Impact Air Impact: Category 4 - No Impact Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Specific Waste Materials: Vehicles And Vehicle Parts</p>	A7NE (E)	85	1	446189 406060

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	<p>Substantiated Pollution Incident Register</p> <p>Authority: Environment Agency - North East Region, Ridings Area Incident Date: 10th April 2006 Incident Reference: 389831 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Oils - Diesel (Including Agricultural)</p>	A5NW (W)	932	1	444596 405861
21	<p>Substantiated Pollution Incident Register</p> <p>Authority: Environment Agency - North East Region, Ridings Area Incident Date: 4th August 2004 Incident Reference: 256382 Water Impact: Category 4 - No Impact Air Impact: Category 3 - Minor Incident Land Impact: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Asbestos Waste</p>	A8SE (SE)	959	1	446910 405600
	<p>Water Abstractions</p> <p>Operator: Hickleton Golf Club Licence Number: 2/27/08/113 Permit Version: 100 Location: Borehole - Coal Measures - Hickleton Doncaster Authority: Environment Agency, North East Region Abstraction: Golf Courses: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 47 Yearly Rate (m3): 7954 Details: Hickleton Golf Club, Lidgett Lane, Hickleton, Doncaster Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 20th June 1996 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	(E)	1568	1	447600 405600
	<p>Water Abstractions</p> <p>Operator: Hickleton Golf Club Licence Number: 2/27/08/139 Permit Version: 1 Location: Borehole-Coal Measures-Hickleton-Doncaster Authority: Environment Agency, North East Region Abstraction: Golf Courses: 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: Hickleton Golf Club, Lidgett Lane, Hickleton, Doncaster Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 1st January 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	(E)	1587	1	447620 405600
	<p>Water Abstractions</p> <p>Operator: C H Scholey & Sons Ltd Licence Number: 2/27/09/095 Permit Version: 101 Location: Borehole - Coal Measures - Frickley Lodge Authority: Environment Agency, North East Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 23 Yearly Rate (m3): 4546 Details: Frickley Lodge Farm, Nr. Doncaster Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 14th February 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	(NE)	1593	1	447100 407500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<p>Groundwater Vulnerability</p> <p>Geological Classification: Minor Aquifer (Variably permeable) - These can be fractured or potentially fractured rocks, which do not have a high primary permeability, or other formations of variable permeability including unconsolidated deposits. Although not producing large quantities of water for abstraction, they are important for local supplies and in supplying base flow to rivers</p> <p>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</p> <p>Map Sheet: Sheet 12 Vale of York Scale: 1:100,000</p>	A6NE (NE)	0	1	445820 406134
	<p>Groundwater Vulnerability</p> <p>Geological Classification: Minor Aquifer (Variably permeable) - These can be fractured or potentially fractured rocks, which do not have a high primary permeability, or other formations of variable permeability including unconsolidated deposits. Although not producing large quantities of water for abstraction, they are important for local supplies and in supplying base flow to rivers</p> <p>Soil Classification: Soils of Low Leaching Potential - Soils in which pollutants are unlikely to penetrate the soil layer because water movement is largely horizontal or they have large ability to attenuate diffuse pollutants. Lateral flow from these soils contribute to groundwater recharge elsewhere in the catchment</p> <p>Map Sheet: Sheet 12 Vale of York Scale: 1:100,000</p>	A6NE (NE)	0	1	445820 406134
	<p>Drift Deposits</p> <p>None</p>				
	<p>Extreme Flooding from Rivers or Sea without Defences</p> <p>None</p>				
	<p>Flooding from Rivers or Sea without Defences</p> <p>None</p>				
	<p>Areas Benefiting from Flood Defences</p> <p>None</p>				
	<p>Flood Water Storage Areas</p> <p>None</p>				
	<p>Flood Defences</p> <p>None</p>				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	BGS Recorded Landfill Sites Site Name: Brickworks Quarry Location: Thurnscoe, NR DEARNE, South Yorks Authority: British Geological Survey, National Geoscience Information Service Ground Water: Information not available Surface Water: Information not available Geology: N/A Positional Accuracy: Positioned by the supplier Boundary Accuracy: Good	A8SW (SE)	550	4	446524 405713
23	Historical Landfill Sites Licence Holder: Bamsley Metropolitan Borough Council Location: Chapel Lane, Thurnscoe, Bamsley Name: Former Railway Cutting Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD04415 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert, Industrial, Commercial and Household Waste, and Liquid Sludge Type: Waste, and Liquid Sludge EA Waste Ref: Not Supplied Regis Ref: Not Supplied WRC Ref: 4400/0412 BGS Ref: Not Supplied Other Ref: WD20 B196, 2B7, WD2 B7, WD2 T3, 20B196(9), 4400/0359, 4400/(65), 4400/2D11	A7NW (E)	0	1	446057 406141
24	Historical Landfill Sites Licence Holder: Bamsley MBC Location: Chapel Lane, Thurnscoe, Bamsley Name: Railway Cutting Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD04416 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Inert, Industrial, Commercial and Household Waste, and Liquid Sludge Type: Waste, and Liquid Sludge EA Waste Ref: Not Supplied Regis Ref: Not Supplied WRC Ref: 4400/0359 BGS Ref: Not Supplied Other Ref: 2D11(65), 4400/2D11, 80/22/1582	A11NE (NE)	354	1	446303 406546
25	Historical Landfill Sites Licence Holder: NCB/Deane UDC Location: Thurnscoe, Nr Dearne, South Yorks Name: Brickworks Quarry Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD04417 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Deposited Waste included Household Waste Type: Waste, and Liquid Sludge EA Waste Ref: Not Supplied Regis Ref: Not Supplied WRC Ref: 4400/0539 BGS Ref: 87 Other Ref: 4400/(137), (137)B	A8SW (SE)	548	1	446525 405713
26	Historical Landfill Sites Licence Holder: Not Supplied Location: Thurnscoe Name: Lidget Lane Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD04418 First Input Date: Not Supplied Last Input Date: Not Supplied Specified Waste: Not Supplied Type: Waste, and Liquid Sludge EA Waste Ref: Not Supplied Regis Ref: Not Supplied WRC Ref: 4400/0534 BGS Ref: Not Supplied Other Ref: (102)D, 4400/(102), (132)B	A8SE (E)	935	1	446981 405752

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 65316 Location: 84 High Street, Thurnscoe, Rotherham, South Yorkshire, S63 0QH Operator Name: Mrs Stephanie Anne Speight Operator Location: 84 High Street, Thurnscoe, Rotherham, South Yorkshire, S63 0QH Authority: Environment Agency - North East Region, Ridings Area Site Category: End of Life Vehicles Licence Status: Surrendered Issued: 11th August 2004 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: 15th July 2005 IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m</p>	A6SW (SW)	515	1	445267 405488
28	<p>Licensed Waste Management Facilities (Locations)</p> <p>Licence Number: 60551 Location: Lidget Lane Ind Est, Albion Drive, Thurnscoe, Rotherham, South Yorkshire, S63 0BA Operator Name: R G Wastecare Limited Operator Location: Lidget Lane Industrial Estate, Albion Drive, Thurnscoe, Rotherham, S Yorks, S63 0BA Authority: Environment Agency - North East Region, Ridings Area Site Category: Household, Commercial And Industrial Transfer Stations Licence Status: Modified Issued: 17th October 1994 Last Modified: 5th April 2002 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m</p>	A8SE (SE)	929	1	446900 405600
	<p>Local Authority Landfill Coverage</p> <p>Name: Barnsley Metropolitan Borough Council - Has supplied landfill data</p>		0	2	445966 406739
	<p>Local Authority Landfill Coverage</p> <p>Name: Doncaster Metropolitan Borough Council - Has supplied landfill data</p>		345	3	445966 406739
29	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Not Supplied Reference: 9 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>	A7NW (E)	0	2	446064 406135
30	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Not Supplied Reference: 9 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>	A11NE (NE)	368	2	446313 406557
31	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Chapel Lane, Thurnscoe Reference: 65 Authority: Doncaster Metropolitan Borough Council, Environmental Services Last Reported Status: Unknown Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Good</p>	A11NE (NE)	369	3	446313 406558

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Not Supplied Reference: 137 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>	A8NW (E)	553	2	446615 405867
33	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Lidget Lane, Thurnscoe Reference: 102 Authority: Doncaster Metropolitan Borough Council, Environmental Services Last Reported Status: Unknown Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Positioned by the supplier Boundary Quality: Moderate</p>	A3NE (SE)	676	3	446253 405255
34	<p>Local Authority Recorded Landfill Sites</p> <p>Location: Not Supplied Reference: 132 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>	A8SE (E)	933	2	446975 405741
35	<p>Registered Landfill Sites</p> <p>Licence Holder: Barnsley M.B.C. Licence Reference: WD 2 B 7 (WD20 B 196) Site Location: Chapel Lane (li), Thurnscoe, Rotherham, South Yorkshire Licence Easting: 446060 Licence Northing: 406090 Operator Location: Cleansing Div. Smithies La. Depot, Barnsley, South Yorkshire Authority: Environment Agency - North East Region, Ridings Area Site Category: Landfill - Railway cutting 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/surrendered[Cancelled Dated: 1st February 1981 Preceded By: Wd 2 D11 (Wd20 B196) Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste Construction Ind. Wastes Contaminated Rubbish/Bags/Sacks Empty Used Containers Household + Commercial Waste Ind. Non-Haz. Inert, Non-Flammable Ind. Non-Haz. Potentially Combustible Medical, Surgical, Veterinary Wastes Metal Scrap Old Cars/Vehicles/Trailers Scrap Rubber (Including Tyres) Sewage Sludge Slag, Boiler/Flue Cleanings Tar, Pitch, Bitumen, Asphalts Used Filter Materials \$</p>	A7NW (E)	13	1	446060 406090

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
36	<p>Registered Landfill Sites</p> <p>Licence Holder: Doncaster M.B.C. Licence Reference: WD 2 D11 (WD20 B196) Site Location: Chapel Lane (I), Thurnscoe, Rotherham, South Yorkshire Licence Easting: 446460 Licence Northing: 406660 Operator Location: Town Hall, Barnsley, South Yorkshire Authority: Environment Agency - North East Region, Ridings Area Site Category: Landfill - Railway cutting Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Status: Licence lapsed/cancelled/defunct/not applicable/surrendered Cancelled Dated: 1st July 1978 Preceded By: Not Given Licence: Superseded By: Wd 2 B 7 (Wd20 B 196) Licence: Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Demolition Rubble Other Inert Waste Road Mat'ls/Kerbs/Asphalt/Tarmac/Stone</p>	A11NE (NE)	547	1	446460 406660
37	<p>Registered Waste Transfer Sites</p> <p>Licence Holder: Ryder & Green Licence Reference: WD20 B1074 MOD 3 Site Location: Lidget Lane Industrial Estate, Albion Drive, Thurnscoe, ROTHERHAM, South Yorkshire, S63 0BA Operator Location: As Site Address Authority: Environment Agency - North East Region, Ridings Area Site Category: Transfer 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 Operational Dated: 2nd February 2001 Preceded By: WD20 B1074 MOD 2 Licence: Superseded By: Not Given Licence: Positional Accuracy: Approximate location provided by supplier Boundary Quality: Not Supplied Authorised Waste: Degradable Commercial Waste - Comprising Degradable Household Waste - Comprising Inert Materials - Comprising Max.Storage Of Degradable Household/Commercial/Industrial Waste Maximum Input Of Commercial Waste Permitted By Licence Maximum Input Of Degrad.Household Waste Permitted By Licence Maximum Input Of Industrial Waste Permitted By Licence Maximum Input Of Inert Waste Permitted By Licence Maximum Input Of Metal Waste Permitted By Licence Maximum Waste Permitted By Licence Metal Waste/Scrap Metal - Comprising Ukw 21.00.00 Inert Materials Ukw 21.01.01 Inert - Rock & Stone Ukw 21.01.02 Inert - Sub-Soils Ukw 21.02.01 Inert - Glass Ukw 21.02.03 Inert - Concrete/Mortar (Not Unused) Ukw 21.03.01 Inert - Moulding Sand/Clay(Not With Organic Binders) Ukw 22.01.01 Gen/Biodeg - Uncontaminated Topsoil Ukw 22.04.01 Gen/Biodeg - Paper & Card Ukw 22.04.02 Gen/Biodeg - Plastic & Polymers (Not Paints/Sealants/Adhesives/Resins) Ukw 22.04.06 Gen/Biodeg - Mixed/Unidentified Textiles Ukw 22.04.07 Gen/Biodeg - Wood/Untreated Timber (Not Sawdust/Shavings/Chippings/Etc) Ukw 22.06.03 Gen/Biodeg - Vegetation/Vegetable Waste Ukw 22.07.03 Gen/Biodeg - Waste Food - Animal Or Mixed Ukw 22.09.01 Gen/Biodeg - Household Waste (Not C.A./Bulky/Garden Waste) Ukw 22.09.02 Gen/Biodeg - Commercial Waste (Including Office Waste) Ukw 22.09.03 Gen/Biodeg - Industrial Waste (Not Canteen Waste) Ukw 23.00.00 Metals & Discarded/Scrap Composite Equipment Ukw 23.01.01 Mixed Ferrous Metal Scrap Ukw 23.02.12 Mixed/Unknown Non-Ferrous Scrap Ukw 23.04.01 White Goods Prohibited Waste: Liquid Wastes Material With Any Haz.Code (H1, H2, H3a,H3b,H4,H5,H6,H7,H8,H9,H10,H11,H12,H13,H14) Other Waste/Waste Not Otherwise Specified Sludge Wastes Special Waste (As In Epa 1990:S62 Of 1996 Regs)</p>	A8SE (SE)	929	1	446900 405600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
37	<p>Registered Waste Transfer Sites</p> <p>Licence Holder: Ryder & Green Licence Reference: WD20 B1074 MOD 2 Site Location: Lidget Lane Industrial Estate, Albion Drive, Thurnscoe, ROTHERHAM, South Yorkshire, S63 0BA</p> <p>Operator Location: As Site Address Authority: Environment Agency - North East Region, Ridings Area Site Category: Transfer 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: Record superseded Superseded Dated: 31st July 1996 Preceded By: WD20 B1074 Licence: Superseded By: WD20 B1074 MOD 3 Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Com. & Ind. Non-Haz. Waste Inert/Non-Combust. Constr'N/Demol. Max.Waste Permitted By Licence Non-Haz. Constr'N/Demol. Wastes Non-Putrescible Domestic Waste</p> <p>Prohibited Waste: Asbestos In Any Form Incl. Bonded Asbestos Liquid Wastes Putrescible Waste Sludge Wastes Waste N.O.S.</p>	A8SE (SE)	929	1	446900 405600
37	<p>Registered Waste Transfer Sites</p> <p>Licence Holder: Ryder & Green Licence Reference: WD20 B1074 Site Location: Lidget Lane Industrial Estate, Albion Drive, Thurnscoe, ROTHERHAM, South Yorkshire, S63 0BA</p> <p>Operator Location: As Site Address Authority: Environment Agency - North East Region, Ridings Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Record superseded Superseded Dated: 17th October 1994 Preceded By: Not Given Licence: Superseded By: WD20 B1074 MOD 2 Licence: Positional Accuracy: Approximate location provided by supplier Boundary Quality: Not Supplied Authorised Waste: Com. & Ind. Non-Haz. Waste Household Waste Max.Stor. Max.Waste Permitted By Licence Non-Haz. Waste From Building Trade</p> <p>Prohibited Waste: Asbestos Bonded Asbestos Liquid Wastes Putrescible Waste Sludge Wastes</p>	A8SE (SE)	929	1	446900 405600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
38	BGS Recorded Mineral Sites Site Name: Hickleton Brickworks Location: Thurnscoe East, Thurnscoe, Barnsley, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 13104 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Upper Coal Measures Formation Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A8SW (SE)	618	4	446620 405740
39	BGS Recorded Mineral Sites Site Name: Hickleton Main Colliery Location: Thurnscoe, Barnsley, South Yorkshire Source: British Geological Survey, National Geoscience Information Service Reference: 13099 Type: Underground Status: Ceased Operator: British Coal - N Yorkshire Group Operator Location: Po Box 13, Allerton Bywater, Castleford, West Yorkshire, WF10 2al Periodic Type: Carboniferous Geology: Pennine Upper Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A3NE (SE)	750	4	446470 405315
40	BGS Recorded Mineral Sites Site Name: Hickleton Colliery Methane Location: Thurnscoe, Rotherham Source: British Geological Survey, National Geoscience Information Service Reference: 11414 Type: Underground Status: Active Operator: Octagon Energy Ltd Operator Location: 16a Fore Street, Topsham, Exeter, Devon, Ex3 0hf Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Abandoned Mine Methane Positional Accuracy: Located by supplier to within 10m	A4NW (SE)	840	4	446547 405264
	BGS 1:625,000 Solid Geology Description: Upper Westphalian (including Pennant Measures)	(E)	0	4	447525 406713
	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.	(NE)	0	5	461000 420000
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	(W)	0	-	441000 404500
	Potential for Collapsible Ground Stability Hazards No Hazard				
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A5SE (SW)	0	4	445050 405525
	Potential for Ground Dissolution Stability Hazards No Hazard				
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A3NE (SE)	0	4	446350 405150
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A5SE (SW)	0	4	445050 405525
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A10SE (N)	0	4	445800 406150
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A10SE (N)	0	4	445800 406150

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A7SW (S)	62	4	445875 405800
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A10NW (NW)	206	4	445475 406500
	Radon Affected Areas Description: Between 1% and 3% of homes are above the Action Level Source: Health Protection Agency	A6NE (S)	0	6	445808 406000
	Radon Affected Areas Description: Between 1% and 3% of homes are above the Action Level Source: Health Protection Agency	A6NE (S)	0	6	445808 406000
	Radon Affected Areas Description: Between 1% and 3% of homes are above the Action Level Source: Health Protection Agency	A7NW (E)	0	6	446000 406127
	Radon Protection Measures Type: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A1SE (SW)	0	4	445120 405109
	Shallow Mining Hazards Risk: Low-Moderate Source: British Geological Survey, National Geoscience Information Service	A11NW (N)	0	4	445944 406705

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
41	Contemporary Trade Directory Entries Name: Premier Iron Craft Location: 12, Whin Gardens, Thurnscoe, Rotherham, South Yorkshire, S63 0PJ Classification: Wrought Ironwork Status: Active Positional Accuracy: Automatically positioned to the address	A10SE (NW)	18	-	445660 406371
42	Contemporary Trade Directory Entries Name: Radar Cleaning Services Location: 9, Deightonby Street, Thurnscoe, Rotherham, South Yorkshire, S63 0JB Classification: Carpet, Curtain & Upholstery Cleaners Status: Active Positional Accuracy: Automatically positioned to the address	A7NW (SE)	108	-	446055 405819
43	Contemporary Trade Directory Entries Name: On The Move Design & Print Location: 19, Briton Square, Thurnscoe, Rotherham, South Yorkshire, S63 0HQ Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A7NE (E)	140	-	446256 406139
44	Contemporary Trade Directory Entries Name: Nippon Thompson (Europe) Location: 41, Briton Street, Thurnscoe, Rotherham, South Yorkshire, S63 0HH Classification: Bearing Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A11SE (E)	217	-	446271 406268
44	Contemporary Trade Directory Entries Name: A G Engineering Location: 22b, Briton Street, Thurnscoe, ROTHERHAM, South Yorkshire, S63 0HH Classification: Engineers - General Status: Active Positional Accuracy: Automatically positioned to the address	A11SE (E)	238	-	446311 406253
45	Contemporary Trade Directory Entries Name: Simpsons Pet Shop Location: 101a, Houghton Road, Thurnscoe, Rotherham, South Yorkshire, S63 0NG Classification: Pet Foods & Animal Feeds Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address	A6SW (SW)	306	-	445282 405749
45	Contemporary Trade Directory Entries Name: Eco Scooters Bassetlaw Ltd Location: 113, Houghton Road, Thurnscoe, Rotherham, South Yorkshire, S63 0NG Classification: Disability Equipment - Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address	A6SW (SW)	339	-	445234 405759
46	Contemporary Trade Directory Entries Name: Crystal Cleaning Group Location: 46, Merrill Road, Thurnscoe, Rotherham, South Yorkshire, S63 0PS Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A6NW (W)	321	-	445224 406096
47	Contemporary Trade Directory Entries Name: Lidget Lane Pet Shop Location: 1, Lidget Lane, Thurnscoe, Rotherham, South Yorkshire, S63 0BY Classification: Pet Foods & Animal Feeds Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SW (SE)	332	-	446056 405545
48	Contemporary Trade Directory Entries Name: Chem Care Carpet & Upholstery Cleaners Location: 29, Hanover Street, Thurnscoe, Rotherham, South Yorkshire, S63 0DT Classification: Carpet, Curtain & Upholstery Cleaners Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (E)	344	-	446408 405917
49	Contemporary Trade Directory Entries Name: Valley Park Cleaners Location: 9, Dane Street South, Thurnscoe, Rotherham, South Yorkshire, S63 0DW Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A7SE (SE)	385	-	446285 405660
50	Contemporary Trade Directory Entries Name: Bradford Domestic Appliances Location: 32-34, Lidget Lane, Thurnscoe, Rotherham, South Yorkshire, S63 0BT Classification: Domestic Appliances - Servicing, Repairs & Parts Status: Active Positional Accuracy: Automatically positioned to the address	A7SW (SE)	399	-	446117 405496

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
50	Contemporary Trade Directory Entries Name: C S Logistics Location: Unit 43, Thurnscoe Business Centre, Princess Dr, Thurnscoe, Rotherham, South Yorkshire, S63 0BL Classification: Distribution Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A7SW (SE)	433	-	446158 405478
50	Contemporary Trade Directory Entries Name: Raynors Autos Location: Princess Dr, Thurnscoe, Rotherham, South Yorkshire, S63 0BL Classification: Garage Services Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A7SW (SE)	436	-	446156 405474
51	Contemporary Trade Directory Entries Name: Thurnscoe Filling Station Location: Houghton Road, Thurnscoe, Rotherham, South Yorkshire, S63 0NJ Classification: Petrol Filling Stations Status: Inactive Positional Accuracy: Automatically positioned to the address	A6SW (SW)	410	-	445153 405763
52	Contemporary Trade Directory Entries Name: Brandels Ltd Location: Unit 1 Princess Dr, Thurnscoe, Rotherham, South Yorkshire, S63 0BL Classification: Brewers' Equipment & Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A3NW (SE)	446	-	446154 405462
52	Contemporary Trade Directory Entries Name: Patrick Drake Location: Unit 6 Princess Dr, Thurnscoe, Rotherham, South Yorkshire, S63 0BL Classification: Cabinet Makers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A3NW (SE)	474	-	446142 405426
52	Contemporary Trade Directory Entries Name: Connect Express Company Location: UNIT 32, Thurnscoe Business Centre, Princess Dr, Thurnscoe, Rotherham, South Yorkshire, S63 0BL Classification: Distribution Services Status: Active Positional Accuracy: Manually positioned within the geographical locality	A3NE (SE)	474	-	446186 405447
53	Contemporary Trade Directory Entries Name: Bob Green Location: Coronation St, Thurnscoe, Rotherham, South Yorkshire, S63 0EQ Classification: Car Body Repairs Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A7SE (SE)	456	-	446273 405534
54	Contemporary Trade Directory Entries Name: Go Mobility Ltd Location: Unit 19/20, Thurnscoe Business Centre, Princess Drive, Thurnscoe, Rotherham, South Yorkshire, S63 0BL Classification: Disability Equipment - Manufacturers & Suppliers Status: Active Positional Accuracy: Automatically positioned to the address	A3NE (SE)	495	-	446196 405429
54	Contemporary Trade Directory Entries Name: Clenceo Design Location: Unit 9, Princess Drive, Thurnscoe, Rotherham, South Yorkshire, S63 0BL Classification: Wrought Ironwork Status: Inactive Positional Accuracy: Automatically positioned to the address	A3NE (SE)	495	-	446196 405429
55	Contemporary Trade Directory Entries Name: K L S Location: 84, High Street, Thurnscoe, Rotherham, South Yorkshire, S63 0QH Classification: Motor Cycle Breakers & Dismantlers Status: Inactive Positional Accuracy: Automatically positioned to the address	A6SW (SW)	515	-	445267 405489
56	Contemporary Trade Directory Entries Name: P & L Minis Location: 34, High Street, Thurnscoe, Rotherham, South Yorkshire, S63 0SU Classification: Car Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A2NW (SW)	515	-	445426 405429

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	<p>Contemporary Trade Directory Entries</p> <p>Name: J W 24hr Recovery Location: 39, Westfield Crescent, Thurnscoe, Rotherham, South Yorkshire, S63 0PT Classification: Car Breakdown & Recovery Services Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A5NE (W)	525	-	445011 406042
58	<p>Contemporary Trade Directory Entries</p> <p>Name: Kesscass Scaffolding Services Location: 8, High Street, Thurnscoe, Rotherham, South Yorkshire, S63 0SU Classification: Scaffolding & Work Platforms Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A2NE (S)	564	-	445566 405344
59	<p>Contemporary Trade Directory Entries</p> <p>Name: Uk Film Sales Location: Westfield Cr, Thurnscoe, Rotherham, South Yorkshire, S63 0PU Classification: Photographic Processors Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location</p>	A5NE (W)	571	-	444954 405942
60	<p>Contemporary Trade Directory Entries</p> <p>Name: Church Hall Garage Location: High Street, Thurnscoe, Rotherham, South Yorkshire, S63 0QZ Classification: Garage Services Status: Active Positional Accuracy: Automatically positioned to the address</p>	A5SE (SW)	616	-	445037 405558
61	<p>Contemporary Trade Directory Entries</p> <p>Name: Coast Controls Ltd Location: Unit 4, Thurnscoe Business Park, Thurnscoe, Rotherham, South Yorkshire, S63 0BH Classification: Engineers - General Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A3NE (SE)	618	-	446368 405401
61	<p>Contemporary Trade Directory Entries</p> <p>Name: Alive Pub Supplies Location: Unit 36 Thurnscoe Business Centre, Princess Dr, Thurnscoe, Rotherham, South Yorkshire, S63 0BL Classification: Cleaning Materials & Equipment Status: Active Positional Accuracy: Manually positioned to the road within the address or location</p>	A3NE (SE)	628	-	446352 405374
62	<p>Contemporary Trade Directory Entries</p> <p>Name: P W E Accident & Repair Centre Location: 2, Thurnscoe Business Park, Thurnscoe, Rotherham, South Yorkshire, S63 0BH Classification: Car Body Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A3NE (SE)	659	-	446427 405401
62	<p>Contemporary Trade Directory Entries</p> <p>Name: Public Image Printwear Location: Thurnscoe Business Centre, Princess Drive, Thurnscoe, Rotherham, South Yorkshire, S63 0BL Classification: Screen Process Printers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A3NE (SE)	692	-	446470 405398
63	<p>Contemporary Trade Directory Entries</p> <p>Name: Qualconvey Location: Unit 11, Albion Drive, Thurnscoe, Rotherham, South Yorkshire, S63 0BA Classification: Materials Handling Equipment Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SW (SE)	849	-	446807 405605
63	<p>Contemporary Trade Directory Entries</p> <p>Name: T T Lifting Services Location: 12/F, Unit, Albion Drive, Thurnscoe, Rotherham, South Yorkshire, S63 0BA Classification: Lifting Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address</p>	A8SW (SE)	880	-	446833 405588
63	<p>Contemporary Trade Directory Entries</p> <p>Name: Deame Valley Foods Ltd Location: Unit 8-9, Albion Drive, Thurnscoe, Rotherham, South Yorkshire, S63 0BA Classification: Food Products - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address</p>	A8SE (SE)	913	-	446844 405547

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
64	Contemporary Trade Directory Entries Name: A T Print Location: 5, Howell Gardens, Thurnscoe, Rotherham, South Yorkshire, S63 0UB Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address	A2NW (SW)	857	-	445147 405165
65	Contemporary Trade Directory Entries Name: Europa Wire Rope Location: Lidget Works, Albion Drive, Thurnscoe, Rotherham, South Yorkshire, S63 0BA Classification: Ropes & Hawsers Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (SE)	902	-	446807 405516
66	Contemporary Trade Directory Entries Name: Gefco Ltd Location: Fields End Business Park, Thurnscoe, ROTHERHAM, South Yorkshire, S63 0JF Classification: Freight Forwarders Status: Active Positional Accuracy: Automatically positioned to the address	A3SW (S)	918	-	445932 404945
67	Contemporary Trade Directory Entries Name: Lifting Solutions Location: Albion Dr, Thurnscoe, Rotherham, South Yorkshire, S63 0BA Classification: Lifting Equipment Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A8SE (SE)	927	-	446920 405638
68	Contemporary Trade Directory Entries Name: K W Electrical Ltd Location: Albion Dr, Thurnscoe, Rotherham, South Yorkshire, S63 0BA Classification: Electric Motor Sales & Service Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A8SE (SE)	929	-	446890 405584
68	Contemporary Trade Directory Entries Name: Marantec Uk Ltd Location: Unit 12J, Lidget Lane Industrial Estate, Albion Dr, Rotherham, South Yorkshire, S63 0BA Classification: Door & Gate Operating Equipment Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A8SE (SE)	929	-	446886 405578
69	Contemporary Trade Directory Entries Name: Anderson Location: Heritage House, Lidget Lane, Thurnscoe, Rotherham, South Yorkshire, S63 0BJ Classification: Hydraulic Systems & Equipment Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A4NW (SE)	942	-	446812 405460
69	Contemporary Trade Directory Entries Name: Maan Engineering Ltd Location: Heritage House, Albion Dr, Thurnscoe, Rotherham, South Yorkshire, S63 0BA Classification: Hydraulic Engineers Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A4NE (SE)	972	-	446850 405458
70	Contemporary Trade Directory Entries Name: Glentworth Caravans Location: Lidget Lane, Thurnscoe, Rotherham, South Yorkshire, S63 0DA Classification: Caravan Dealers & Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A8SE (SE)	985	-	446880 405474
71	Fuel Station Entries Name: Thurnscoe Filling Station Location: Houghton Road, Thurnscoe., ROTHERHAM, South Yorkshire, S63 0JX Brand: Obsolete Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Automatically positioned to the address	A6SW (SW)	410	-	445152 405763

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
72	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	A11SW (E)	0	7	446015 406152
73	Areas of Adopted Green Belt Authority: Doncaster Metropolitan Borough Council Plan Name: Doncaster Unitary Development Plan Status: Adopted Plan Date: 31st July 1998	A11NW (N)	342	8	445963 406737
74	Nitrate Vulnerable Zones Name: Not Supplied Description: Surface Water Source: Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	(E)	0	9	450000 406127

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Doncaster Metropolitan Borough Council - Environmental Services Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Rotherham Metropolitan Borough Council - Environmental Health Department Wakefield City Metropolitan District Council - Environmental Health	December 2006 May 2007 September 2006 September 2006	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - North East Region	April 2007	Quarterly
Enforcement and Prohibition Notices Environment Agency - North East Region	April 2007	As notified
Integrated Pollution Controls Environment Agency - North East Region	April 2007	Quarterly
Integrated Pollution Prevention And Control Environment Agency - North East Region	April 2007	Quarterly
Local Authority Integrated Pollution Prevention And Control Rotherham Metropolitan Borough Council - Planning Department Doncaster Metropolitan Borough Council - Environmental Services Wakefield City Metropolitan District Council - Environmental Health Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards	August 2006 December 2006 March 2006 October 2006	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Controls Rotherham Metropolitan Borough Council - Planning Department Doncaster Metropolitan Borough Council - Environmental Services Wakefield City Metropolitan District Council - Environmental Health Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards	August 2006 December 2006 March 2006 October 2006	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Doncaster Metropolitan Borough Council - Environmental Services Wakefield City Metropolitan District Council - Environmental Health Rotherham Metropolitan Borough Council - Planning Department Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards	December 2006 March 2006 November 2006 October 2006	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Nearest Surface Water Feature Ordnance Survey	January 2007	Quarterly
Pollution Incidents to Controlled Waters Environment Agency - North East Region	December 1998	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - North East Region	April 2007	As notified
Prosecutions Relating to Controlled Waters Environment Agency - North East Region	April 2007	As notified
Registered Radioactive Substances Environment Agency - North East Region	April 2007	Quarterly
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	October 2006	Annually
River Quality Chemistry Sampling Points Environment Agency - Head Office	October 2006	Annually
Substantiated Pollution Incident Register Environment Agency - North East Region - Ridings Area	April 2007	Quarterly
Water Abstractions Environment Agency - North East Region	April 2007	Quarterly
Water Industry Act Referrals Environment Agency - North East Region	April 2007	Quarterly
Groundwater Vulnerability Environment Agency - Head Office	January 1999	Not Applicable

Agency & Hydrological	Version	Update Cycle
Drift Deposits Environment Agency - Head Office	January 1999	Not Applicable
Source Protection Zones Environment Agency - Head Office	April 2005	Variable
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	April 2007	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	April 2007	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	April 2007	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	April 2007	Quarterly
Flood Defences Environment Agency - Head Office	April 2007	Quarterly
Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Integrated Pollution Control Registered Waste Sites Environment Agency - North East Region	April 2007	Quarterly
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - North East Region - Ridings Area	February 2007	Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - North East Region - Ridings Area	February 2007	Quarterly
Local Authority Landfill Coverage Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Doncaster Metropolitan Borough Council - Environmental Services Rotherham Metropolitan Borough Council - Environmental Health Department Wakefield City Metropolitan District Council - Environmental Health	May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Barnsley Metropolitan Borough Council - Environmental Health and Trading Standards Doncaster Metropolitan Borough Council - Environmental Services Rotherham Metropolitan Borough Council - Environmental Health Department Wakefield City Metropolitan District Council - Environmental Health	May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable
Registered Landfill Sites Environment Agency - North East Region - Ridings Area	March 2003	Not Applicable
Registered Waste Transfer Sites Environment Agency - North East Region - Ridings Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency - North East Region - Ridings Area	March 2003	Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	April 2007	Bi-Annually
Explosive Sites Health and Safety Executive	February 2007	Bi-Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements Rotherham Metropolitan Borough Council Barnsley Metropolitan Borough Council - Planning Department Wakefield City Metropolitan District Council Doncaster Metropolitan Borough Council	April 2006 December 2005 May 2007 September 2006	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Planning Hazardous Substance Consents Rotherham Metropolitan Borough Council Barnsley Metropolitan Borough Council - Planning Department Wakefield City Metropolitan District Council Doncaster Metropolitan Borough Council	April 2006 December 2005 March 2006 September 2006	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Geological	Version	Update Cycle
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	April 2007	Bi-Annually
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	August 1996	Not Applicable
Brine Compensation Areas Cheshire Brine Subsidence Compensation Board	November 2002	As notified
Coal Mining Affected Areas The Coal Authority - Mining Report Service	January 2006	As notified
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Natural and Mining Cavities Peter Brett Associates	December 2005	Variable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	November 2006	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	November 2006	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	November 2006	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	November 2006	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	November 2006	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	November 2006	Annually
Radon Affected Areas Health Protection Agency	January 2003	Not Applicable
Radon Protection Measures British Geological Survey - National Geoscience Information Service	August 2002	Variable
Shallow Mining Hazards British Geological Survey - National Geoscience Information Service	August 2002	Not Applicable

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	February 2007	Quarterly
Fuel Station Entries Catalist Ltd - (Fuel Station Data)	April 2007	Quarterly
Sensitive Land Use	Version	Update Cycle
Areas of Adopted Green Belt Barnsley Metropolitan Borough Council - Planning Department Wakefield City Metropolitan District Council Doncaster Metropolitan Borough Council Rotherham Metropolitan Borough Council	December 2000 January 2003 July 1998 June 1999	As notified As notified As notified As notified
Areas of Unadopted Green Belt Barnsley Metropolitan Borough Council - Planning Department Wakefield City Metropolitan District Council Doncaster Metropolitan Borough Council Rotherham Metropolitan Borough Council	December 2000 January 2003 July 1998 June 1999	As notified As notified As notified As notified
Areas of Outstanding Natural Beauty Natural England (formerly The Countryside Agency)	November 2006	Annually
Environmentally Sensitive Areas Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	June 2006	Annually
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Barnsley Metropolitan Borough Council - Planning Department Doncaster Metropolitan Borough Council Rotherham Metropolitan Borough Council Wakefield City Metropolitan District Council	September 1999 September 1999 September 1999 September 1999	Variable Variable Variable Variable
Marine Nature Reserves Natural England	May 2007	Bi-Annually
National Nature Reserves Natural England	May 2007	Bi-Annually
National Parks Natural England (formerly The Countryside Agency)	October 2006	Annually
Nitrate Sensitive Areas Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	December 2003	Not Applicable
Nitrate Vulnerable Zones Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	May 2007	Annually
Ramsar Sites Natural England	May 2007	Bi-Annually
Sites of Special Scientific Interest Natural England	May 2007	Bi-Annually
Special Areas of Conservation Natural England	May 2007	Bi-Annually
Special Protection Areas Natural England	May 2007	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	
Centre for Ecology and Hydrology	
Countryside Council for Wales	
Scottish Natural Heritage	
Natural England	
Health Protection Agency	
Ove Arup	
Peter Brett Associates	

Contact	Name and Address	Contact Details
1	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 08708 506 506 Email: enquiries@environment-agency.gov.uk
2	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
3	Doncaster Metropolitan Borough Council - Environmental Services Floor 3, Council House, College Road, Doncaster, South Yorkshire, DN1 1RN	Telephone: 01302 734444 Fax: 01302 734949 Website: www.doncaster.gov.uk
4	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
5	The Coal Authority - Mining Report Service 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0845 7626848 Email: thecoalauthority@coal.gov.uk
6	Health Protection Agency Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 831600 Fax: 01235 833891
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	Doncaster Metropolitan Borough Council Danum House, St Sepulchre Gate, Doncaster, South Yorkshire, DN1 1UB	Telephone: 01302 734854 Fax: 01302 734949 Website: www.doncaster.gov.uk
9	Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA) Government Buildings, Otley Road, Lawnswood, Leeds, West Yorkshire, LS16 5QT	Telephone: 0113 2613333 Fax: 0113 230 0879
-	Landmark Information Group Limited The Smith Centre, Henley On Thames, Oxfordshire, RG9 6AB	Telephone: 0870 850 6670 Fax: 0870 850 6671 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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

Historical Mapping Legends

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

Quarry (circular with radiating lines)
Gravel Pit (circular with concentric lines)
Sand Pit (circular with wavy lines)
Clay Pit (circular with vertical lines)
Shingle (circular with horizontal lines)
Refuse Heap (circular with irregular lines)
Sloping Masonry (brick pattern on slope)
Flat Rock (irregular shape with stippling)

Marsh (wavy lines)
Reeds (vertical lines with tufts)
Osiers (vertical lines with tufts)
Rough Pasture (irregular shape with dots)
Furze (irregular shape with dots)
Wood (irregular shape with tree symbols)
Mixed Wood (irregular shape with tree symbols)
Brushwood (irregular shape with tree symbols)
Orchard (irregular shape with tree symbols)

Fir (tree symbol)
Ford (shallow crossing)
Stepping Stones (crossing with stones)
Ferry (crossing with boat)
Waterfall (crossing with waterfall)
Lock (crossing with lock)

Trig. Station (triangle with '507')
Altitude at Trig. Station (triangle with '507')
B.M. 325.9 (upward arrow with '342')
Bench Mark (upward arrow with '342')
Surface Level (upward arrow with '342')
Arrow denotes flow of water (arrow with wavy lines)
Antiquities (site of) (cross symbol)

Cutting (road with cutting)
Embankment (road with embankment)

Railway crossing Road (road with railway crossing)
Level Crossing (road with level crossing)
Road crossing Railway (road with railway crossing)

Railway crossing River or Canal (river/canal with railway crossing)
Road over single stream (road over stream)
Road over River or Canal (road over river/canal)

County Boundary (Geographical) (dashed line)
County & Civil Parish Boundary (dash-dot line)
Administrative County & Civil Parish Boundary (dash-dot-dot line)
County Borough Boundary (England) (dotted line)
Co. Boro. Bdy (dotted line)
County Borough Boundary (Scotland) (dotted line)

B.P. B.S. Boundary Post or Stone
B.R. Bridle Road
E.P. Electricity Pylon
F.B. Foot Bridge
F.P. Foot Path
G.P. Guide Post or Board
M.S. Mile Stone
M.P. M.R. Mooring Post or Ring

P.C.B. Police Call Box
P. Pump
S.P. Signal Post
SL Sluice
Sp. Spring
T.C.B. Telephone Call Box
Tn. Trough
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 (circular with radiating lines)
Active Quarry, Chalk Pit or Clay Pit (circular with radiating lines)

Rock (irregular shape with stippling)
Boulders (irregular shape with stippling)

Cliff (vertical lines)
Slopes (vertical lines)

Roofed Building (brick pattern)
Glazed Roof Building (brick pattern with diagonal lines)

Sloping Masonry (brick pattern on slope)
Archway (arch shape)

Non-Coniferous Tree (surveyed) (tree symbol)
Coniferous Tree (surveyed) (tree symbol)
Non-Coniferous Trees (not surveyed) (tree symbol)
Coniferous Trees (not surveyed) (tree symbol)

Orchard Tree (tree symbol)
Scrub (bush symbol)
Bracken (tree symbol)

Coppice, Osier (tree symbol)
Reeds (vertical lines with tufts)
Marsh, Saltings (wavy lines)

Rough Grassland (irregular shape with dots)
Heath (irregular shape with dots)
Culvert (crossing with culvert)

Direction of water flow (arrow with wavy lines)
Bench Mark (upward arrow with '342')
Antiquity (site of) (cross symbol)

Cave Entrance (circle with cross)
Triangulation Station (triangle)
Electricity Pylon (tower symbol)

Electricity Transmission Line (line with towers)

County Boundary (Geographical) (dashed line)
County & Civil Parish Boundary (dash-dot line)
Civil Parish Boundary (dash-dot-dot line)
Admin. County or County Bor. Boundary (dotted line)
London Borough Boundary (dotted line)

Symbol marking point where boundary mereing changes (cross symbol)

BH Beer House
BP, BS Boundary Post or Stone
Cn. C Capstan, Crane
Chy Chimney
D.Fn Drinking Fountain
Ei P Electricity Pylon or Post
FAP Fire Alarm Pillar
FB Foot Bridge
GP Guide Post
H Hydrant or Hydraulic
LC Level Crossing
MH Manhole
MP Mile Post or Mooring Post
MS Mile Stone
N.T.L. Normal Tidal Limit

P Pillar, Pole or Post
PO Post Office
PC Public Convenience
PH Public House
Pp Pump
SB, S Br Signal Box or Bridge
SP, SL Signal Post or Light
Spr Spring
Tk Tank or Track
TCB Telephone Call Box
TCP Telephone Call Post
Tr Trough
Wt Pt, Wt T Water Point, Water Tap
W Well
Wd Pp Wind Pump

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

Cliff (vertical lines)
Slopes (vertical lines)

Rock (irregular shape with stippling)
Rock (scattered) (irregular shape with stippling)

Boulders (irregular shape with stippling)
Boulders (scattered) (irregular shape with stippling)

Positioned Boulder (irregular shape with stippling)
Scree (irregular shape with stippling)

Non-Coniferous Tree (surveyed) (tree symbol)
Coniferous Tree (surveyed) (tree symbol)
Non-Coniferous Trees (not surveyed) (tree symbol)
Coniferous Trees (not surveyed) (tree symbol)

Orchard Tree (tree symbol)
Scrub (bush symbol)
Bracken (tree symbol)

Coppice, Osier (tree symbol)
Reeds (vertical lines with tufts)
Marsh, Saltings (wavy lines)

Rough Grassland (irregular shape with dots)
Heath (irregular shape with dots)
Culvert (crossing with culvert)

Direction of water flow (arrow with wavy lines)
Triangulation Station (triangle)
Antiquity (site of) (cross symbol)

Electricity Transmission Line (line with towers)
Electricity Pylon (tower symbol)

BH 23150m Bench Mark
Buildings with Building Seed (brick pattern)

Roofed Building (brick pattern)
Glazed Roof Building (brick pattern with diagonal lines)

Civil parish/community boundary (dotted line)
District boundary (dash-dot line)
County boundary (dashed line)
Boundary post/stone (cross symbol)
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three) (cross symbol)

Bks Barracks
Bty Battery
Cemy Cemetery
Chy Chimney
Cis Clatern
Diamtd Rly Dismantled Railway
Ei Gen Sta Electricity Generating Station
Ei P Electricity Pole, Pillar
Ei Sub Sta Electricity Sub Station
FB Filter Bed
Fn / D Fn Fountain / Drinking Ftn
Gas Gov Gas Valve Compound
GVC Gas Governor
GP Guide Post
MH Manhole
MP, MS Mile Post or Mile Stone

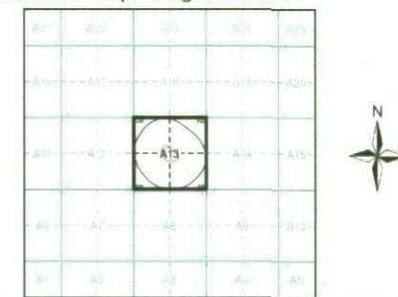
P Pillar, Pole or Post
PO Post Office
PC Public Convenience
Pp Pump
Ppg Sta Pumping Station
PW Place of Worship
Sewage Ppg Sta Sewage Pumping Station
SB, S Br Signal Box or Bridge
SP, SL Signal Post or Light
Spr Spring
Tr Trough
Wd Pp Wind Pump
Wt Pt, Wt T Water Point, Water Tap
Wks Works (building or area)
W Well



Ordnance Survey mapping included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:2,500	1892	2
Yorkshire	1:2,500	1906	3
Yorkshire	1:2,500	1930	4
Ordnance Survey Plan	1:2,500	1962	5
Ordnance Survey Plan	1:1,250	1961 - 1962	6
Additional SIMs	1:1,250	1961 - 1962	7
Additional SIMs	1:1,250	1983 - 1989	8
Additional SIMs	1:1,250	1991	9
Large-Scale National Grid Data	1:1,250	1993	10
Large-Scale National Grid Data	1:1,250	1993 - 1994	11

Historical Map - Segment A13



Order Details

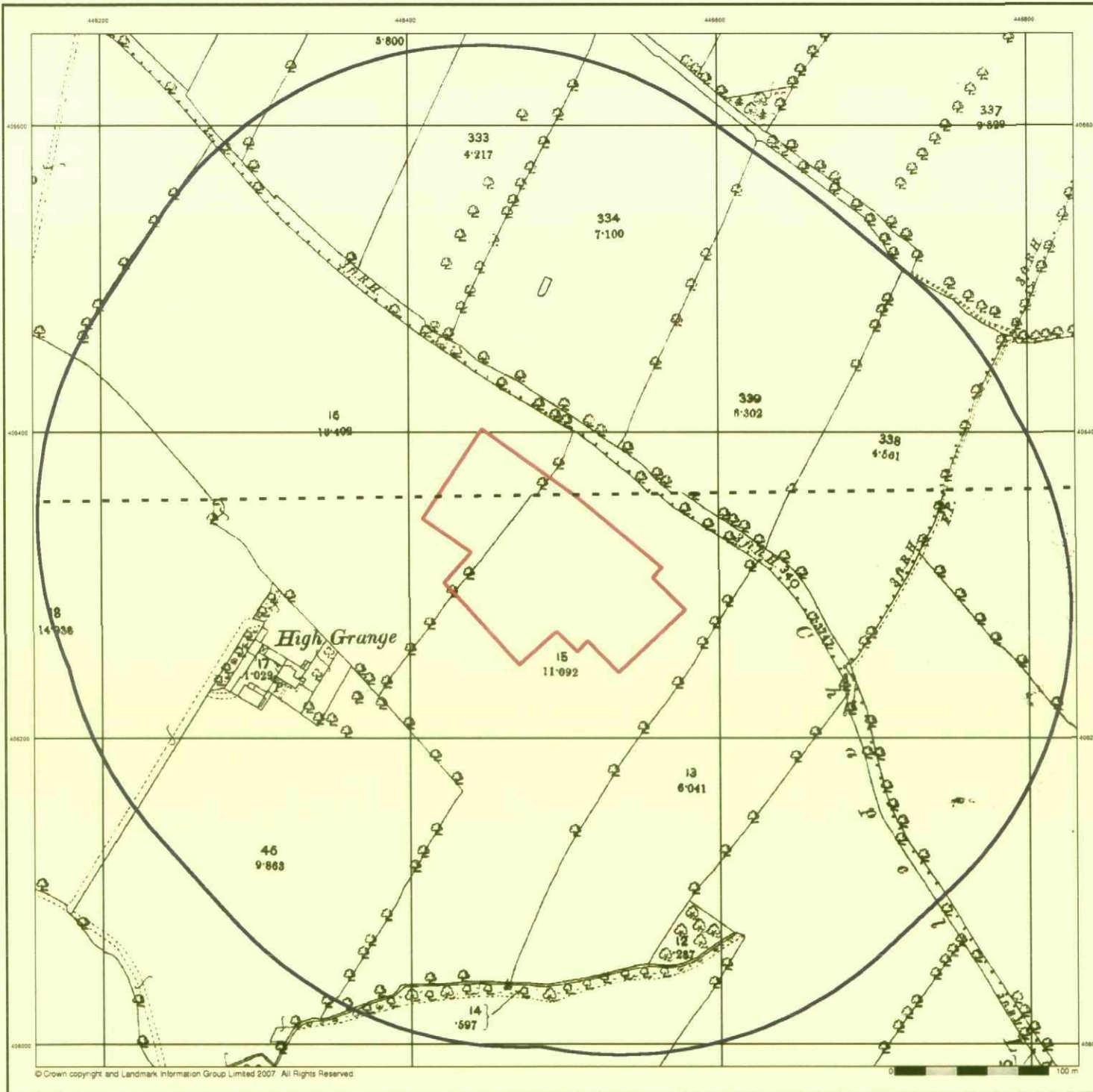
Order Number: 21677426_1_1
 Customer Ref: S7/032
 National Grid Reference: 446490, 406320
 Slice: A
 Site Area (Ha): 1.41
 Search Buffer (m): 250

Site Details

Brunswick Street, Thurnscoe, Rotherham, South Yorkshire



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 Fax: 0870 850 6671
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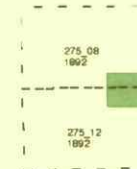


Yorkshire
Published 1892

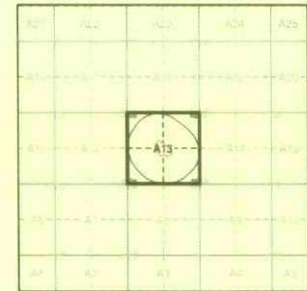
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

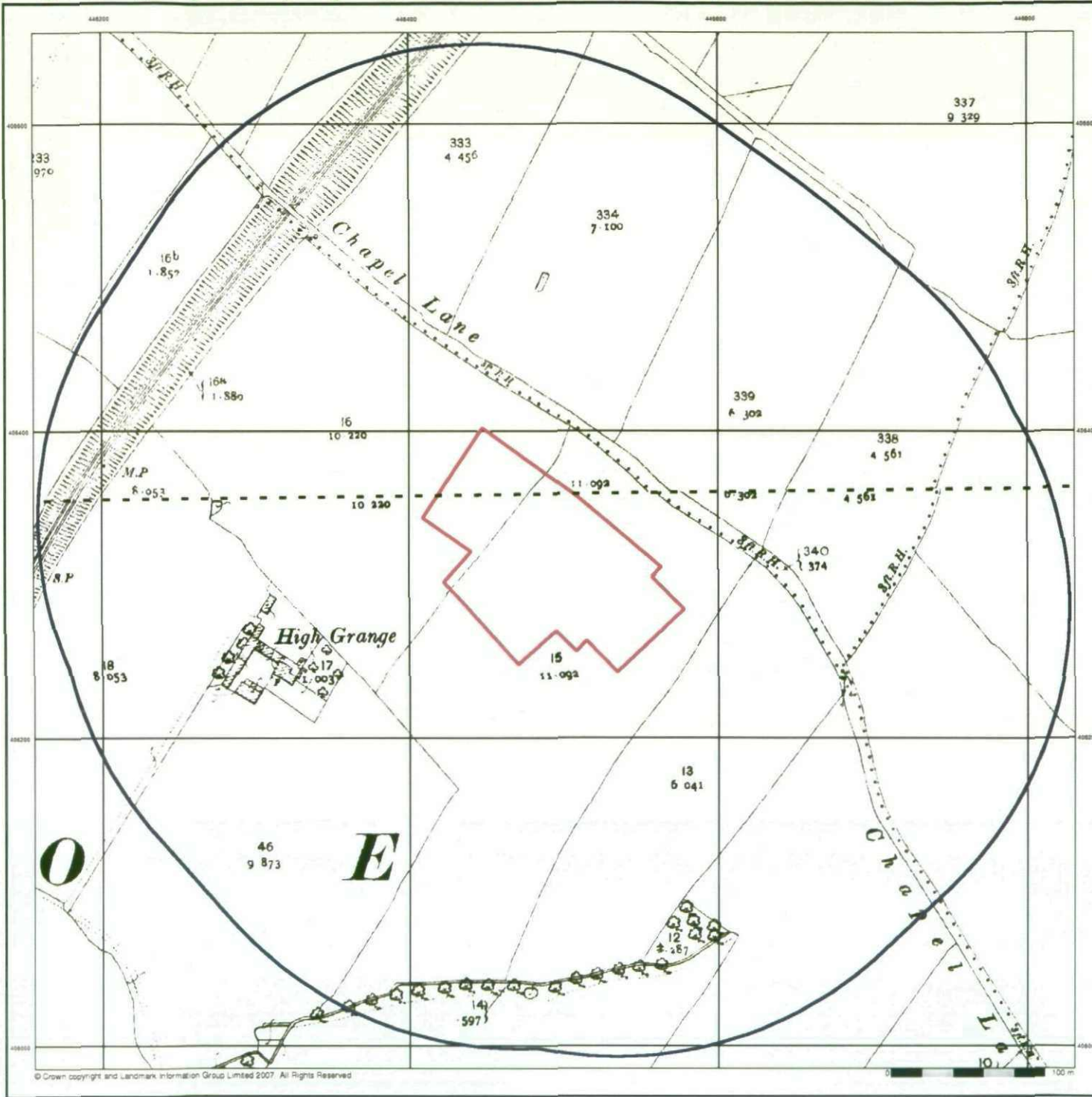
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 Search Buffer (m): 250

Site Details

Brunswick Street, Thurnscoe, Rotherham, South Yorkshire



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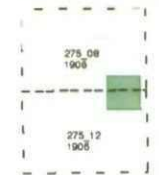
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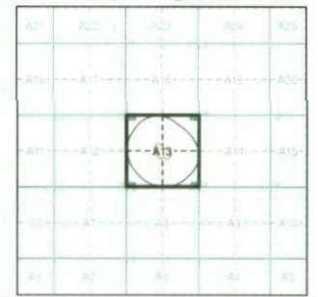
Yorkshire
Published 1906
Source map scale - 1:2,500

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)



Historical Map - Segment A13



Order Details

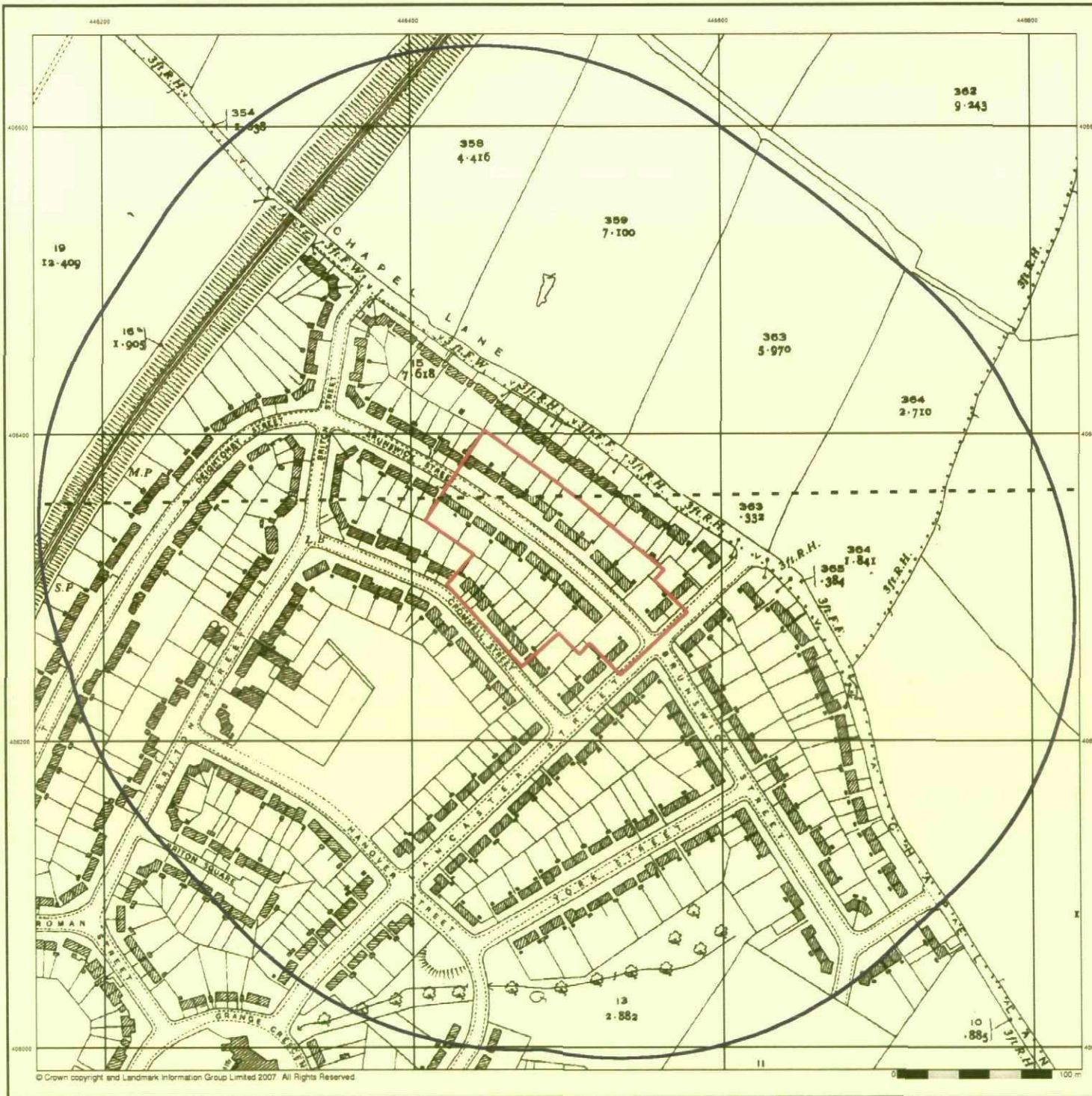
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 Slice: A
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Site Details

Brunswick Street, Thurnscoe, Rotherham, South Yorkshire



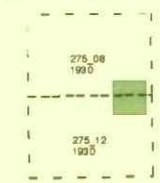
Tel: 0870 850 6670
 Fax: 0870 850 6671
 Web: www.envirocheck.co.uk



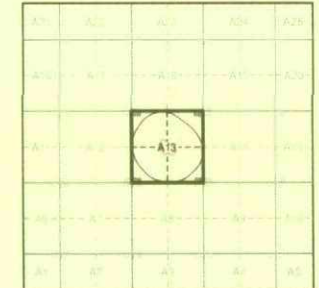
Yorkshire
Published 1930
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

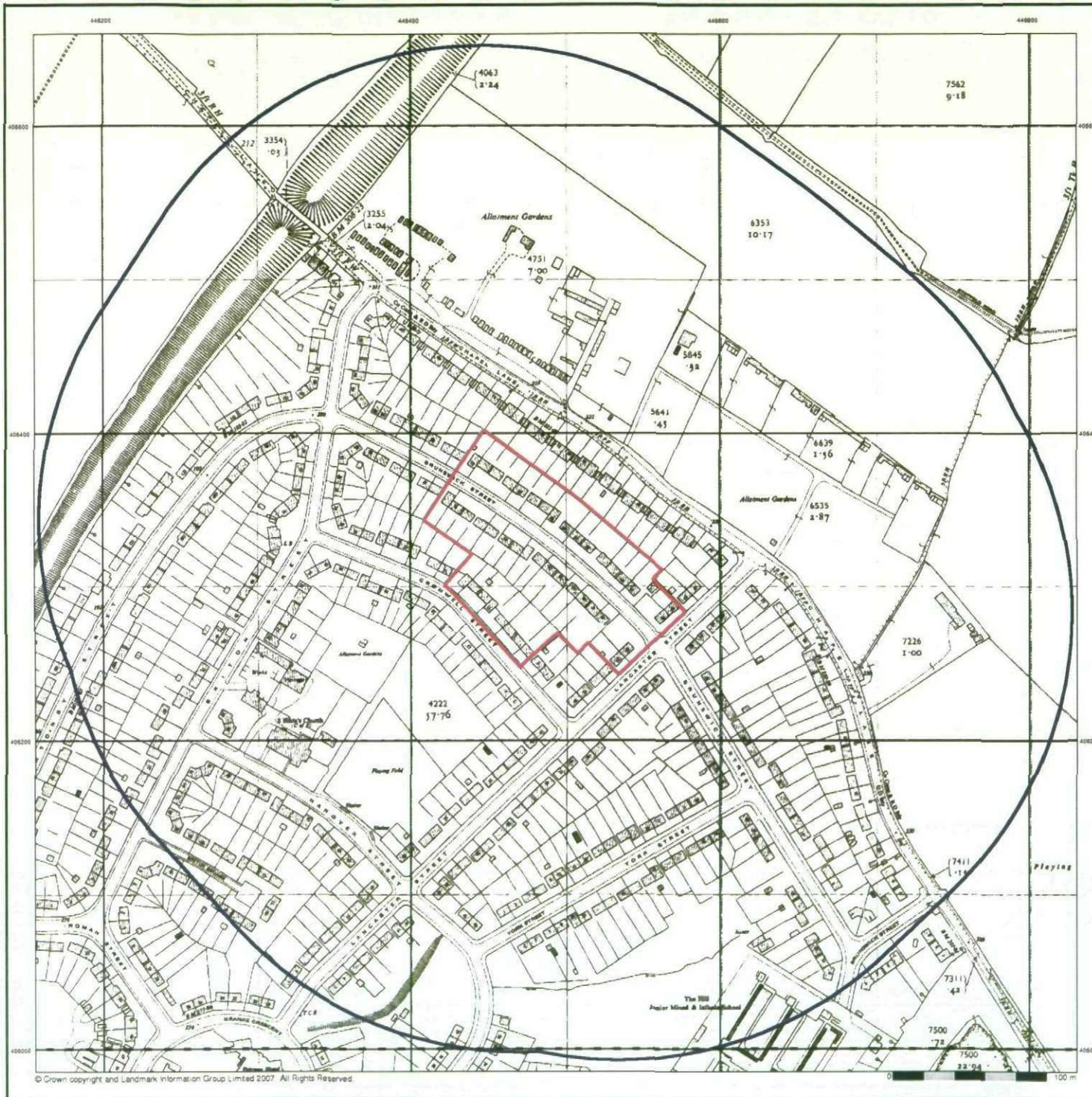
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 National Grid Reference: 446490, 406320
 Slice: A
 Site Area (Ha): 1.41
 Search Buffer (m): 250

Site Details

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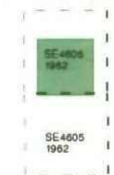
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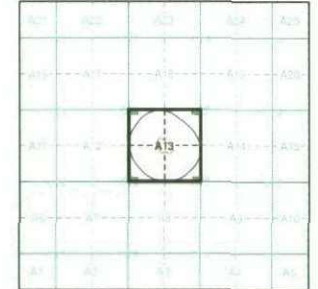
**Ordnance Survey Plan
Published 1962
Source map scale - 1:2,500**

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)



Historical Map - Segment A13



Order Details

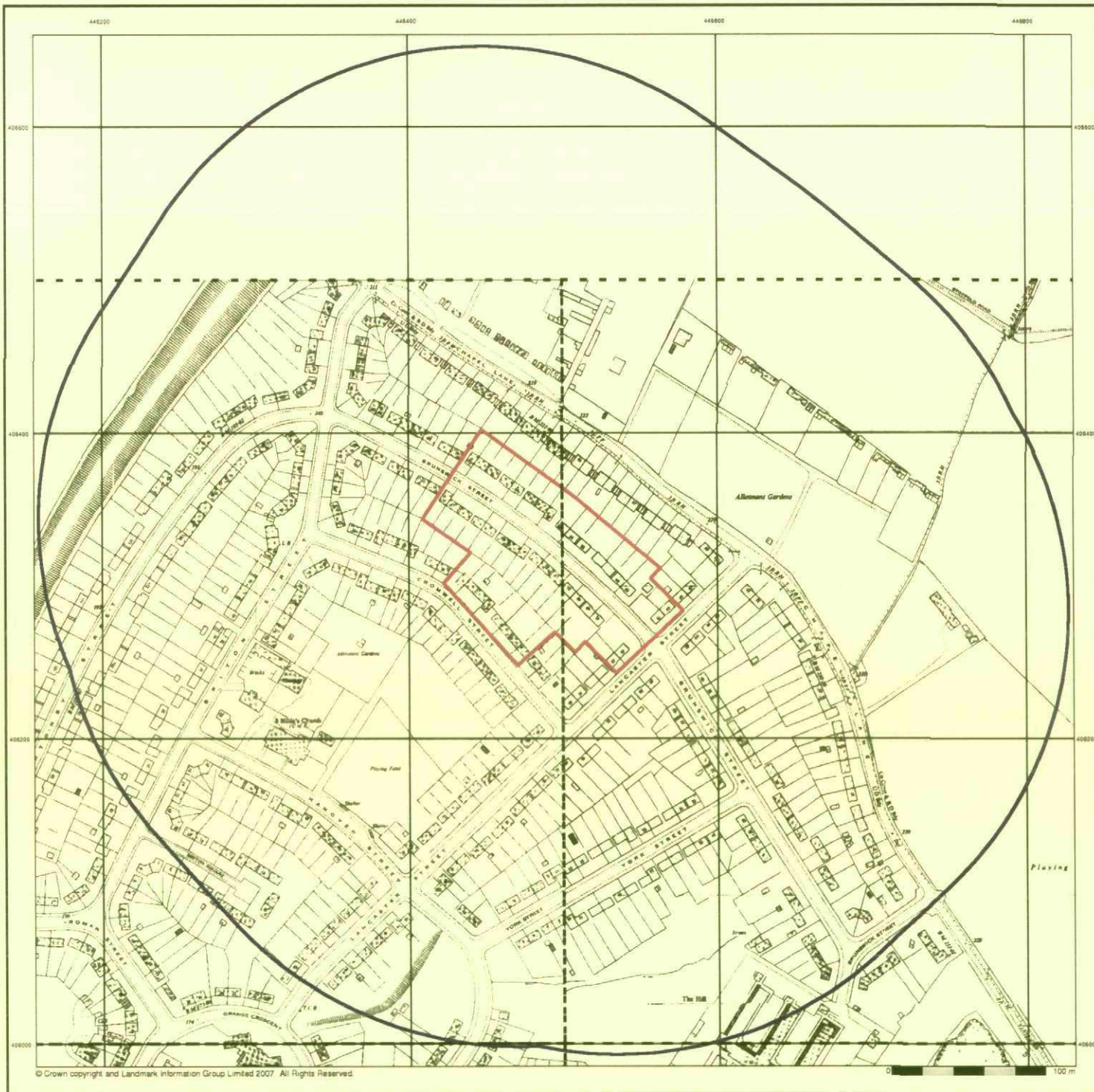
Order Number: 21677426_1_1
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 Search Buffer (m): 250

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Ordnance Survey Plan

Published 1961 - 1962

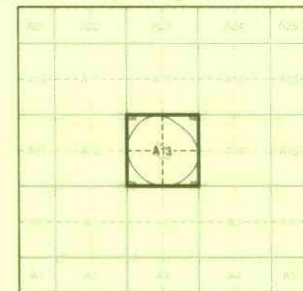
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

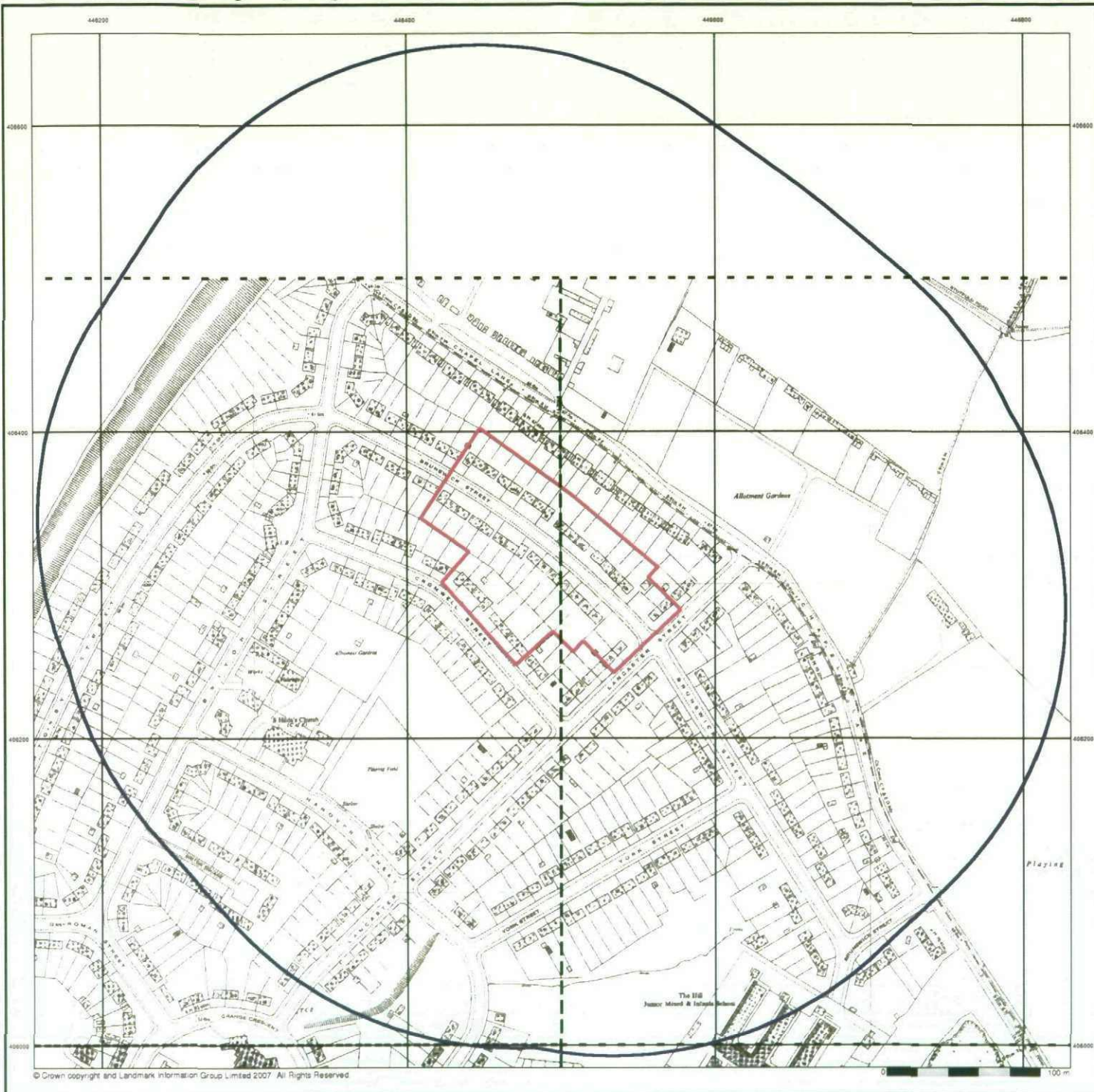
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 Customer Ref: S7/032
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 Site Area (Ha): 1.41
 Search Buffer (m): 250

Site Details

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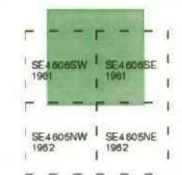
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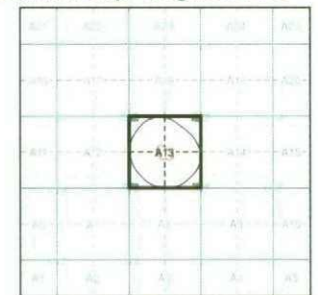
**Additional SIMs
Published 1961 - 1962
Source map scale - 1:1,250**

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published 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)



Historical Map - Segment A13



Order Details

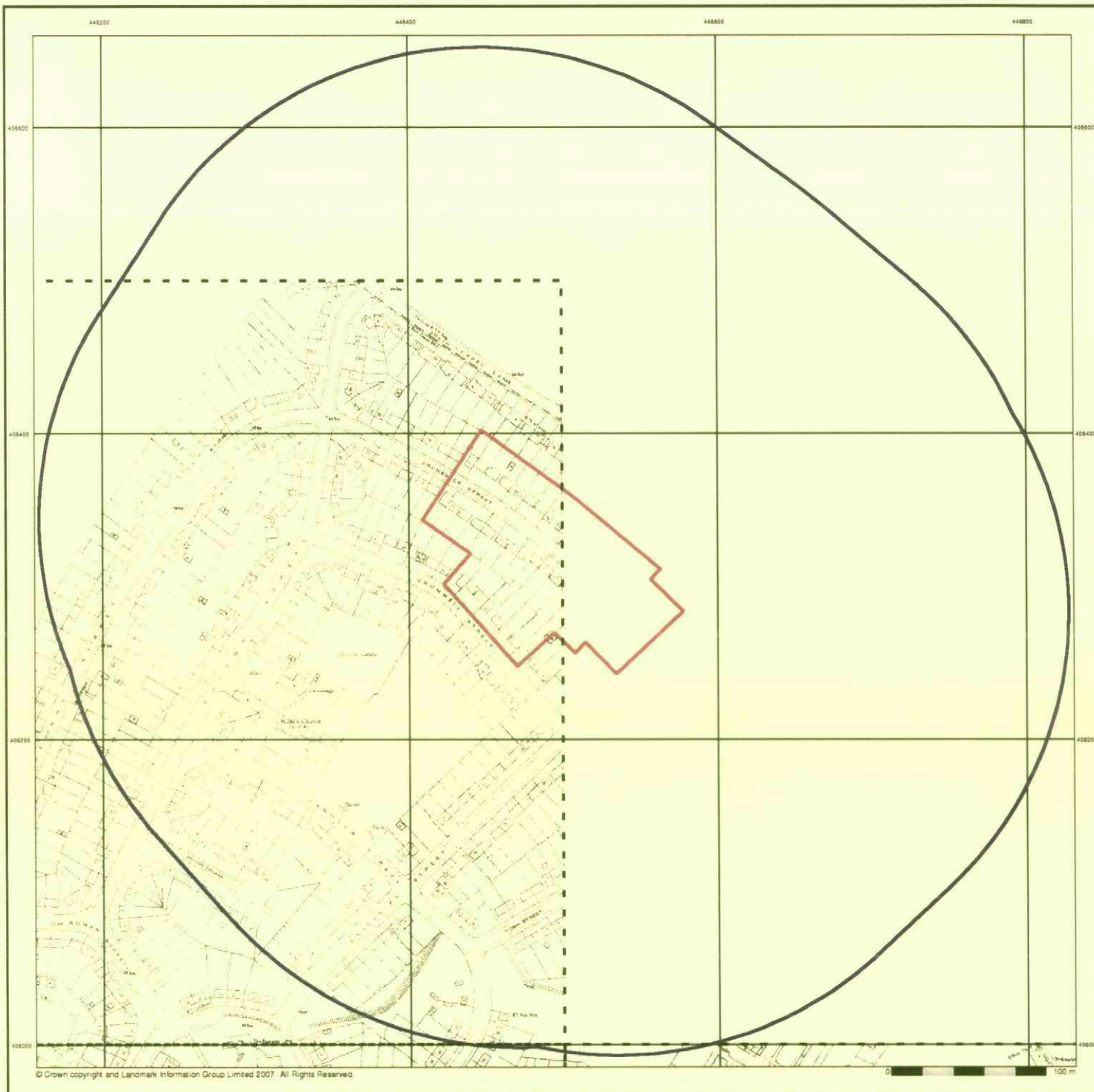
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 Slice: A
 Site Area (Ha): 1.41
 Search Buffer (m): 250

Site Details

Brunswick Street, Thurnscoe, Rotherham, South Yorkshire



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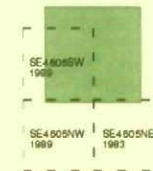
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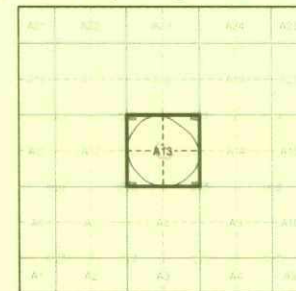
**Additional SIMs
Published 1983 - 1989
Source map scale - 1:1,250**

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)



Historical Map - Segment A13



Order Details

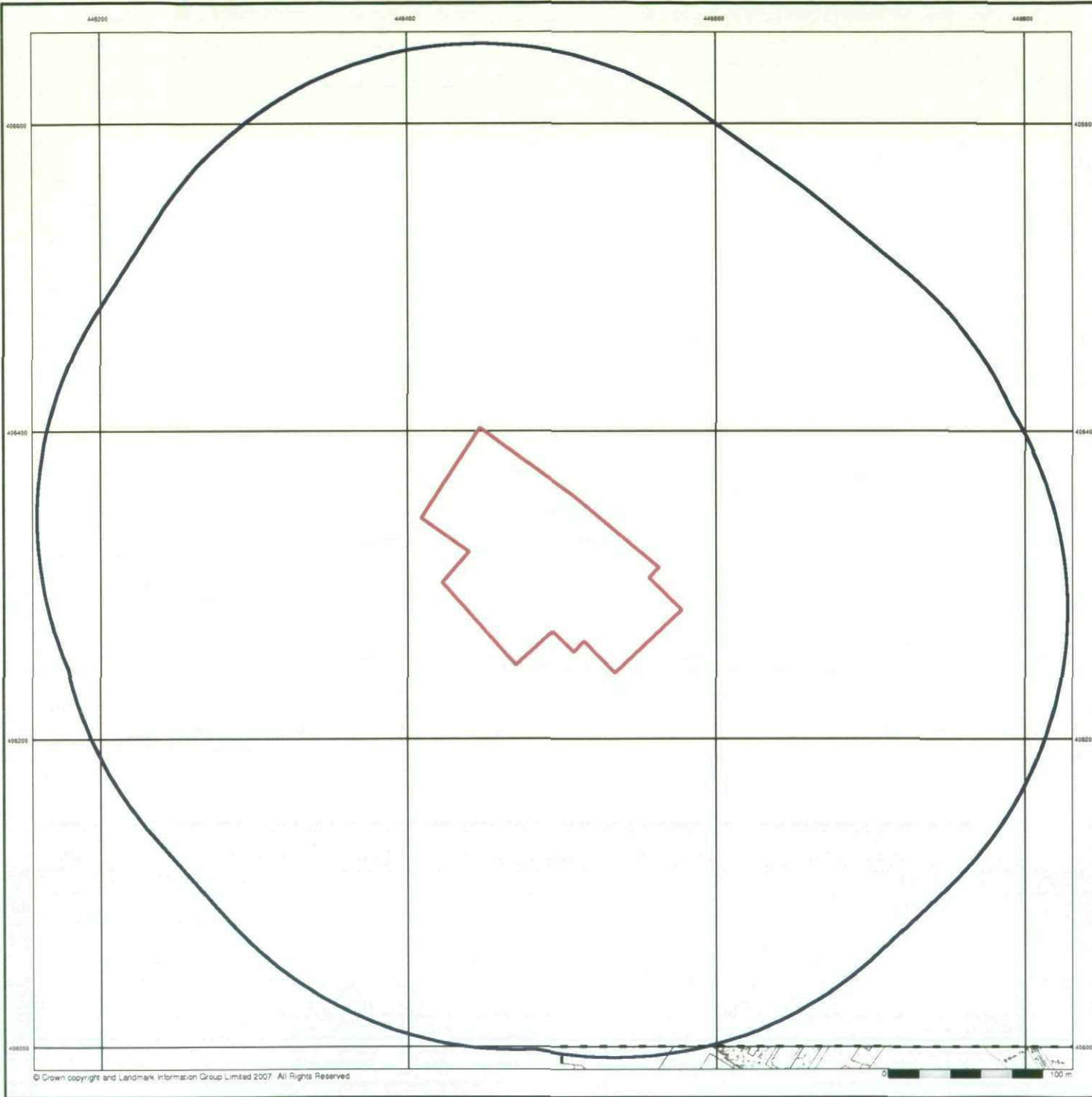
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 Customer Ref: S7/032
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 Slice: A
 Site Area (Ha): 1.41
 Search Buffer (m): 250

Site Details

Brunswick Street, Thurnscoe, Rotherham, South Yorkshire



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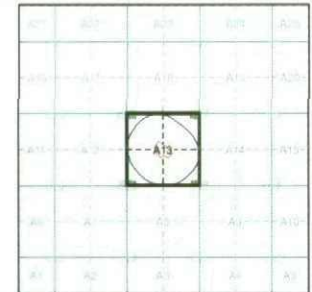
**Additional SIMs
Published 1991
Source map scale - 1:1,250**

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)



Historical Map - Segment A13



Order Details

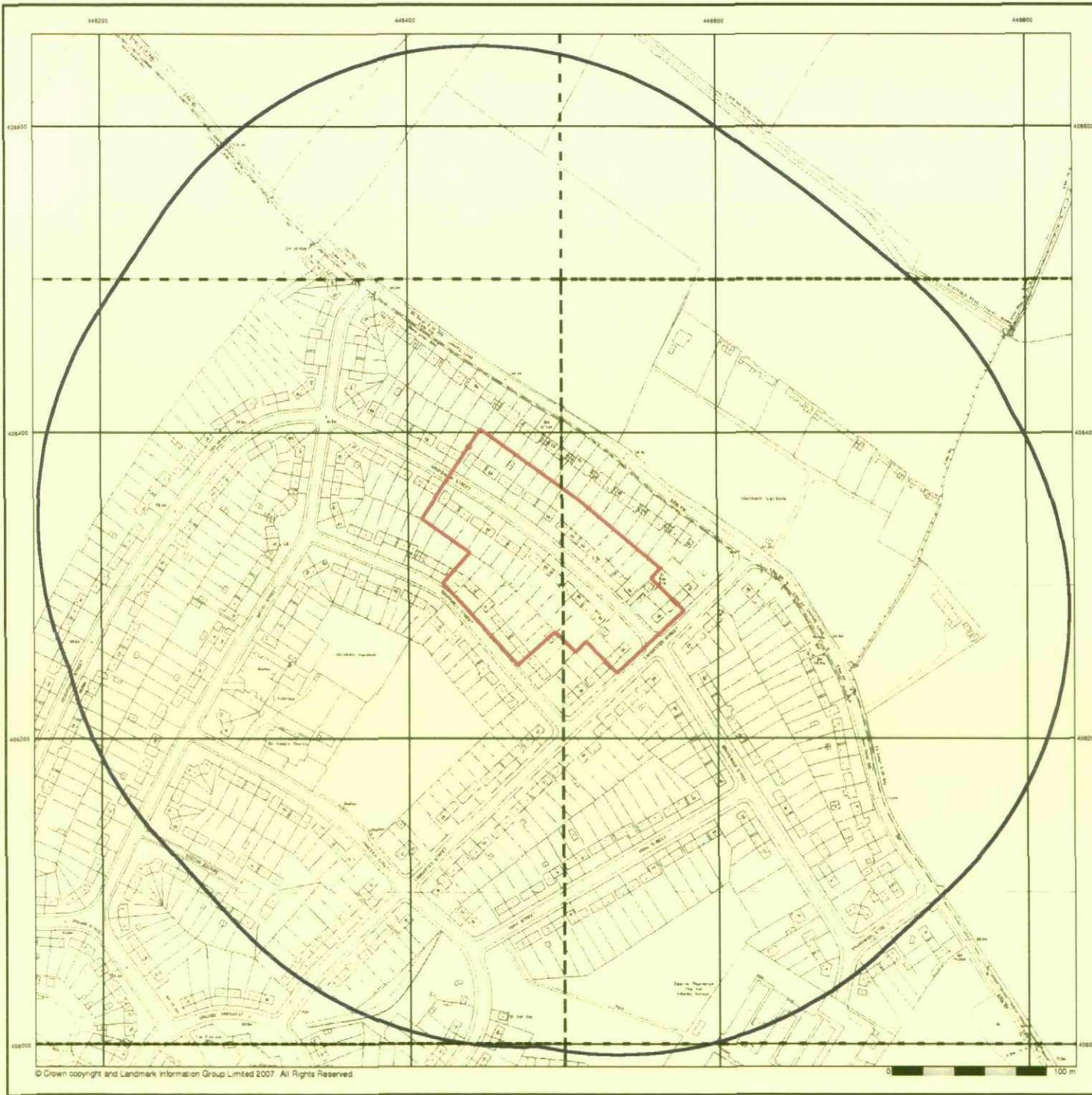
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 Customer Ref: S7/032
 National Grid Reference: 446490, 406320
 Slice: A
 Site Area (Ha): 1.41
 Search Buffer (m): 250

Site Details

Brunswick Street, Thurnscoe, Rotherham, South Yorkshire

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Information Group

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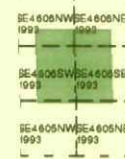


**Large-Scale National Grid Data
Published 1993**

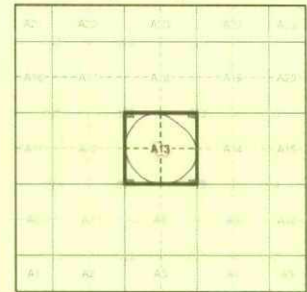
Source map scale - 1:1,250

'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)



Historical Map - Segment A13



Order Details

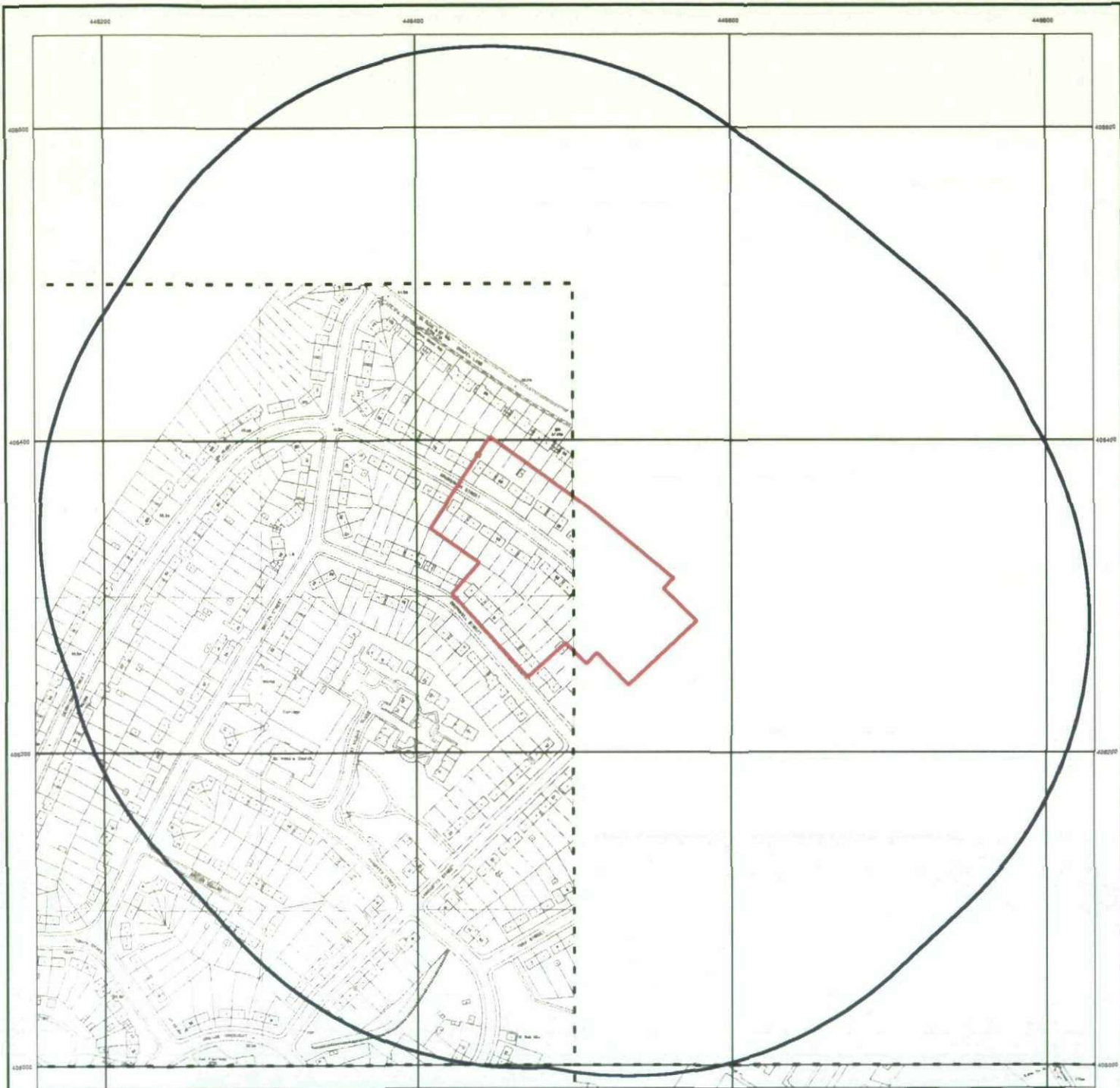
Order Number: 21677426_1_1
 Customer Ref: S7/032
 National Grid Reference: 446490, 406320
 Slice: A
 Site Area (Ha): 1.41
 Search Buffer (m): 250

Site Details

Brunswick Street, Thurnscoe, Rotherham, South Yorkshire



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 Fax: 0870 850 6671
 Web: www.envirocheck.co.uk

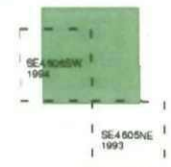


**Large-Scale National Grid Data
Published 1993 - 1994**

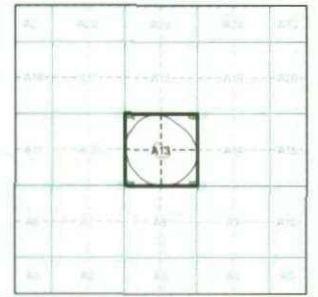
Source map scale - 1:1,250

'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: 21677426_1_1
 Customer Ref: S7/032
 National Grid Reference: 446490, 406320
 Slice: A
 Site Area (Ha): 1.41
 Search Buffer (m): 250

Site Details

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Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 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 | | Triangometrical Station | | |
| | Site of Antiquities | | Bench Mark | | |
| | Pump, Guide Post, Signal Post | | Well, Spring, Boundary Post | | |
| | 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 | | |
| | 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 | | Direction of Flow of Water |
| | Glasshouse | | Shingle |
| | Sloping Masonry | | Sand |
| | 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 | | |
| | Civil Parish | | |
| | BP, BS Boundary Post or Stone | | Poi 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

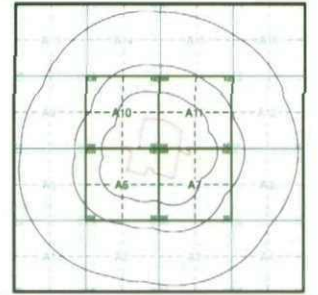
- | | | | |
|--|--|--|--|
| | Gravel Pit | | Refuse tip or slag heap |
| | Rock | | Rock (scattered) |
| | Boulders | | Boulders (scattered) |
| | Shingle | | Mud |
| | Sand | | Sand Pit |
| | Slopes | | Top of cliff |
| | General detail | | Underground detail |
| | Overhead detail | | Narrow gauge railway |
| | 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) | | MLWS Mean low water (springs) |
| | Telephone line (where shown) | | Electricity transmission line (with poles) |
| | BM 123.45 m 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 |



Ordnance Survey mapping included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:10,560	1851 - 1854	2
Yorkshire	1:10,560	1893 - 1894	3
Yorkshire	1:10,560	1906 - 1907	4
Yorkshire	1:10,560	1938 - 1948	5
Ordnance Survey Plan	1:10,560	1955 - 1956	6
Ordnance Survey Plan	1:10,560	1966 - 1967	7
Ordnance Survey Plan	1:10,000	1976 - 1983	8
Ordnance Survey Plan	1:10,000	1988 - 1991	9
10K Raster Mapping	1:10,000	2000	10
10K Raster Mapping	1:10,000	2006	11

Historical Map - Slice A



Order Details

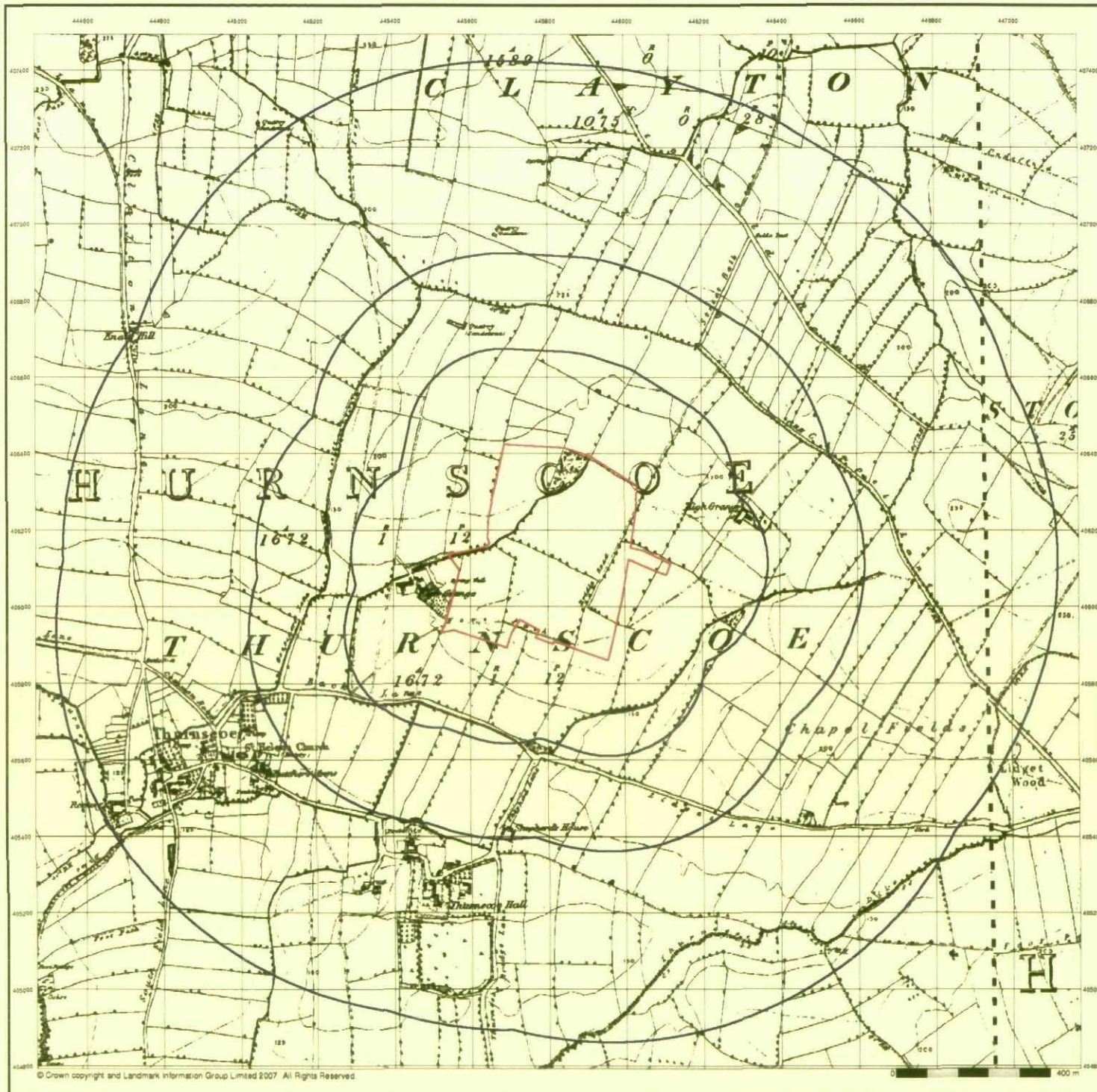
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 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 1000

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



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 Fax: 0870 850 6671
 Web: www.enr/rochec.co.uk



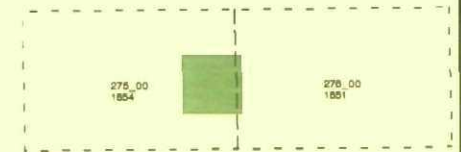
Yorkshire

Published 1851 - 1854

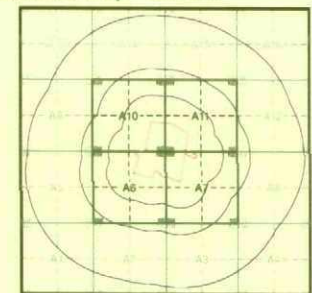
Source map scale - 1:10,560

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

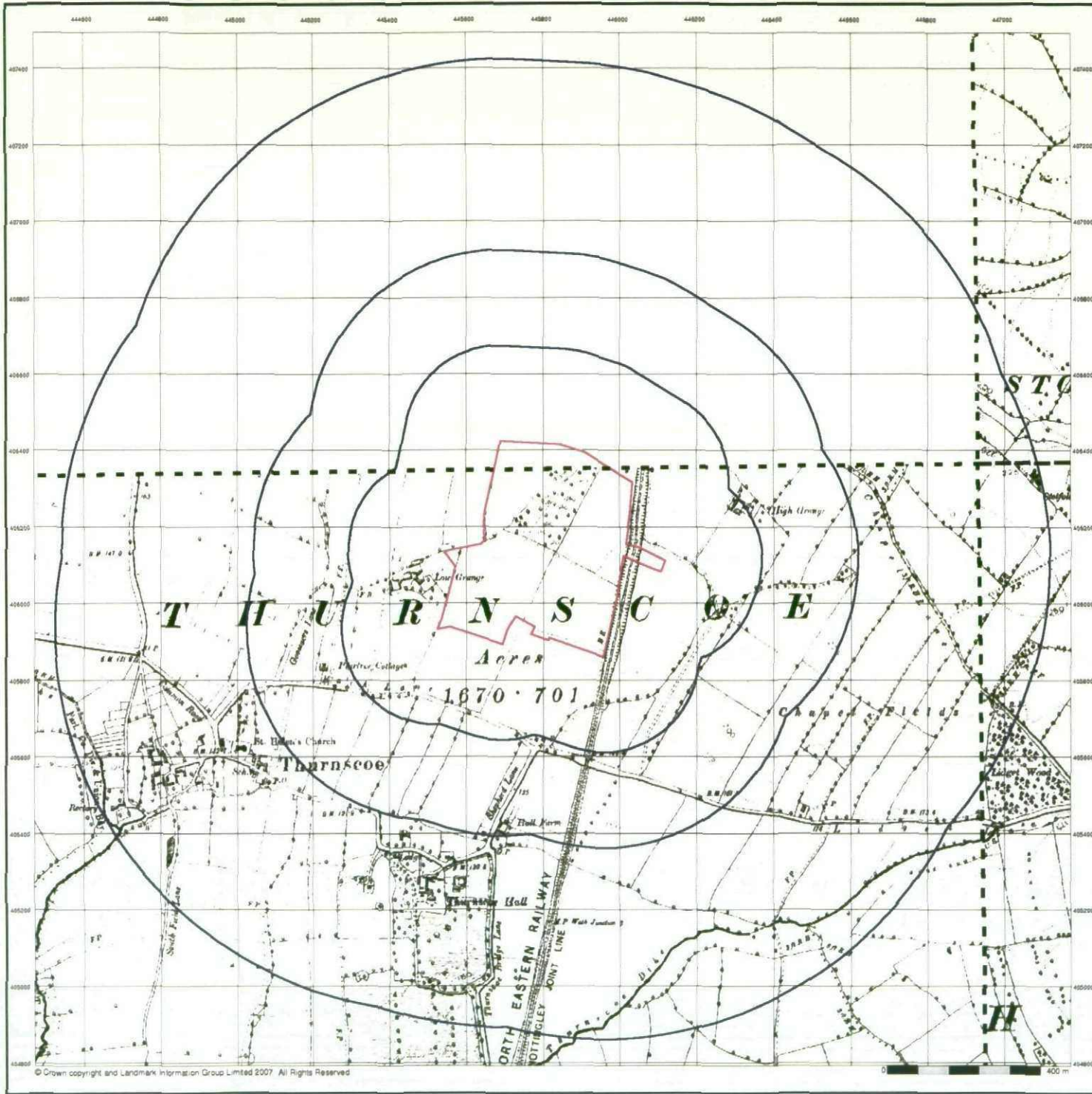


Order Details

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Site Details

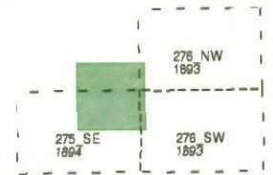
The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



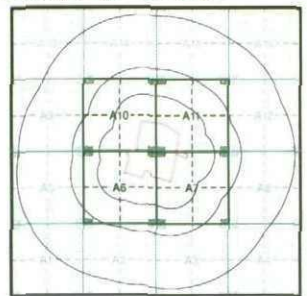
Yorkshire
Published 1893 - 1894
Source map scale - 1:10,560

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 1936, 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

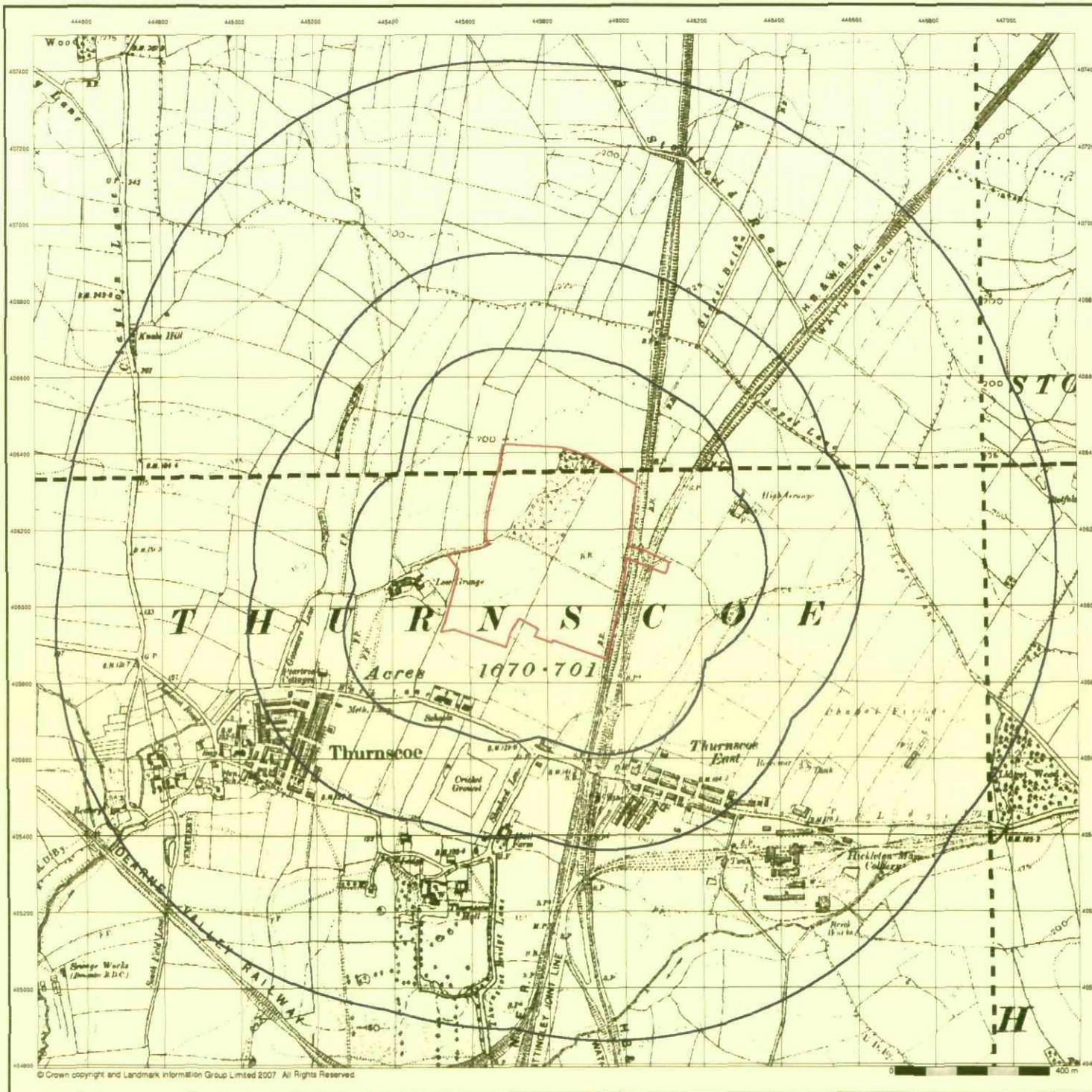
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 Slice: A
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 Search Buffer (m): 1000

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



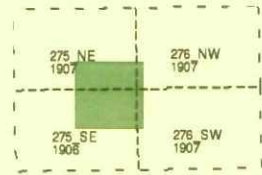
Tel: 0870 850 6670
 Fax: 0870 850 6671
 Web: www.envisrock.co.uk



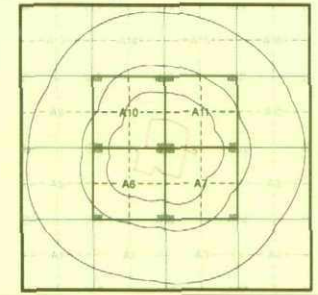
Yorkshire
Published 1906 - 1907
Source map scale - 1:10,560

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 inaccuracies 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

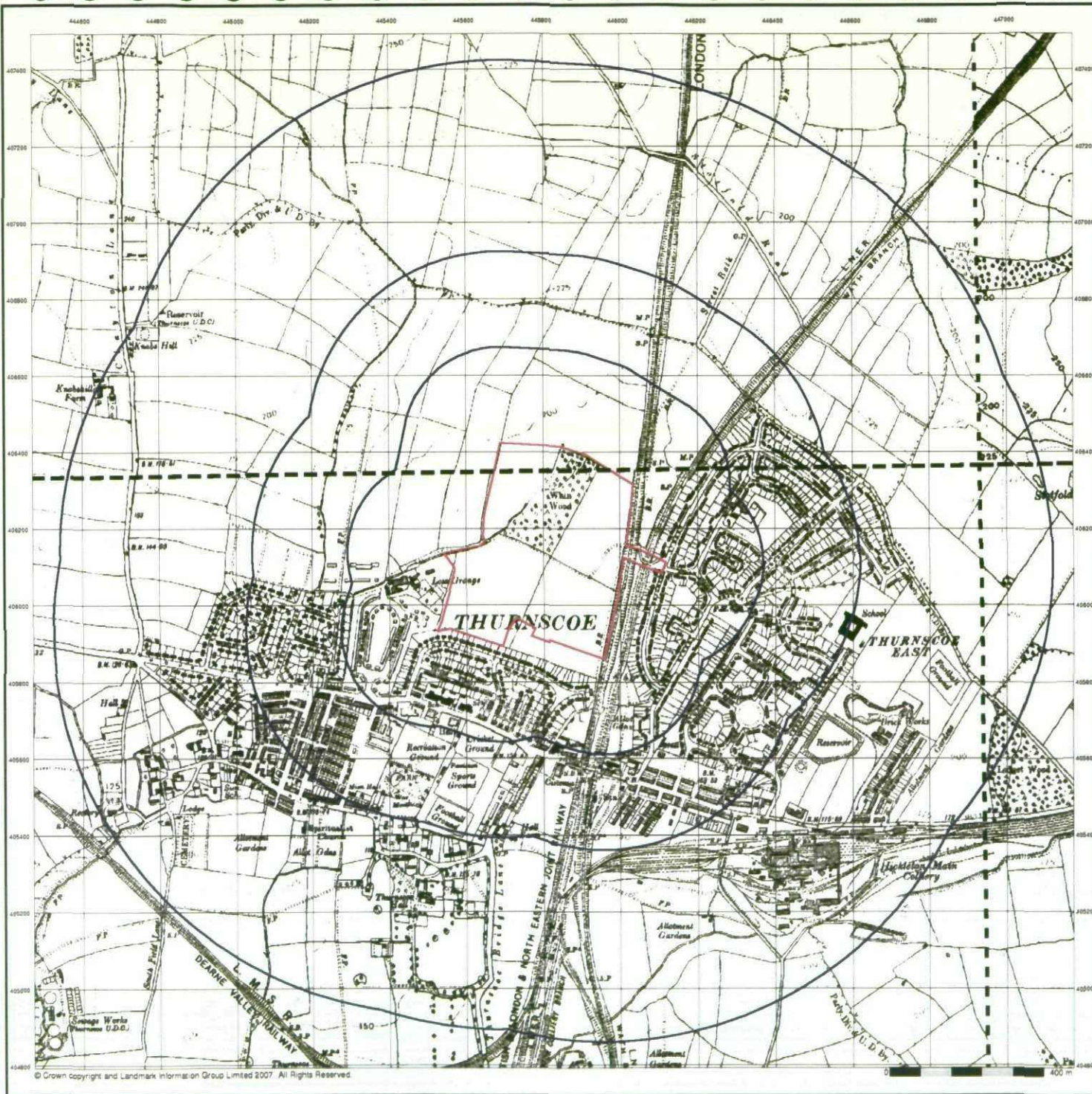
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Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



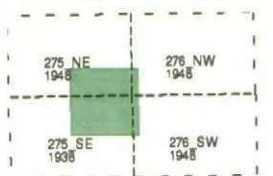
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 Fax: 0870 850 6671
 Web: www.envirocheck.co.uk



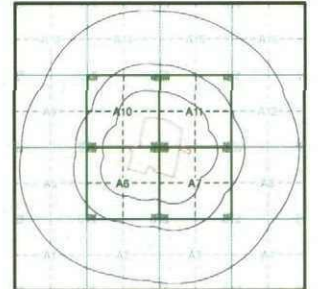
Yorkshire
Published 1938 - 1948
Source map scale - 1:10,560

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

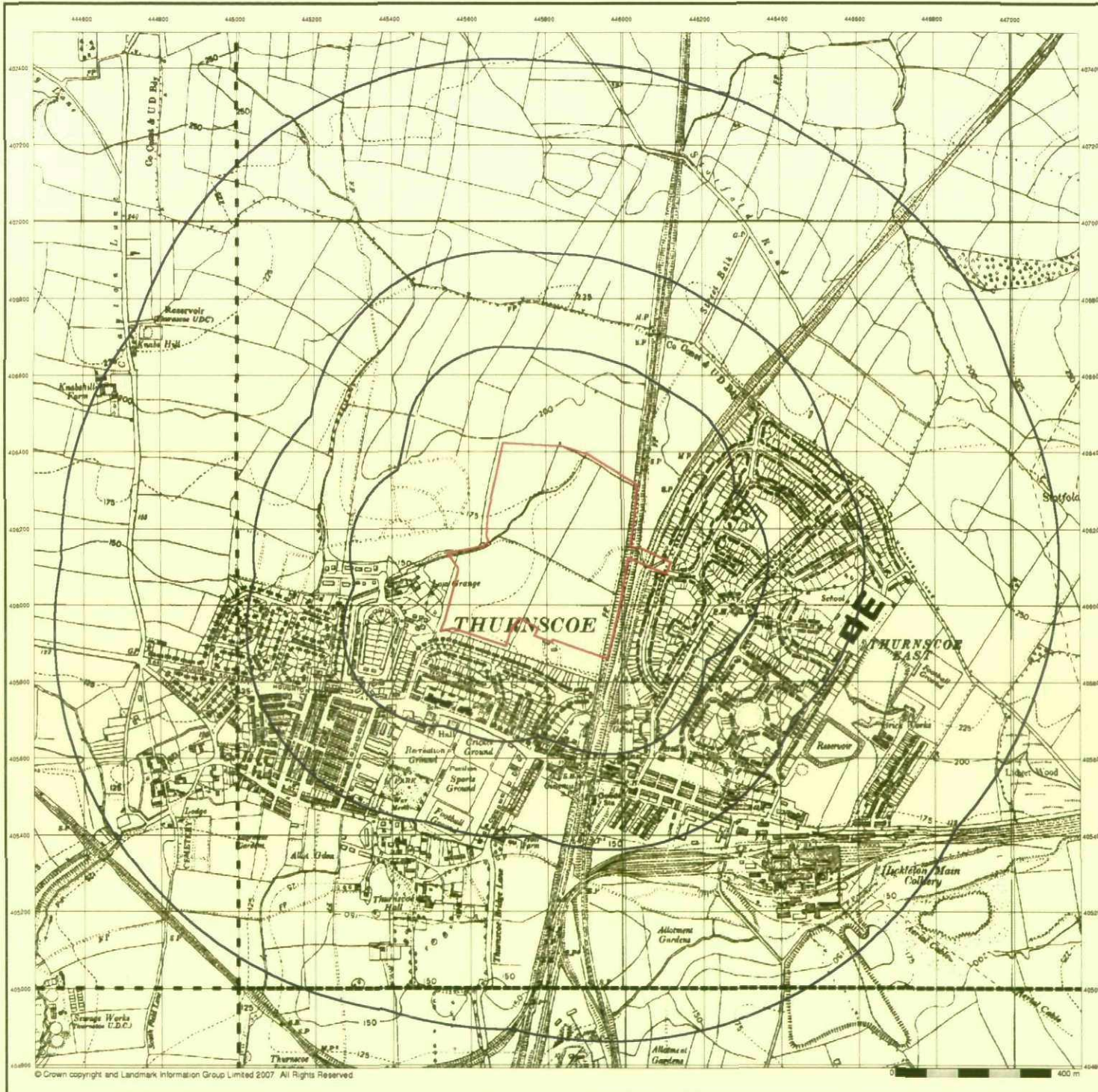
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 Search Buffer (m): 1000

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



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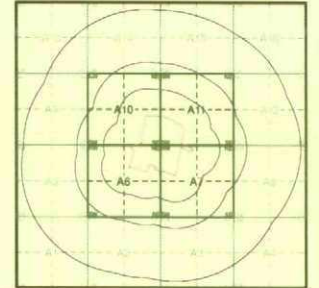
**Ordnance Survey Plan
Published 1955 - 1956
Source map scale - 1:10,560**

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

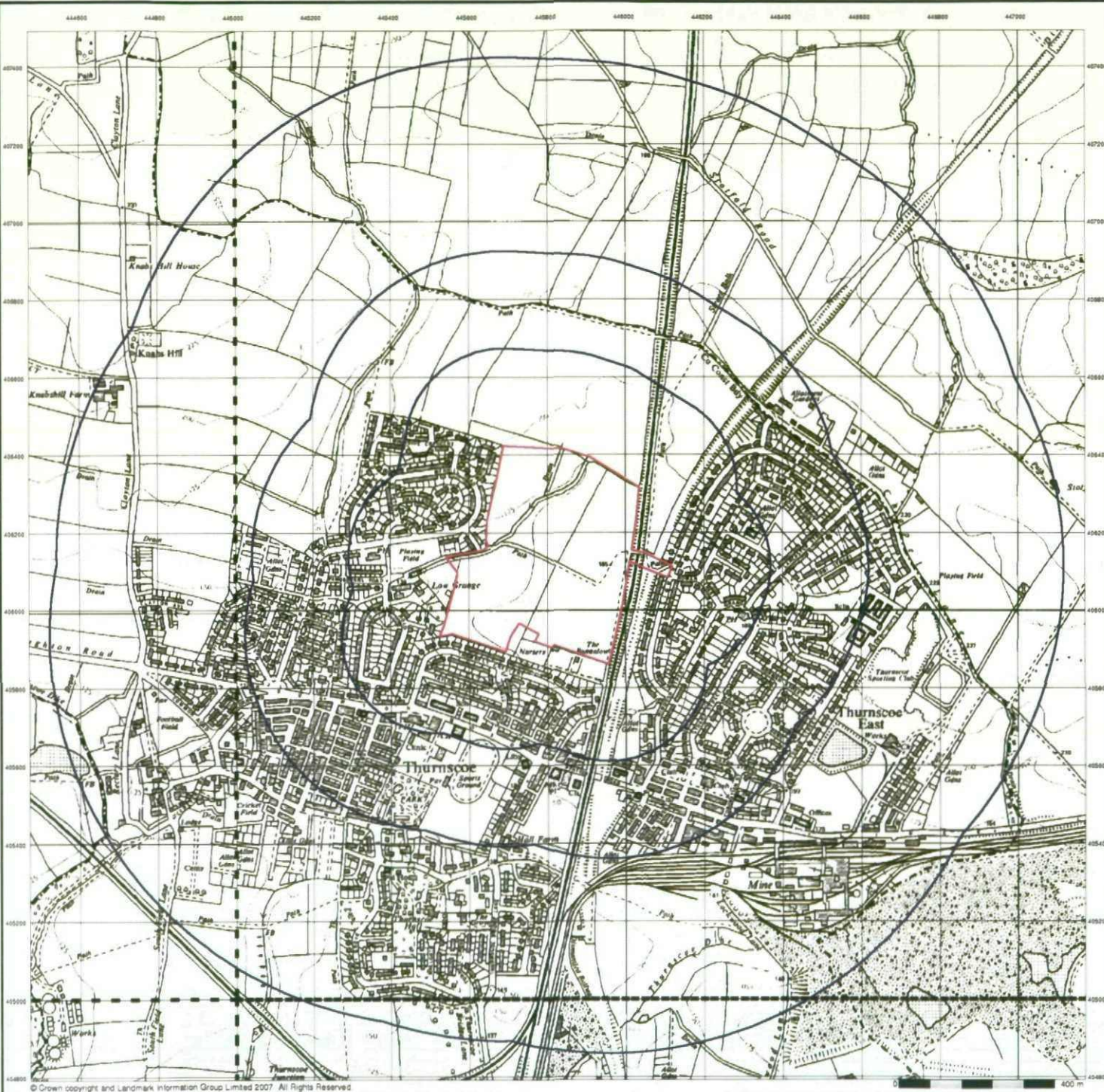
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 National Grid Reference: 445810, 406130
 Slice: A
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 Search Buffer (m): 1000

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



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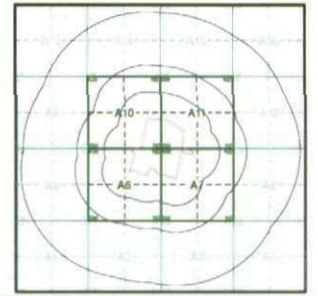
**Ordnance Survey Plan
Published 1966 - 1967
Source map scale - 1:10,560**

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

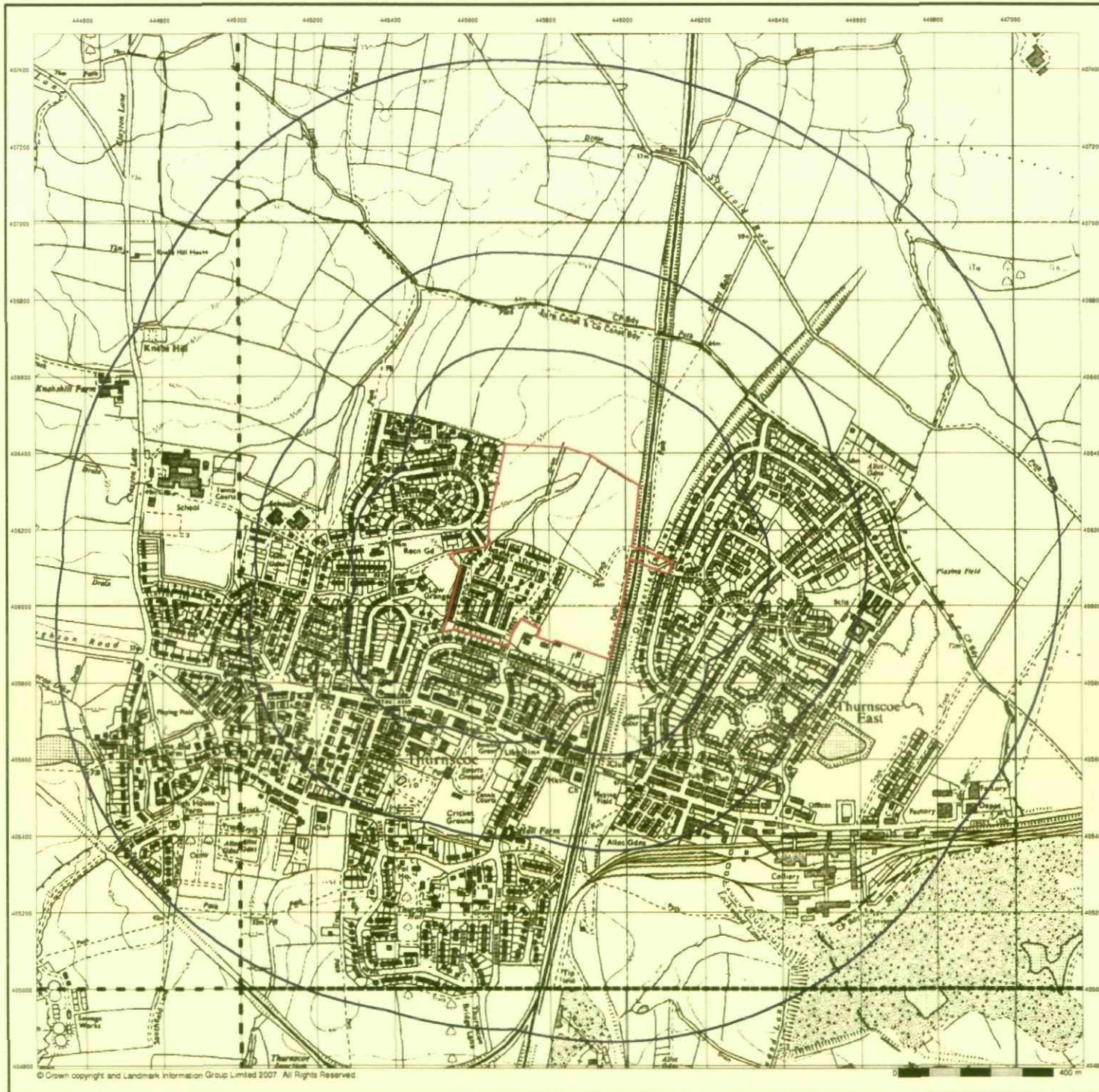
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Site Details

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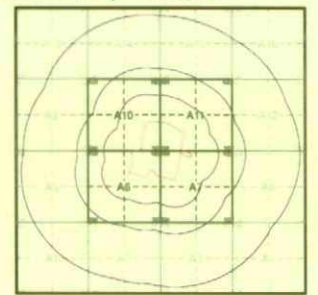
**Ordnance Survey Plan
Published 1976 - 1983
Source map scale - 1:10,000**

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: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 1000

Site Details

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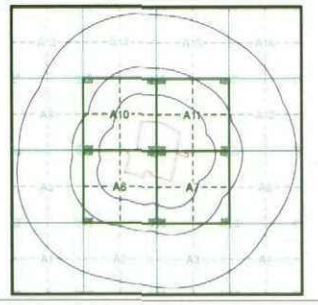
**Ordnance Survey Plan
Published 1988 - 1991
Source map scale - 1:10,000**

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: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 1000

Site Details

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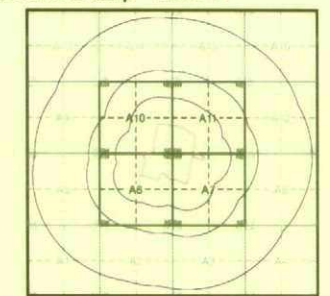
10K Raster Mapping
Published 2000
Source map scale - 1:10,000

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)



Historical Map - Slice A



Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 1000

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



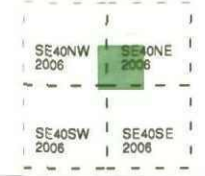
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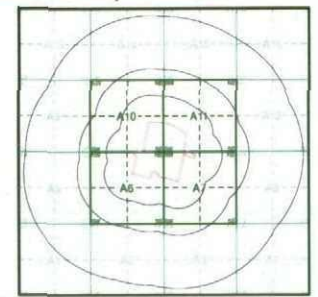
**10K Raster Mapping
Published 2006
Source map scale - 1:10,000**

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)



Historical Map - Slice A



Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 1000

Site Details

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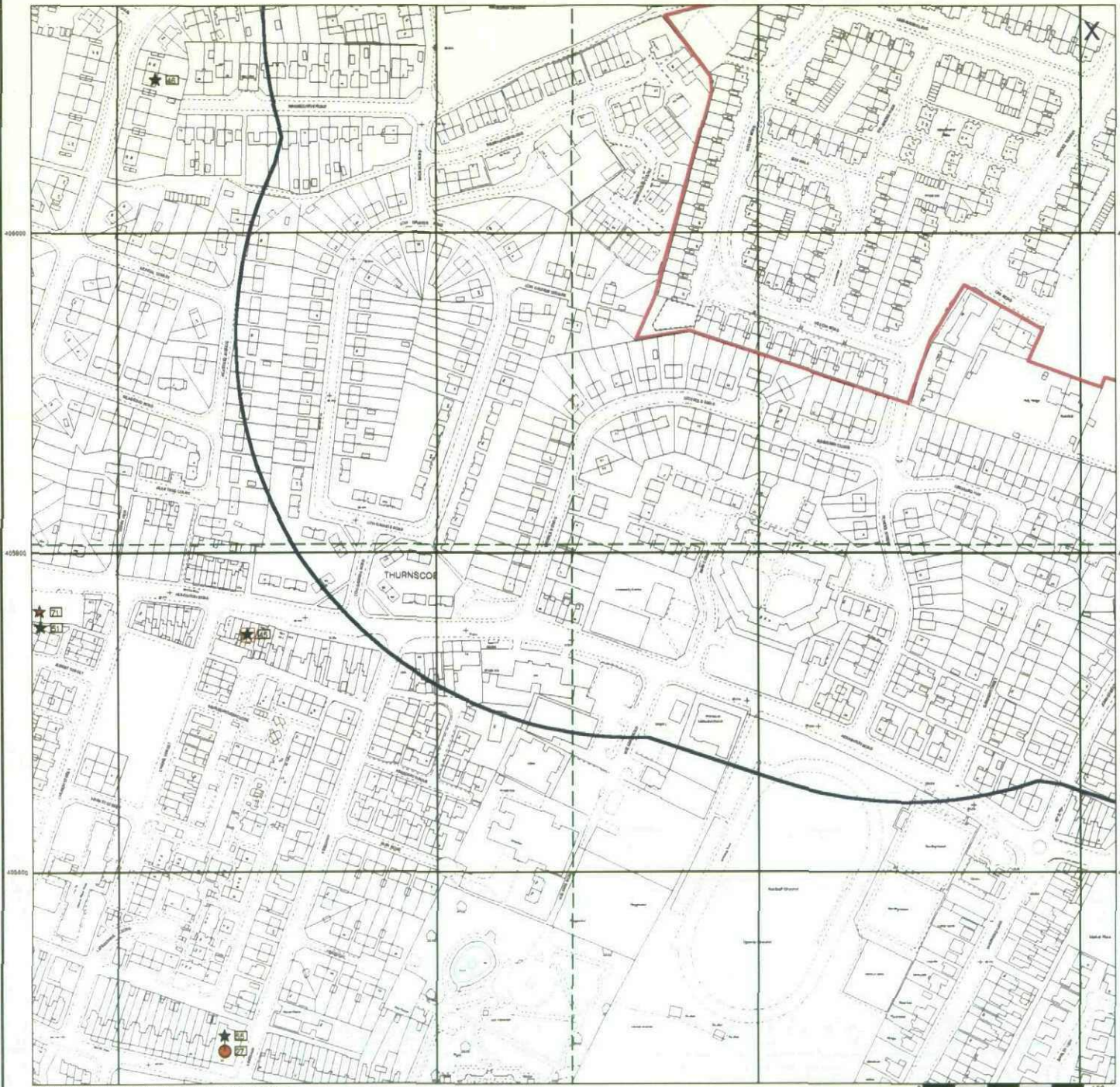
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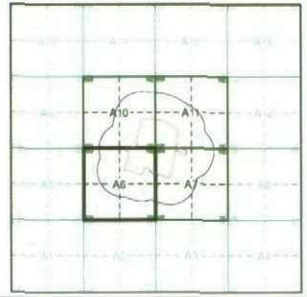
445800

446200



- General**
- Specified Site
 - Specified Buffer(s)
 - X Bearing Reference Point
 - Map ID
 - Several of Type at Location
 - Piton
 - Overhead Transmission Line
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice (Location)
 - ◆ 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**
- ▼ BOG Recorded Landfill Site (Location)
 - BOG Recorded Landfill Site
 - SA Historic Landfill (Buffered Point)
 - SA Historic Landfill (Polygon)
 - ▲ Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Location)
 - Licensed Waste Management Facility (Landfill Boundary)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Registered Landfill Site
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Plot Buffer to 100m)
 - Registered Landfill Site (Plot Buffer to 150m)
 - 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
 - ◆ NHHS Site
 - ◆ Planning Hazardous Substance Consent
 - ◆ Planning Hazardous Substance Enforcement
- Geological**
- ▼ BOG Recorded Mineral Site
- Industrial Land Use**
- ★ Contemporary Trade Directory Entry
 - ★ Fuel Station Entry

Site Sensitivity Map - Segment A6



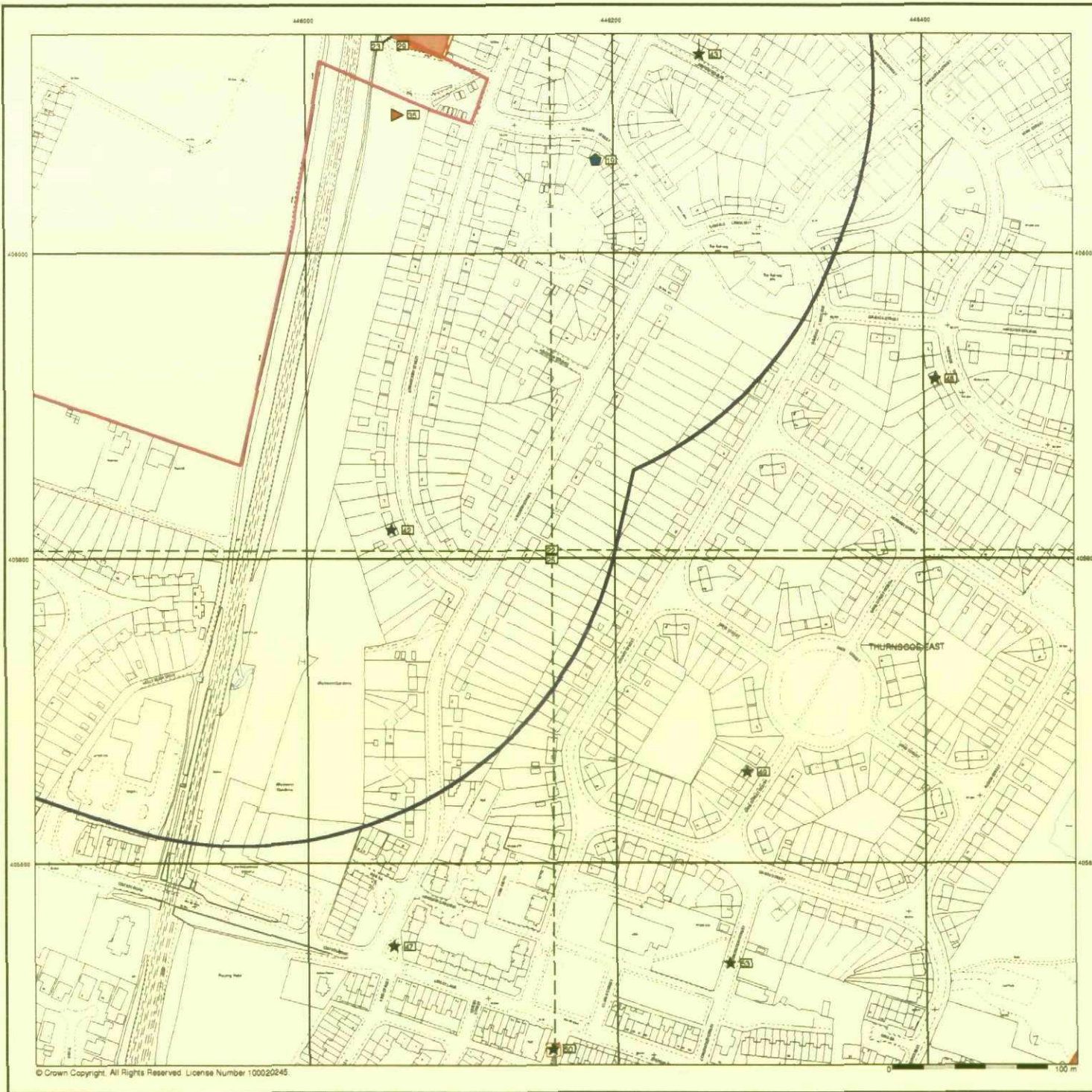
Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Plot Buffer (m): 250

Site Details
 The Reema Estate, Thurnscoe, Rotherham, South Yorkshire

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General

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

Agency and Hydrological

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

Waste

- ▼ BOS Recorded Landfill Site (Location)
- BOS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Buffered Point)
- ▲ 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 (Free Buffer to 100m)
- Registered Landfill Site (Free Buffer to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

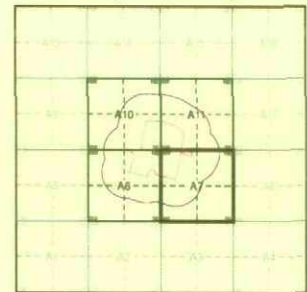
Geological

- ▼ BOS Recorded Mineral Site

Industrial Land Use

- ★ Contemporary Trade Directory Entry
- ★ Fuel Station Entry
- ◆ COMAH Site
- ◆ Explosive Site
- ◆ NHHS Site
- ◆ Planning Hazardous Substance Consent
- ◆ Planning Hazardous Substance Enforcement

Site Sensitivity Map - Segment A7



Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Plot Buffer (m): 250

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire

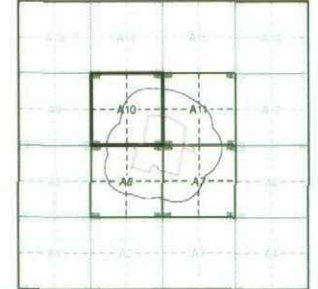


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- General**
- Specified Site
 - Specified Buffer(s)
 - X Bearing Reference Point
 - Map ID
 - Several of Type at Location
 - Piton
 - Overhead Transmission Line
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - ◆ Discharge Consent
 - ▲ Enforcement or Prohibition Notice
 - ▲ Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - ▲ Local Authority Pollution Prevention and Control
 - ▲ Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - ▼ Prosecution Relating to Authorized 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**
- ▼ BOS Recorded Landfill Site (Location)
 - BOS Recorded Landfill Site
 - EA Historic Landfill (Katherine Ave)
 - EA Historic Landfill (Ryegate)
 - ▲ 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 (Pits buffered to 100m)
 - Registered Landfill Site (Pits buffered to 200m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Geological**
- ▼ BOS Recorded Mineral Site
- Industrial Land Use**
- ★ Contemporary Trade Directory Entry
 - ★ Fuel Station Entry
- Hazardous Substances**
- ◆ COMAH Site
 - ◆ Explosive Site
 - ◆ NHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement

Site Sensitivity Map - Segment A10



Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Plot Buffer (m): 250

Site Details
 The Reema Estate, Thurnscoe, Rotherham, South Yorkshire

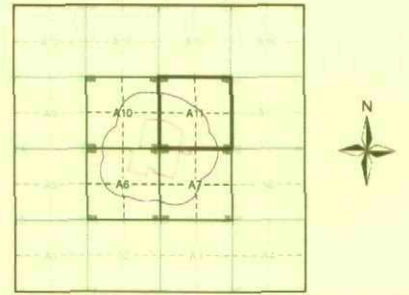
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- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
 - Pylon
 - Overhead Transmission Line
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Controlled Waters
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - River Quality Sampling Point
 - Substituted Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Waste**
- BOS Recorded Landfill Site (Location)
 - BOS Recorded Landfill Site
 - EA Historic Landfill (Buffered Post)
 - EA Historic Landfill (Region)
 - 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 (Post Buffered to 100m)
 - Registered Landfill Site (Post 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
 - HAHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- Geological**
- BOS Recorded Mineral Site
- Industrial Land Use**
- Contemporary Trade Directory Entry
 - Fuel Station Entry

Site Sensitivity Map - Segment A11



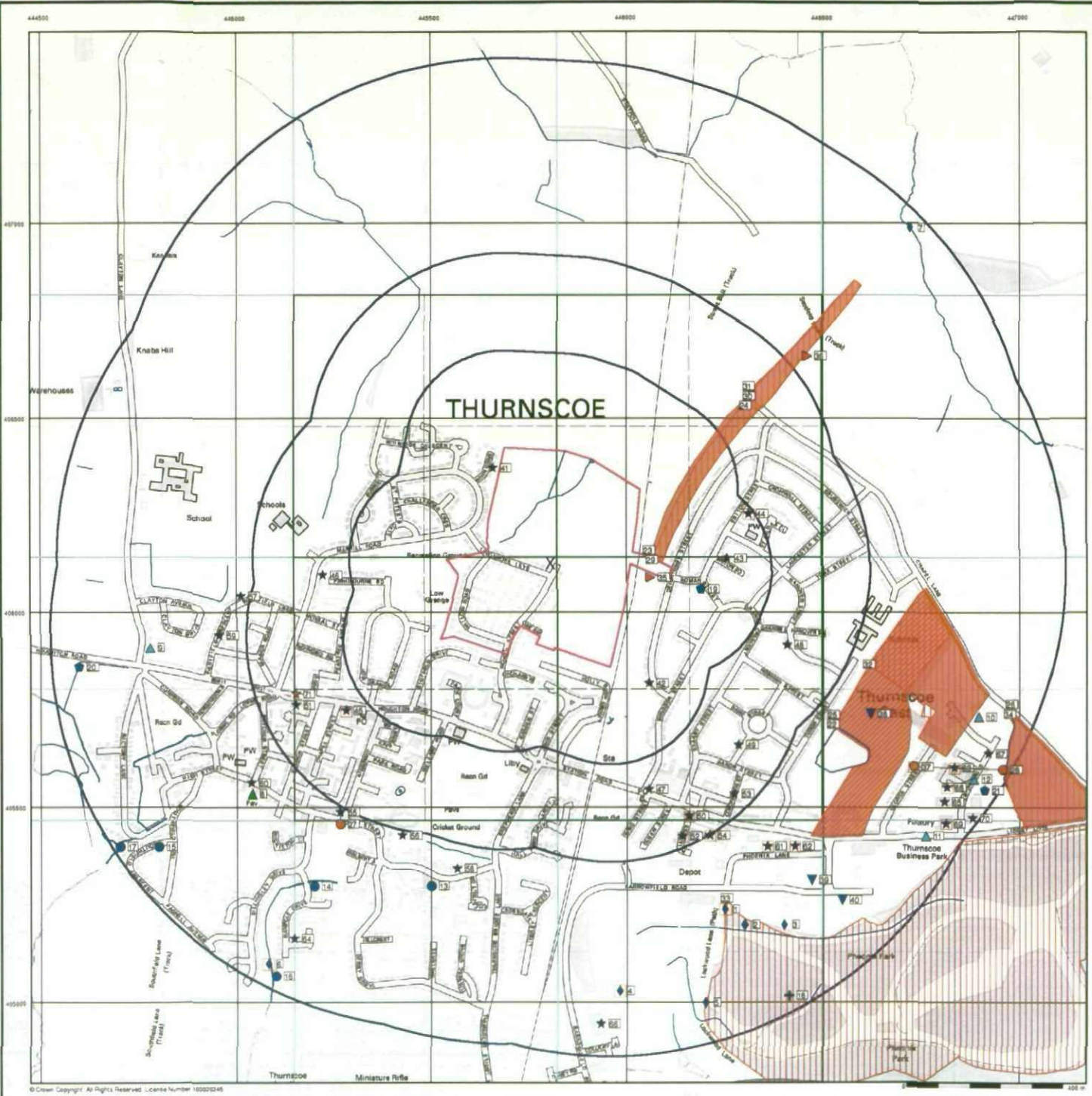
Order Details

Order Number: 21677106_1_1
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 Plot Buffer (m): 250

Site Details
 The Reema Estate, Thurnscoe, Rotherham, South Yorkshire

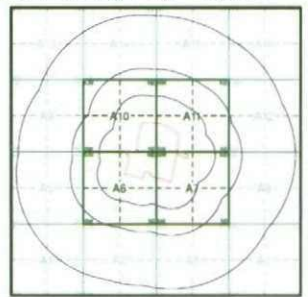
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- General**
- Specified Site
 - Specified Buffer(s)
 - X Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice (Location)
 - ◆ 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 Authorized 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 (Burial Pit)
 - EA Historic Landfill (Meyn)
 - ▲ Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Location)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Registered Landfill Site
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Five Buffered to 100m)
 - Registered Landfill Site (Five Buffered to 200m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Hazardous Substances**
- ◆ COMAH Site
 - ◆ Explosive Site
 - ◆ NREIS Site
 - ◆ Planning Hazardous Substance Consent
 - ◆ Planning Hazardous Substance Enforcement
- Geological**
- ▼ BGS Recorded Mineral Site
- Industrial Land Use**
- ★ Contemporary Trade Directory Entry
 - ★ Fuel Station Entry

Site Sensitivity Map - Slice A



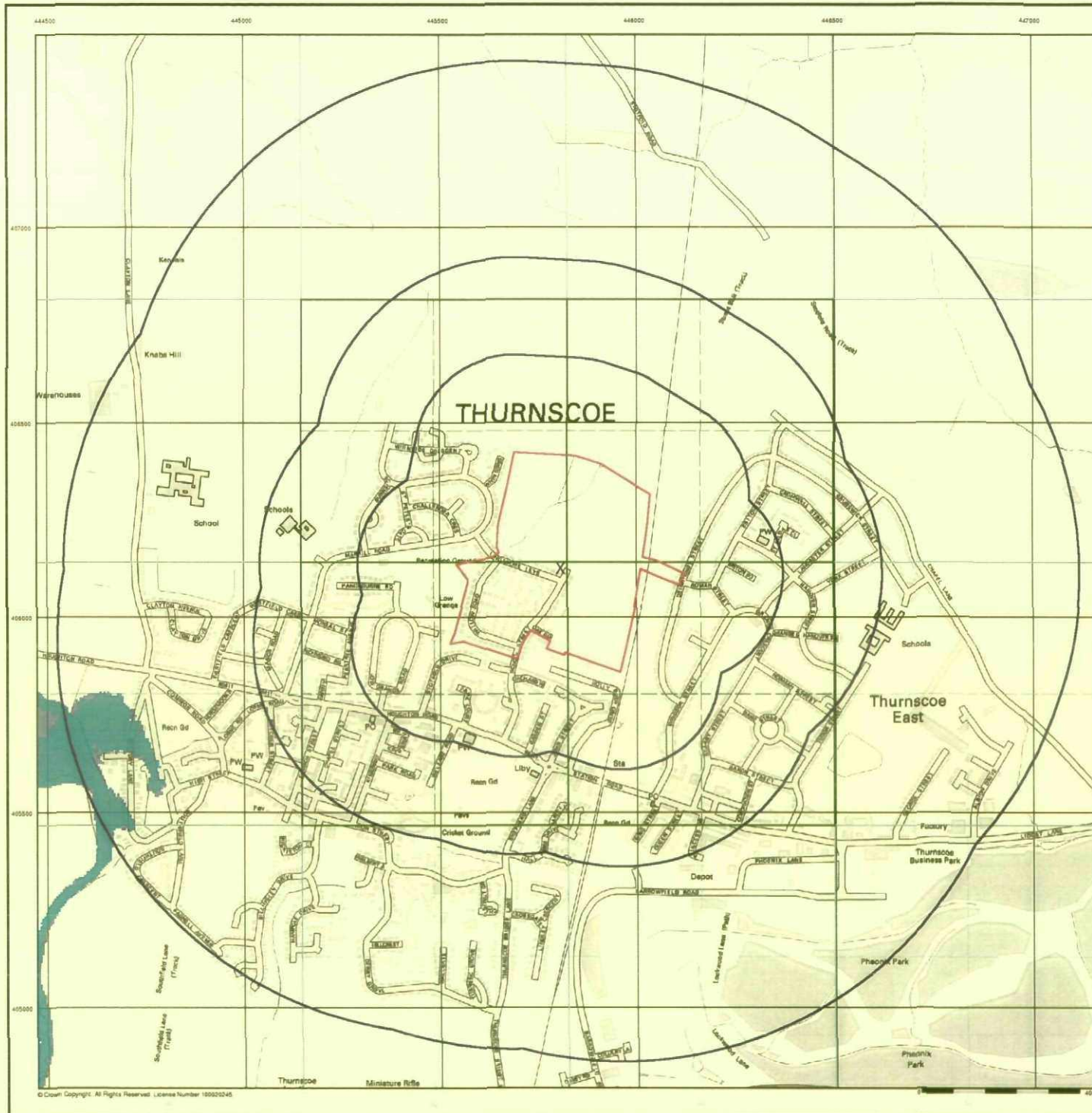
Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 1000

Site Details
 The Reema Estate, Thurnscoe, Rotherham, South Yorkshire

LANDMARK
 Information Group

Tel: 0870 850 6670
 Fax: 0870 850 6671
 Web: www.envirocheck.co.uk



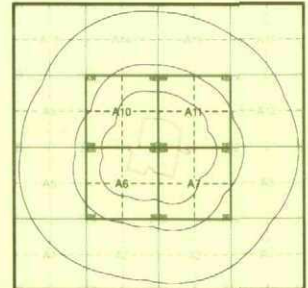
General

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

Agency and Hydrological (Flood)

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

Flood Map - Slice A



Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 1000

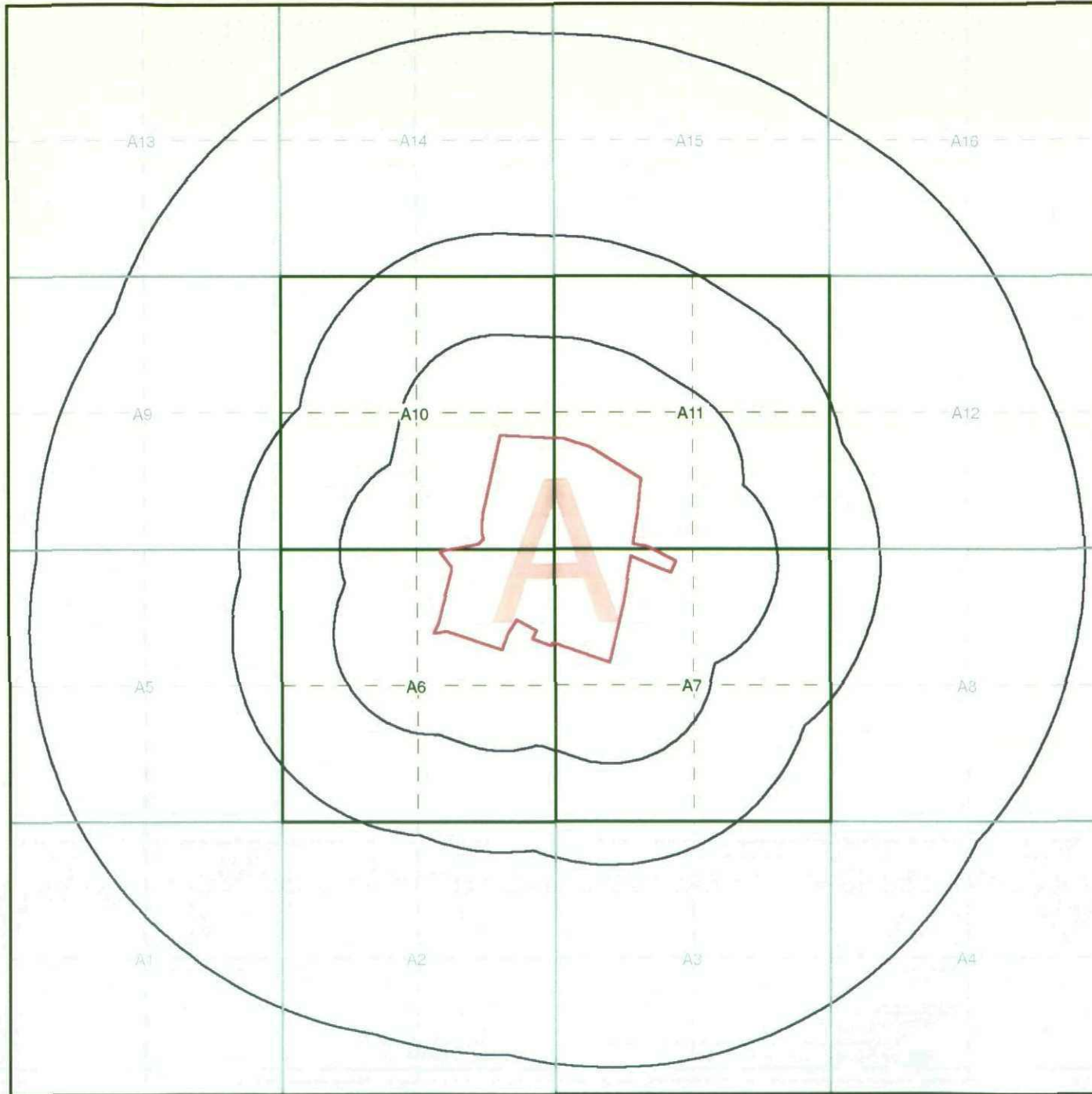
Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



Tel: 0870 850 6670
 Fax: 0870 850 6671
 Web: www.envisiocheck.co.uk

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Index Map

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

Slice

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

Segment

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

Quadrant

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

A selection of organisations who provide data within this report:



Envirocheck reports are compiled from 136 different sources of data.

Client Details

Mr A Spooner, Abatech International, 4 Park Sq, Thorncliffe Park Est, Newton Chambers Road, Chapeltown, Sheffield, S35 2PH

Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406140
 Site Area (Ha): 19.94
 Search Buffer (m): 1000

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



Tel: 0870 850 6670
 Fax: 0870 850 6671
 Web: www.envirocheck.co.uk

LANDMARK TERMS AND CONDITIONS

Version 6 03 10 May 2007

Definitions

"Authorized Reseller" means an agent or reseller of Services and shall remain owned by either Landmark or our Suppliers and nothing in these Terms purports to transfer, assign or grant any rights to you in respect of the Intellectual Property Rights.

"Content" means any data, computing and information services and software and other content and documentation or support materials and updates included in and/or supplied by through the Reports or Services or in any other way by Landmark and shall include Landmark developed and Third Party Content.

"First Purchaser" means the first person, or legal entity to purchase the Property Site following provision of a Report. "First Purchaser's Lender" means the funding provider for the First Purchaser.

"Information Pack" means a pack compiled by or on behalf of the owner or prospective buyer of the Property Site, designed to aid the marketing or purchase of the Property Site and containing information provided by or on behalf of the owner or prospective buyer of the Property Site.

"Intellectual Property Rights" means copyright, patent, design right (registered or unregistered), service or trade mark (registered or unregistered), database right or other data right, moral right or know how or any other intellectual property right. "Order" means the request for Services from Landmark by You.

"Property Site" means a land site on which Landmark provides its Services. References to "We", "Us" and "Our" are references to Landmark Information Group Limited ("Landmark"), whose registered office is 7 Abbey Court, Eagle Way, Exeter, EX2 7HY. Where you are not ordering the Services directly from Landmark, but from an Authorized Reseller, references to "Landmark" or "We", "Us" and "Our" shall be construed so as to mean either Landmark and/or the Authorized Reseller as the context shall indicate.

References to "You" or "yourself" refer to the contracting party who accesses the Website or places an Order with Landmark. "Report" includes any information that Landmark supplies to you including all reports, services, datasets, software or information contained in them.

"Services" means the provision of any service by Landmark pursuant to these Terms, including without limitation any Report. "Landmark Fees" means any charges levied by Landmark for Services provided to You.

"Suppliers" means any organisation who provides data or information of any form to Landmark. "Terms" means these Terms & Conditions. "Third Party Content" means the services, software, information and other content or functionality provided by third parties and linked to or contained in the Services. "Website" means websites hosted by Landmark and includes the Content and any report, service, document, data set, software or information contained therein derived there from or thereby.

1. Terms & Conditions
e. These Terms govern the relationship between You and Landmark whether You are an unregistered visitor to the Website or are purchasing Services. Where these Terms have been accepted by You, and You agree to be bound by these Terms when you place any Order, or pay for any Services provided.

b. If the person communicating with Landmark is an Authorized Reseller, they must ensure that You agree to these Terms.
c. The headings in these Terms are for convenience only and shall not affect the meaning or interpretation of any part of these Terms.
d. Landmark may modify these Terms, and may discontinue or revise any or all other aspects of the Services at its sole discretion, with immediate effect and without prior notice, including without limitation changing the Services available at any given time. Any amendment or variation to these Terms shall be posted on our Website. Continued use of the Services by You shall be deemed an acceptance by You to be bound by any such amendments to the Terms.

e. These Terms together with the price and delivery details set out on our Website, Landmark's Privacy Policy and Your Order comprise the whole agreement relating to the supply of Services to You by Landmark. No prior statement, agreement, promotional material or statements whether written or oral made by any sales or other person or representative on our behalf should be understood as a variation of these Terms. Save for fraud or misrepresentation, Landmark shall have no liability for any such representation being untrue or misleading.

f. These Terms shall prevail as all terms to the exclusion of all other terms and conditions including any other conditions which you may purport to apply even if such other provisions are submitted in a later document or purport to exclude or override these Terms and neither the course of conduct between parties nor trade practice shall act to modify these Terms.

2. Services
a. Landmark will use reasonable care and skill in providing the Services to You, however, the Services are provided on the express basis that the information and data supplied in the Services are derived from third party sources and Landmark does not warrant the accuracy or completeness of such information or data. Such information is derived solely from those sources specifically cited in the Services and Landmark does not claim that these sources represent an exhaustive or comprehensive list of all sources that might be consulted.

3. Intellectual Property
a. You acknowledge that all Intellectual Property Rights in the Services are and shall remain owned by either Landmark or our Suppliers and nothing in these Terms purports to transfer, assign or grant any rights to you in respect of the Intellectual Property Rights.
b. Subject always to these Terms you may, without further charge, make the Reports or Services available to the owner of the Property at the date of the Report.
i. any person who purchases the whole of the Property Site,
ii. any person who provides funding secured on the whole of the Property Site,
iii. any person for whom You act in a professional or commercial capacity,
iv. any person who acts for You in a professional or commercial capacity, and
v. prospective buyers of the Property Site as part of an Information Pack but for the avoidance of doubt, Landmark shall have no liability to such prospective buyer unless the prospective buyer subsequently purchases the Property Site, and the prospective for actual buyer shall not be entitled to make the Service available to any other third party.

4. Changes
a. All parties given access to the Services agree that they will treat as strictly private and confidential the Services and all information which they obtain from the Services and shall restrict any disclosure to employees or professional advisers who are essential to the conduct of their internal business. The requirement in this clause to treat the Services as confidential shall include a requirement to maintain adequate security measures to safeguard the Services from unauthorised access, including:
i. Each recipient of the Services agrees that they will cause its employees, agents or contractors who may from time to time have access to the Services to agree it will not, except as permitted herein or by separate agreement with Landmark;
ii. effect or attempt to effect any modification, merger or takeover of the Service; nor permit any other person to do so or
iii. copy, use, market, re-sell, distribute, merge, alter, add to or carry out any redistribution, reproduction, translation, publication, reduction to any electronic medium or machine readable form or commercially exploit or in any other way deal with or utilise or (except as expressly permitted by applicable law) reverse engineer, decompile, disassemble the Services. Content or Website, or
iv. remove, alter or in any way change any trademarks or proprietary marking in any element of the Services and you shall acknowledge the ownership of the Content, wherever such Content is stored, on any computer, server, own documents, reports, systems or services whether or not these are supplied to any third party.
v. create any product which is derived directly or indirectly from the data contained in the Services.

5. Mapping
a. The mapping contained in any Service is protected by Crown Copyright and must not be used for any purpose outside the context of the Services or as specifically provided by these Terms.
b. You are permitted to make five copies of any Report, but are not authorised to re-sell the Report, any part thereof or any copy thereof unless you are an Authorized Reseller. Further copies may not be made in whole or in part without the prior written permission of Landmark who shall be entitled to make a charge for such additional copy.

6. VAT
a. VAT at the prevailing rate shall be payable in addition to the Landmark Fees. You shall pay any other applicable indirect taxes related to Your use of the Services.
b. An individual or a monthly invoice showing all Orders created by You will be generated subject to these Terms. You will pay the Landmark Fees at the rates set out in Landmark's or its Authorized Reseller's invoice. The Landmark Fees are payable in full within 30 days without deduction, counterclaim or set off. You acknowledge that this is the essence with respect to the payment of such invoices. Landmark reserves the right to amend the Landmark Fees from time to time and the Services will be charged at the Landmark Fee applicable at the date on which the Service is ordered.

7. Interest
a. We may charge interest on late payments at a rate equal to 3% per annum above the base lending rate of National Westminster Bank plc.
b. Landmark or its Authorized Reseller shall not be obliged to invoice any party other than You for the provision of Services, but where Landmark or its Authorized Reseller does so invoice any third party at Your request, and such invoice is not accepted or remains unpaid, Landmark or its Authorized Reseller shall have the option at any time to cancel such invoice and invoice You direct for such Services. Where Your order comprises a number of Services or severable elements within any one of more Services, any failure by Landmark or its Authorized Reseller to provide an element or elements of the Services

8. Warranties
a. We provide warranties and accept liability only to the extent stated in this clause 8 and clause 7.
b. Nothing in these Terms excludes either party's liability for death or personal injury caused by this party's negligence or recklessness, and the remainder of this clause 8 is subject to this provision and Your statutory rights.
c. As most of the information contained in the Services is provided to Landmark by others, Landmark cannot control its accuracy or completeness, nor is it within the scope of Landmark to check the accuracy or completeness of the ground. Accordingly, Landmark will only be liable to You for any loss or damage caused by its negligence or willful default and neither Landmark nor any person providing information contained in any Services shall in any other circumstances be liable for any inaccuracies, omissions or omissions in the Services nor shall Landmark have any liability if the Services are used otherwise than in accordance with these Terms.

9. Limitation of liability
a. Save as precluded by law, Landmark shall not be liable for any loss or damage, including loss of profits, loss of contracts, business or goodwill however arising from any problem, event, omission or default by Landmark.
b. In any event, and notwithstanding anything contained in these Terms, Landmark's liability in contract (but including negligence or breach of statutory duty) or otherwise (however arising by reason or in connection with this Contract (except in relation to death or personal injury) shall be limited to an aggregate amount not exceeding £1 million if the complaint is in relation to a Report on residential property and an aggregate amount not exceeding £1 million in respect of any other Report or Service purchased from Landmark.

10. Warranty
a. Landmark warrants that any defect, failure or omission relating to Services that is not notified to Landmark within six months of the date of the issue becoming apparent and in any event, within twelve years of the date of the Service.
b. You acknowledge that you shall have no claim or recourse against any Third Party Content supplier nor any of our other Suppliers. You will not in any way hold us responsible for any selection or retention of, or the acts or omissions of, Third Party Content suppliers or other Suppliers (including those with whom We have contracted to operate various aspects or parts of the Services) in connection with the Services (for the avoidance of doubt Landmark is not a Third Party Content supplier). Landmark does not promise that the supply of the Services will be uninterrupted or error free or provide any particular facilities or functions, or that the Content will always be complete, accurate, precise, free from defects of any kind, computer viruses, software locks or other similar code although Landmark will use reasonable efforts to correct any inaccuracies within a reasonable period of them becoming known to us.
c. Landmark's only obligation is to exercise reasonable skill and care in providing environmental property maps created by You will be generated subject to these Terms. You will pay the Landmark Fees at the rates set out in Landmark's or its Authorized Reseller's invoice. You hereby acknowledge that you are such a person.
d. No physical inspection of the Property Site reported on a Report on the Property Site shall be deemed to indicate or exclude actual fitness or unfitness of a Property Site for any particular purpose nor should it be used as a substitute for any physical inspection of the Property Site. Landmark recommends that you inspect and take other advice in relation to the Property Site and rely exclusively on the Services.
e. Landmark shall not be responsible for error or omission in the Services resulting from inadequacy or incompleteness of information or data, inadequate processing of information and data by this party, computer malfunction or corruption of data which arises in the course of conversion, geo-coding,

11. Processing by computer or electronic means
a. or in the course of transmission by telephone or other communication link, or printing.
b. Landmark will not be held liable in any way if a Report on residential property is used for commercial purposes or more than the one residential property for which it was ordered.
c. If you have not been prepared to meet Your or anyone else's individual requirements, that You assume the entire risk as to the suitability of the Services and waive any claim of detrimental reliance upon the same, and You confirm You are solely responsible for the selection or omission of any specific part of the Content.
d. Landmark offers no warranty for the performance of any linked internet service not operated by Landmark.
e. You will not be using the Services in a way which is likely to result in any liability to Landmark if there are no defects or failures. In the event that there is a material defect You will notify us in writing of such defect within seven days of its discovery.
f. Any support or assistance provided to You in connection with these Terms is at Your risk.
g. All liability for any insurance products purchased by You rests solely with the insurer. Landmark does not endorse any particular product or insurer and no information contained within the Services shall be deemed to imply otherwise. You acknowledge that if You Order any such insurance Landmark will deem such Your consent to forward a copy of the Report to the insurers. Where such policy is purchased, all liability remains with the insurers and You are solely responsible for ensuring that the insurance policy obtained is suitable for your needs and should seek independent advice. Landmark does not guarantee that an insurance policy will be available on a Property Site. All decisions with regard to the offer of insurance policies and any issues with regard to the description of the insured and Landmark's accepted liability in this regard. The provision of a Report does not constitute any indication by Landmark that insurance will be available on the property.
h. Content contained in Reports are provided to Landmark by third parties, and such third parties are solely liable for the opinion provided. For the avoidance of doubt, those parties providing assessments or professional opinions on Landmark products include RPS Plc & Woburn Associates Limited and any issues with regard to the provision of such opinion should be taken up with the relevant third party.
i. If Landmark provides You with any additional service obtained from a third party, including but not limited to any interpretation of results, risk assessment or environmental report or search carried out in relation to a Report on Your Property Site, Landmark will not be liable in any way for any information contained therein or any issue arising out of the provision of these additional services. Where such additional services are provided as an agent in these circumstances and the supply of these additional services will be governed by the terms and conditions of those Third Parties.
j. In any event no person may rely on a Service more than 12 months after the date of its issue. You acknowledge that if you wish to vary any limitation of liability as set out in these Terms, you must request such variation prior to ordering the Service. Landmark shall use its reasonable endeavours to agree such variation but shall not be obliged to do so.
k. Time shall not be of the essence with respect to the provision of the Services.
l. Ordnance Survey have undertaken a positional accuracy improvement programme which may result in discrepancies between the positions of features used in datasets in the Services and the updated Ordnance Survey mapping. Landmark and its Suppliers include all and any liability incurred as a result of the implementation of such positional accuracy improvement programme. Where Landmark provides its own risk assessment no connection with any Report, Landmark shall carry out such assessment with all reasonable skill and care but shall have no liability for any such risk assessment conclusion which is provided for information only, save where Landmark's concluded same conclusion, in which case the provisions of clause 6 shall apply. Notwithstanding the provision of any such risk assessment conclusion you should carefully examine the remainder of the Report and should not take or refrain from taking any action based solely on the basis of the risk assessment. For the avoidance of doubt, the provisions of this clause 6 apply solely to risk assessments conducted by Landmark, and the provision of any other risk assessment by a third party shall be governed by such third party's terms in accordance with the provisions of clause 6 above.

12. Contribution
a. Save where expressly provided, this clause 7 shall apply solely to Environmental Residential Reports (regardless of the result of such Reports). Nothing in this clause 7 shall operate to limit or restrict the provisions of clause 6.
b. Landmark are prepared to offer, at its sole discretion, and without any admission or inference of liability, a contribution towards the costs of any remediation works required under a Notice (as defined below) on the terms of this clause 7 ("the Contribution").
c. In the event that a Remediation Notice is served on the First Purchaser or First Purchaser's Lender of a Property Site under Part 8(A) of the Environmental Protection Act

13. Remediation
a. 1990 ("the Notice") Landmark will contribute to the cost of such works as either the First Purchaser or First Purchaser's Lender (but not both) are required to carry out under the Notice subject to the provisions of this clause 7 and on the following terms:
i. The Contribution that only apply to contamination or a pollution incident present or having occurred prior to the date of the Report.
ii. The Contribution shall only apply where the Property Site is a single residential dwelling house or a single residential flat within a block of flats for the avoidance of doubt, this obligation does not apply to any commercial premises, nor are any remediation works being developed or redeveloped whether for residential purposes or otherwise.
iii. The Contribution is strictly limited to the cost of works at the Property Site and all its other sites.
iv. The Contribution will not be paid in respect of any of the following:
- Radioactive contamination of whatsoever nature direct or indirectly caused by or contributed to or arising from existing radioisotopes or contamination by radioactivity from any nuclear fuel or from any nuclear waste or from the combustion of nuclear fuel or the radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component or nuclear material.
- Asbestos arising out of or related in any way to asbestos or asbestos-containing materials on or in structures or services serving the structures.
- Naturally occurring materials arising from the presence or removal of naturally occurring materials except in concentrations which are in excess of their natural concentration.
- Intentional non-compliance arising from the intentional disregard of or knowing violation or deliberate non-compliance with any rule, regulation, administrative order or by statute, regulation, administrative complaint, notice of violation, or notice letter of any Regulatory Authority.
v. Provisions contained in Reports are provided to Landmark by third parties, and such third parties are solely liable for the opinion provided. For the avoidance of doubt, those parties providing assessments or professional opinions on Landmark products include RPS Plc & Woburn Associates Limited and any issues with regard to the provision of such opinion should be taken up with the relevant third party.
vi. If Landmark provides You with any additional service obtained from a third party, including but not limited to any interpretation of results, risk assessment or environmental report or search carried out in relation to a Report on Your Property Site, Landmark will not be liable in any way for any information contained therein or any issue arising out of the provision of these additional services. Where such additional services are provided as an agent in these circumstances and the supply of these additional services will be governed by the terms and conditions of those Third Parties.
vii. In any event no person may rely on a Service more than 12 months after the date of its issue. You acknowledge that if you wish to vary any limitation of liability as set out in these Terms, you must request such variation prior to ordering the Service. Landmark shall use its reasonable endeavours to agree such variation but shall not be obliged to do so.
viii. Time shall not be of the essence with respect to the provision of the Services.
ix. Ordnance Survey have undertaken a positional accuracy improvement programme which may result in discrepancies between the positions of features used in datasets in the Services and the updated Ordnance Survey mapping. Landmark and its Suppliers include all and any liability incurred as a result of the implementation of such positional accuracy improvement programme. Where Landmark provides its own risk assessment no connection with any Report, Landmark shall carry out such assessment with all reasonable skill and care but shall have no liability for any such risk assessment conclusion which is provided for information only, save where Landmark's concluded same conclusion, in which case the provisions of clause 6 shall apply. Notwithstanding the provision of any such risk assessment conclusion you should carefully examine the remainder of the Report and should not take or refrain from taking any action based solely on the basis of the risk assessment. For the avoidance of doubt, the provisions of this clause 6 apply solely to risk assessments conducted by Landmark, and the provision of any other risk assessment by a third party shall be governed by such third party's terms in accordance with the provisions of clause 6 above.

14. Contribution
a. Save where expressly provided, this clause 7 shall apply solely to Environmental Residential Reports (regardless of the result of such Reports). Nothing in this clause 7 shall operate to limit or restrict the provisions of clause 6.
b. Landmark are prepared to offer, at its sole discretion, and without any admission or inference of liability, a contribution towards the costs of any remediation works required under a Notice (as defined below) on the terms of this clause 7 ("the Contribution").
c. In the event that a Remediation Notice is served on the First Purchaser or First Purchaser's Lender of a Property Site under Part 8(A) of the Environmental Protection Act

15. Remediation
a. 1990 ("the Notice") Landmark will contribute to the cost of such works as either the First Purchaser or First Purchaser's Lender (but not both) are required to carry out under the Notice subject to the provisions of this clause 7 and on the following terms:
i. The Contribution that only apply to contamination or a pollution incident present or having occurred prior to the date of the Report.
ii. The Contribution shall only apply where the Property Site is a single residential dwelling house or a single residential flat within a block of flats for the avoidance of doubt, this obligation does not apply to any commercial premises, nor are any remediation works being developed or redeveloped whether for residential purposes or otherwise.
iii. The Contribution is strictly limited to the cost of works at the Property Site and all its other sites.
iv. The Contribution will not be paid in respect of any of the following:
- Radioactive contamination of whatsoever nature direct or indirectly caused by or contributed to or arising from existing radioisotopes or contamination by radioactivity from any nuclear fuel or from any nuclear waste or from the combustion of nuclear fuel or the radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component or nuclear material.
- Asbestos arising out of or related in any way to asbestos or asbestos-containing materials on or in structures or services serving the structures.
- Naturally occurring materials arising from the presence or removal of naturally occurring materials except in concentrations which are in excess of their natural concentration.
- Intentional non-compliance arising from the intentional disregard of or knowing violation or deliberate non-compliance with any rule, regulation, administrative order or by statute, regulation, administrative complaint, notice of violation, or notice letter of any Regulatory Authority.
v. Provisions contained in Reports are provided to Landmark by third parties, and such third parties are solely liable for the opinion provided. For the avoidance of doubt, those parties providing assessments or professional opinions on Landmark products include RPS Plc & Woburn Associates Limited and any issues with regard to the provision of such opinion should be taken up with the relevant third party.
vi. If Landmark provides You with any additional service obtained from a third party, including but not limited to any interpretation of results, risk assessment or environmental report or search carried out in relation to a Report on Your Property Site, Landmark will not be liable in any way for any information contained therein or any issue arising out of the provision of these additional services. Where such additional services are provided as an agent in these circumstances and the supply of these additional services will be governed by the terms and conditions of those Third Parties.
vii. In any event no person may rely on a Service more than 12 months after the date of its issue. You acknowledge that if you wish to vary any limitation of liability as set out in these Terms, you must request such variation prior to ordering the Service. Landmark shall use its reasonable endeavours to agree such variation but shall not be obliged to do so.
viii. Time shall not be of the essence with respect to the provision of the Services.
ix. Ordnance Survey have undertaken a positional accuracy improvement programme which may result in discrepancies between the positions of features used in datasets in the Services and the updated Ordnance Survey mapping. Landmark and its Suppliers include all and any liability incurred as a result of the implementation of such positional accuracy improvement programme. Where Landmark provides its own risk assessment no connection with any Report, Landmark shall carry out such assessment with all reasonable skill and care but shall have no liability for any such risk assessment conclusion which is provided for information only, save where Landmark's concluded same conclusion, in which case the provisions of clause 6 shall apply. Notwithstanding the provision of any such risk assessment conclusion you should carefully examine the remainder of the Report and should not take or refrain from taking any action based solely on the basis of the risk assessment. For the avoidance of doubt, the provisions of this clause 6 apply solely to risk assessments conducted by Landmark, and the provision of any other risk assessment by a third party shall be governed by such third party's terms in accordance with the provisions of clause 6 above.

16. Contribution
a. Save where expressly provided, this clause 7 shall apply solely to Environmental Residential Reports (regardless of the result of such Reports). Nothing in this clause 7 shall operate to limit or restrict the provisions of clause 6.
b. Landmark are prepared to offer, at its sole discretion, and without any admission or inference of liability, a contribution towards the costs of any remediation works required under a Notice (as defined below) on the terms of this clause 7 ("the Contribution").
c. In the event that a Remediation Notice is served on the First Purchaser or First Purchaser's Lender of a Property Site under Part 8(A) of the Environmental Protection Act

17. Remediation
a. 1990 ("the Notice") Landmark will contribute to the cost of such works as either the First Purchaser or First Purchaser's Lender (but not both) are required to carry out under the Notice subject to the provisions of this clause 7 and on the following terms:
i. The Contribution that only apply to contamination or a pollution incident present or having occurred prior to the date of the Report.
ii. The Contribution shall only apply where the Property Site is a single residential dwelling house or a single residential flat within a block of flats for the avoidance of doubt, this obligation does not apply to any commercial premises, nor are any remediation works being developed or redeveloped whether for residential purposes or otherwise.
iii. The Contribution is strictly limited to the cost of works at the Property Site and all its other sites.
iv. The Contribution will not be paid in respect of any of the following:
- Radioactive contamination of whatsoever nature direct or indirectly caused by or contributed to or arising from existing radioisotopes or contamination by radioactivity from any nuclear fuel or from any nuclear waste or from the combustion of nuclear fuel or the radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component or nuclear material.
- Asbestos arising out of or related in any way to asbestos or asbestos-containing materials on or in structures or services serving the structures.
- Naturally occurring materials arising from the presence or removal of naturally occurring materials except in concentrations which are in excess of their natural concentration.
- Intentional non-compliance arising from the intentional disregard of or knowing violation or deliberate non-compliance with any rule, regulation, administrative order or by statute, regulation, administrative complaint, notice of violation, or notice letter of any Regulatory Authority.
v. Provisions contained in Reports are provided to Landmark by third parties, and such third parties are solely liable for the opinion provided. For the avoidance of doubt, those parties providing assessments or professional opinions on Landmark products include RPS Plc & Woburn Associates Limited and any issues with regard to the provision of such opinion should be taken up with the relevant third party.
vi. If Landmark provides You with any additional service obtained from a third party, including but not limited to any interpretation of results, risk assessment or environmental report or search carried out in relation to a Report on Your Property Site, Landmark will not be liable in any way for any information contained therein or any issue arising out of the provision of these additional services. Where such additional services are provided as an agent in these circumstances and the supply of these additional services will be governed by the terms and conditions of those Third Parties.
vii. In any event no person may rely on a Service more than 12 months after the date of its issue. You acknowledge that if you wish to vary any limitation of liability as set out in these Terms, you must request such variation prior to ordering the Service. Landmark shall use its reasonable endeavours to agree such variation but shall not be obliged to do so.
viii. Time shall not be of the essence with respect to the provision of the Services.
ix. Ordnance Survey have undertaken a positional accuracy improvement programme which may result in discrepancies between the positions of features used in datasets in the Services and the updated Ordnance Survey mapping. Landmark and its Suppliers include all and any liability incurred as a result of the implementation of such positional accuracy improvement programme. Where Landmark provides its own risk assessment no connection with any Report, Landmark shall carry out such assessment with all reasonable skill and care but shall have no liability for any such risk assessment conclusion which is provided for information only, save where Landmark's concluded same conclusion, in which case the provisions of clause 6 shall apply. Notwithstanding the provision of any such risk assessment conclusion you should carefully examine the remainder of the Report and should not take or refrain from taking any action based solely on the basis of the risk assessment. For the avoidance of doubt, the provisions of this clause 6 apply solely to risk assessments conducted by Landmark, and the provision of any other risk assessment by a third party shall be governed by such third party's terms in accordance with the provisions of clause 6 above.

18. Contribution
a. Save where expressly provided, this clause 7 shall apply solely to Environmental Residential Reports (regardless of the result of such Reports). Nothing in this clause 7 shall operate to limit or restrict the provisions of clause 6.
b. Landmark are prepared to offer, at its sole discretion, and without any admission or inference of liability, a contribution towards the costs of any remediation works required under a Notice (as defined below) on the terms of this clause 7 ("the Contribution").
c. In the event that a Remediation Notice is served on the First Purchaser or First Purchaser's Lender of a Property Site under Part 8(A) of the Environmental Protection Act

19. Remediation
a. 1990 ("the Notice") Landmark will contribute to the cost of such works as either the First Purchaser or First Purchaser's Lender (but not both) are required to carry out under the Notice subject to the provisions of this clause 7 and on the following terms:
i. The Contribution that only apply to contamination or a pollution incident present or having occurred prior to the date of the Report.
ii. The Contribution shall only apply where the Property Site is a single residential dwelling house or a single residential flat within a block of flats for the avoidance of doubt, this obligation does not apply to any commercial premises, nor are any remediation works being developed or redeveloped whether for residential purposes or otherwise.
iii. The Contribution is strictly limited to the cost of works at the Property Site and all its other sites.
iv. The Contribution will not be paid in respect of any of the following:
- Radioactive contamination of whatsoever nature direct or indirectly caused by or contributed to or arising from existing radioisotopes or contamination by radioactivity from any nuclear fuel or from any nuclear waste or from the combustion of nuclear fuel or the radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component or nuclear material.
- Asbestos arising out of or related in any way to asbestos or asbestos-containing materials on or in structures or services serving the structures.
- Naturally occurring materials arising from the presence or removal of naturally occurring materials except in concentrations which are in excess of their natural concentration.
- Intentional non-compliance arising from the intentional disregard of or knowing violation or deliberate non-compliance with any rule, regulation, administrative order or by statute, regulation, administrative complaint, notice of violation, or notice letter of any Regulatory Authority.
v. Provisions contained in Reports are provided to Landmark by third parties, and such third parties are solely liable for the opinion provided. For the avoidance of doubt, those parties providing assessments or professional opinions on Landmark products include RPS Plc & Woburn Associates Limited and any issues with regard to the provision of such opinion should be taken up with the relevant third party.
vi. If Landmark provides You with any additional service obtained from a third party, including but not limited to any interpretation of results, risk assessment or environmental report or search carried out in relation to a Report on Your Property Site, Landmark will not be liable in any way for any information contained therein or any issue arising out of the provision of these additional services. Where such additional services are provided as an agent in these circumstances and the supply of these additional services will be governed by the terms and conditions of those Third Parties.
vii. In any event no person may rely on a Service more than 12 months after the date of its issue. You acknowledge that if you wish to vary any limitation of liability as set out in these Terms, you must request such variation prior to ordering the Service. Landmark shall use its reasonable endeavours to agree such variation but shall not be obliged to do so.
viii. Time shall not be of the essence with respect to the provision of the Services.
ix. Ordnance Survey have undertaken a positional accuracy improvement programme which may result in discrepancies between the positions of features used in datasets in the Services and the updated Ordnance Survey mapping. Landmark and its Suppliers include all and any liability incurred as a result of the implementation of such positional accuracy improvement programme. Where Landmark provides its own risk assessment no connection with any Report, Landmark shall carry out such assessment with all reasonable skill and care but shall have no liability for any such risk assessment conclusion which is provided for information only, save where Landmark's concluded same conclusion, in which case the provisions of clause 6 shall apply. Notwithstanding the provision of any such risk assessment conclusion you should carefully examine the remainder of the Report and should not take or refrain from taking any action based solely on the basis of the risk assessment. For the avoidance of doubt, the provisions of this clause 6 apply solely to risk assessments conducted by Landmark, and the provision of any other risk assessment by a third party shall be governed by such third party's terms in accordance with the provisions of clause 6 above.

20. Contribution
a. Save where expressly provided, this clause 7 shall apply solely to Environmental Residential Reports (regardless of the result of such Reports). Nothing in this clause 7 shall operate to limit or restrict the provisions of clause 6.
b. Landmark are prepared to offer, at its sole discretion, and without any admission or inference of liability, a contribution towards the costs of any remediation works required under a Notice (as defined below) on the terms of this clause 7 ("the Contribution").
c. In the event that a Remediation Notice is served on the First Purchaser or First Purchaser's Lender of a Property Site under Part 8(A) of the Environmental Protection Act

21. Remediation
a. 1990 ("the Notice") Landmark will contribute to the cost of such works as either the First Purchaser or First Purchaser's Lender (but not both) are required to carry out under the Notice subject to the provisions of this clause 7 and on the following terms:
i. The Contribution that only apply to contamination or a pollution incident present or having occurred prior to the date of the Report.
ii. The Contribution shall only apply where the Property Site is a single residential dwelling house or a single residential flat within a block of flats for the avoidance of doubt, this obligation does not apply to any commercial premises, nor are any remediation works being developed or redeveloped whether for residential purposes or otherwise.
iii. The Contribution is strictly limited to the cost of works at the Property Site and all its other sites.
iv. The Contribution will not be paid in respect of any of the following:
- Radioactive contamination of whatsoever nature direct or indirectly caused by or contributed to or arising from existing radioisotopes or contamination by radioactivity from any nuclear fuel or from any nuclear waste or from the combustion of nuclear fuel or the radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component or nuclear material.
- Asbestos arising out of or related in any way to asbestos or asbestos-containing materials on or in structures or services serving the structures.
- Naturally occurring materials arising from the presence or removal of naturally occurring materials except in concentrations which are in excess of their natural concentration.
- Intentional non-compliance arising from the intentional disregard of or knowing violation or deliberate non-compliance with any rule, regulation, administrative order or by statute, regulation, administrative complaint, notice of violation, or notice letter of any Regulatory Authority.
v. Provisions contained in Reports are provided to Landmark by third parties, and such third parties are solely liable for the opinion provided. For the avoidance of doubt, those parties providing assessments or professional opinions on Landmark products include RPS Plc & Woburn Associates Limited and any issues with regard to the provision of such opinion should be taken up with the relevant third party.
vi. If Landmark provides You with any additional service obtained from a third party, including but not limited to any interpretation of results, risk assessment or environmental report or search carried out in relation to a Report on Your Property Site, Landmark will not be liable in any way for any information contained therein or any issue arising out of the provision of these additional services. Where such additional services are provided as an agent in these circumstances and the supply of these additional services will be governed by the terms and conditions of those Third Parties.
vii. In any event no person may rely on a Service more than 12 months after the date of its issue. You acknowledge that if you wish to vary any limitation of liability as set out in these Terms, you must request such variation prior to ordering the Service. Landmark shall use its reasonable endeavours to agree such variation but shall not be obliged to do so.
viii. Time shall not be of the essence with respect to the provision of the Services.
ix. Ordnance Survey have undertaken a positional accuracy improvement programme which may result in discrepancies between the positions of features used in datasets in the Services and the updated Ordnance Survey mapping. Landmark and its Suppliers include all and any liability incurred as a result of the implementation of such positional accuracy improvement programme. Where Landmark provides its own risk assessment no connection with any Report, Landmark shall carry out such assessment with all reasonable skill and care but shall have no liability for any such risk assessment conclusion which is provided for information only, save where Landmark's concluded same conclusion, in which case the provisions of clause 6 shall apply. Notwithstanding the provision of any such risk assessment conclusion you should carefully examine the remainder of the Report and should not take or refrain from taking any action based solely on the basis of the risk assessment. For the avoidance of doubt, the provisions of this clause 6 apply solely to risk assessments conducted by Landmark, and the provision of any other risk assessment by a third party shall be governed by such third party's terms in accordance with the provisions of clause 6 above.

22. Contribution
a. Save where expressly provided, this clause 7 shall apply solely to Environmental Residential Reports (regardless of the result of such Reports). Nothing in this clause 7 shall operate to limit or restrict the provisions of clause 6.
b. Landmark are prepared to offer, at its sole discretion, and without any admission or inference of liability, a contribution towards the costs of any remediation works required under a Notice (as defined below) on the terms of this clause 7 ("the Contribution").
c. In the event that a Remediation Notice is served on the First Purchaser or First Purchaser's Lender of a Property Site under Part 8(A) of the Environmental Protection Act

23. Remediation
a. 1990 ("the Notice") Landmark will contribute to the cost of such works as either the First Purchaser or First Purchaser's Lender (but not both) are required to carry out under the Notice subject to the provisions of this clause 7 and on the following terms:
i. The Contribution that only apply to contamination or a pollution incident present or having occurred prior to the date of the Report.
ii. The Contribution shall only apply where the Property Site is a single residential dwelling house or a single residential flat within a block of flats for the avoidance of doubt, this obligation does not apply to any commercial premises, nor are any remediation works being developed or redeveloped whether for residential purposes or otherwise.
iii. The Contribution is strictly limited to the cost of works at the Property Site and all its other sites.
iv. The Contribution will not be paid in respect of any of the following:
- Radioactive contamination of whatsoever nature direct or indirectly caused by or contributed to or arising from existing radioisotopes or contamination by radioactivity from any nuclear fuel or from any nuclear waste or from the combustion of nuclear fuel or the radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component or nuclear material.
- Asbestos arising out of or related in any way to asbestos or asbestos-containing materials on or in structures or services serving the structures.
- Naturally occurring materials arising from the presence or removal of naturally occurring materials except in concentrations which are in excess of their natural concentration.
- Intentional non-compliance arising from the intentional disregard of or knowing violation or deliberate non-compliance with any rule, regulation, administrative order or by statute, regulation, administrative complaint, notice of violation, or notice letter of any Regulatory Authority.
v. Provisions contained in Reports are provided to Landmark by third parties, and such third parties are solely liable for the opinion provided. For the avoidance of doubt, those parties providing assessments or professional opinions on Landmark products include RPS Plc & Woburn Associates Limited and any issues with regard to the provision of such opinion should be taken up with the relevant third party.
vi. If Landmark provides You with any additional service obtained from a third party, including but not limited to any interpretation of results, risk assessment or environmental report or search carried out in relation to a Report on Your Property Site, Landmark will not be liable in any way for any information contained therein or any issue arising out of the provision of these additional services. Where such additional services are provided as an agent in these circumstances and the supply of these additional services will be governed by the terms and conditions of those Third Parties.
vii. In any event no person may rely on a Service more than 12 months after the date of its issue. You acknowledge that if you wish to vary any limitation of liability as set out in these Terms, you must request such variation prior to ordering the Service. Landmark shall use its reasonable endeavours to agree such variation but shall not be obliged to do so.
viii. Time shall not be of the essence with respect to the provision of the Services.
ix. Ordnance Survey have undertaken a positional accuracy improvement programme which may result in discrepancies between the positions of features used in datasets in the Services and the updated Ordnance Survey mapping. Landmark and its Suppliers include all and any liability incurred as a result of the implementation of such positional accuracy improvement programme. Where Landmark provides its own risk assessment no connection with any Report, Landmark shall carry out such assessment with all reasonable skill and care but shall have no liability for any such risk assessment conclusion which is provided for information only, save where Landmark's concluded same conclusion, in which case the provisions of clause 6 shall apply. Notwithstanding the provision of any such risk assessment conclusion you should carefully examine the remainder of the Report and should not take or refrain from taking any action based solely on the basis of the risk assessment. For the avoidance of doubt, the provisions of this clause 6 apply solely to risk assessments conducted by Landmark, and the provision of any other risk assessment by a third party shall be governed by such third party's terms in accordance with the provisions of clause 6 above.

24. Contribution
a. Save where expressly provided, this clause 7 shall apply solely to Environmental Residential Reports (regardless of the result of such Reports). Nothing in this clause 7 shall operate to limit or restrict the provisions of clause 6.
b. Landmark are prepared to offer, at its sole discretion, and without any admission or inference of liability, a contribution towards the costs of any remediation works required under a Notice (as defined below) on the terms of this clause 7 ("the Contribution").
c. In the event that a Remediation Notice is served on the First Purchaser or First Purchaser's Lender of a Property Site under Part 8(A) of the Environmental Protection Act

25. Remediation
a. 1990 ("the Notice") Landmark will contribute to the cost of such works as either the First Purchaser or First Purchaser's Lender (but not both) are required to carry out under the Notice subject to the provisions of this clause 7 and on the following terms:
i. The Contribution that only apply to contamination or a pollution incident present or having occurred prior to the date of the Report.
ii. The Contribution shall only apply where the Property Site is a single residential dwelling house or a single residential flat within a block of flats for the avoidance of doubt, this obligation does not apply to any commercial premises, nor are any remediation works being developed or redeveloped whether for residential purposes or otherwise.
iii. The Contribution is strictly limited to the cost of works at the Property Site and all its other sites.
iv. The Contribution will not be paid in respect of any of the following:
- Radioactive contamination of whatsoever nature direct or indirectly caused by or contributed to or arising from existing radioisotopes or contamination by radioactivity from any nuclear fuel or from any nuclear waste or from the combustion of nuclear fuel or the radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component or nuclear material.
- Asbestos arising out of or related in any way to asbestos or asbestos-containing materials on or in structures or services serving the structures.
- Naturally occurring materials arising from the presence or removal of naturally occurring materials except in concentrations which are in excess of their natural concentration.
- Intentional non-compliance arising from the intentional disregard of or knowing violation or deliberate non-compliance with any rule, regulation, administrative order or by statute, regulation, administrative complaint, notice of violation, or notice letter of any Regulatory Authority.
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vi. If Landmark provides You with any additional service obtained from a third party, including but not limited to any interpretation of results, risk assessment or environmental report or search carried out in relation to a Report on Your Property Site, Landmark will not be liable in any way for any information contained therein or any issue arising out of the provision of these additional services. Where such additional services are provided as an agent in these circumstances and the supply of these additional services will be governed by the terms and conditions of those Third Parties.
vii. In any event no person may rely on a Service more than 12 months after the date of its issue. You acknowledge that if you wish to vary any limitation of liability as set out in these Terms, you must request such variation prior to ordering the Service. Landmark shall use its reasonable endeavours to agree such variation but shall not be obliged to do so.
viii. Time shall not be of the essence with respect to the provision of the Services.
ix. Ordnance Survey have undertaken a positional accuracy improvement programme which may result in discrepancies between the positions of features used in datasets in the Services and the updated Ordnance Survey mapping. Landmark and its Suppliers include all and any liability incurred as a result of the implementation of such positional accuracy improvement programme. Where Landmark provides its own risk assessment no connection with any Report, Landmark shall carry out such assessment with all reasonable skill and care but shall have no liability for any such risk assessment conclusion which is provided for information only, save where Landmark's concluded same conclusion, in which case the provisions of clause 6 shall apply. Notwithstanding the provision of any such risk assessment conclusion you should carefully examine the remainder of the Report and should not take or refrain from taking any action based solely on the basis of the risk assessment. For the avoidance of doubt, the provisions of this clause 6 apply solely to risk assessments conducted by Landmark, and the provision of any other risk assessment by a third party shall be governed by such third party's terms in accordance with the provisions of clause 6 above.

26. Contribution
a. Save where expressly provided, this clause 7 shall apply solely to Environmental Residential Reports (regardless of the result of such Reports). Nothing in this clause

Historical Mapping Legends

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

Quarry (circular with radiating lines)
Gravel Pit (circular with concentric lines)
Sand Pit (circular with concentric lines)
Clay Pit (circular with concentric lines)
Shingle (circular with concentric lines)
Refuse Heap (circular with concentric lines)
Sloping Masonry (brick pattern)
Flat Rock (irregular shape with dots)
Marsh (wavy lines)
Reeds (tufted lines)
Osiers (tufted lines)
Rough Pasture (dotted lines)
Furze (tufted lines)
Wood (irregular shape with dots)
Mixed Wood (irregular shape with dots)
Brushwood (irregular shape with dots)
Orchard (irregular shape with dots)
Fir (irregular shape with dots)
Ford (irregular shape with dots)
Stepping Stones (irregular shape with dots)
Ferry (irregular shape with dots)
Waterfall (irregular shape with dots)
Lock (irregular shape with dots)
Trig. Station (triangle with '507')
Altitude at Trig. Station (triangle with '342')
Bench Mark (circle with 'B.M. 325.9')
Surface Level (circle with '342')
Arrow denotes flow of water (arrow)
Antiquities (site of) (circle with cross)
Cutting (irregular shape with dots)
Embankment (irregular shape with dots)
Railway crossing Road (crossing lines)
Level Crossing (crossing lines)
Road crossing Railway (crossing lines)
Railway crossing River or Canal (crossing lines)
Road over single stream (crossing lines)
Road over River or Canal (crossing lines)
County Boundary (Geographical) (dashed line)
County & Civil Parish Boundary (dotted line)
Administrative County & Civil Parish Boundary (dash-dot line)
County Borough Boundary (England) (dashed line with dots)
County Borough Boundary (Scotland) (dashed line with dots)
Boundary Post or Stone (circle with cross)
Police Call Box (circle with cross)
Bridle Road (circle with cross)
Pump (circle with cross)
Electricity Pylon (circle with cross)
Signal Post (circle with cross)
Foot Bridge (circle with cross)
Sluice (circle with cross)
Foot Path (circle with cross)
Spring (circle with cross)
Guide Post or Board (circle with cross)
Telephone Call Box (circle with cross)
Mile Stone (circle with cross)
Trough (circle with cross)
Mooring Post or Ring (circle with cross)
Well (circle with cross)

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 (circular with radiating lines)
Active Quarry, Chalk Pit or Clay Pit (circular with radiating lines)
Rock (irregular shape with dots)
Boulders (irregular shape with dots)
Cliff (irregular shape with dots)
Slopes (irregular shape with dots)
Roofed Building (brick pattern)
Glazed Roof Building (brick pattern)
Sloping Masonry (brick pattern)
Archway (irregular shape with dots)
Non-Coniferous Tree (surveyed) (circle with cross)
Coniferous Tree (surveyed) (circle with cross)
Non-Coniferous Trees (not surveyed) (circle with cross)
Coniferous Trees (not surveyed) (circle with cross)
Orchard Tree (circle with cross)
Scrub (circle with cross)
Bracken (circle with cross)
Coppice, Osier (circle with cross)
Reeds (circle with cross)
Marsh, Saltings (circle with cross)
Rough Grassland (circle with cross)
Heath (circle with cross)
Culvert (circle with cross)
Direction of water flow (arrow)
Bench Mark (circle with cross)
Antiquity (site of) (circle with cross)
Cave Entrance (circle with cross)
Triangulation Station (circle with cross)
Electricity Pylon (circle with cross)
Electricity Transmission Line (E.T.L.)
County Boundary (Geographical) (dashed line)
County & Civil Parish Boundary (dotted line)
Civil Parish Boundary (dash-dot line)
Admin. County or County Bor. Boundary (dashed line with dots)
London Borough Boundary (dashed line with dots)
Symbol marking point where boundary mereing changes (circle with cross)
Beer House (circle with cross)
Pillar, Pole or Post (circle with cross)
Boundary Post or Stone (circle with cross)
Post Office (circle with cross)
Capstan, Crane (circle with cross)
Public Convenience (circle with cross)
Chimney (circle with cross)
Public House (circle with cross)
Drinking Fountain (circle with cross)
Pump (circle with cross)
Electricity Pillar or Post (circle with cross)
Signal Box or Bridge (circle with cross)
Fire Alarm Pillar (circle with cross)
Signal Post or Light (circle with cross)
Foot Bridge (circle with cross)
Spring (circle with cross)
Guide Post (circle with cross)
Tank or Track (circle with cross)
Hydrant or Hydraulic (circle with cross)
Telephone Call Box (circle with cross)
Level Crossing (circle with cross)
Telephone Call Post (circle with cross)
Manhole (circle with cross)
Trough (circle with cross)
Mile Post or Mooring Post (circle with cross)
Water Point, Water Tap (circle with cross)
Mile Stone (circle with cross)
Well (circle with cross)
Normal Tidal Limit (circle with cross)
Wind Pump (circle with cross)

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

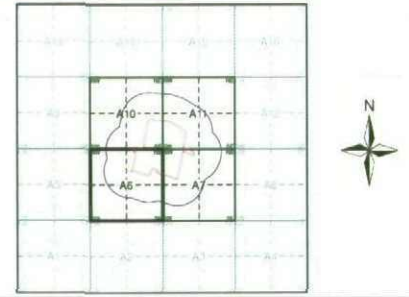
Cliff (irregular shape with dots)
Slopes (irregular shape with dots)
Rock (irregular shape with dots)
Rock (scattered) (irregular shape with dots)
Boulders (irregular shape with dots)
Boulders (scattered) (irregular shape with dots)
Positioned Boulder (irregular shape with dots)
Scree (irregular shape with dots)
Non-Coniferous Tree (surveyed) (circle with cross)
Coniferous Tree (surveyed) (circle with cross)
Non-Coniferous Trees (not surveyed) (circle with cross)
Coniferous Trees (not surveyed) (circle with cross)
Orchard Tree (circle with cross)
Scrub (circle with cross)
Bracken (circle with cross)
Coppice, Osier (circle with cross)
Reeds (circle with cross)
Marsh, Saltings (circle with cross)
Rough Grassland (circle with cross)
Heath (circle with cross)
Culvert (circle with cross)
Direction of water flow (arrow)
Triangulation Station (circle with cross)
Antiquity (site of) (circle with cross)
Electricity Transmission Line (E.T.L.)
Electricity Pylon (circle with cross)
Bench Mark (circle with cross)
Buildings with Building Seed (circle with cross)
Roofed Building (brick pattern)
Glazed Roof Building (brick pattern)
Civil parish/community boundary (dotted line)
District boundary (dash-dot line)
County boundary (dashed line)
Boundary post/stone (circle with cross)
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three) (circle with cross)



Ordnance Survey mapping included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:2,500	1992	2
Yorkshire	1:2,500	1906	3
Yorkshire	1:2,500	1930	4
Ordnance Survey Plan	1:2,500	1962	5
Ordnance Survey Plan	1:1,250	1961 - 1962	6
Ordnance Survey Plan	1:1,250	1970 - 1976	7
Additional SIMs	1:1,250	1961 - 1988	8
Additional SIMs	1:1,250	1982 - 1989	9
Additional SIMs	1:1,250	1988	10
Additional SIMs	1:1,250	1989	11
Large-Scale National Grid Data	1:1,250	1993	12
Large-Scale National Grid Data	1:1,250	1993	13

Historical Map - Segment A6



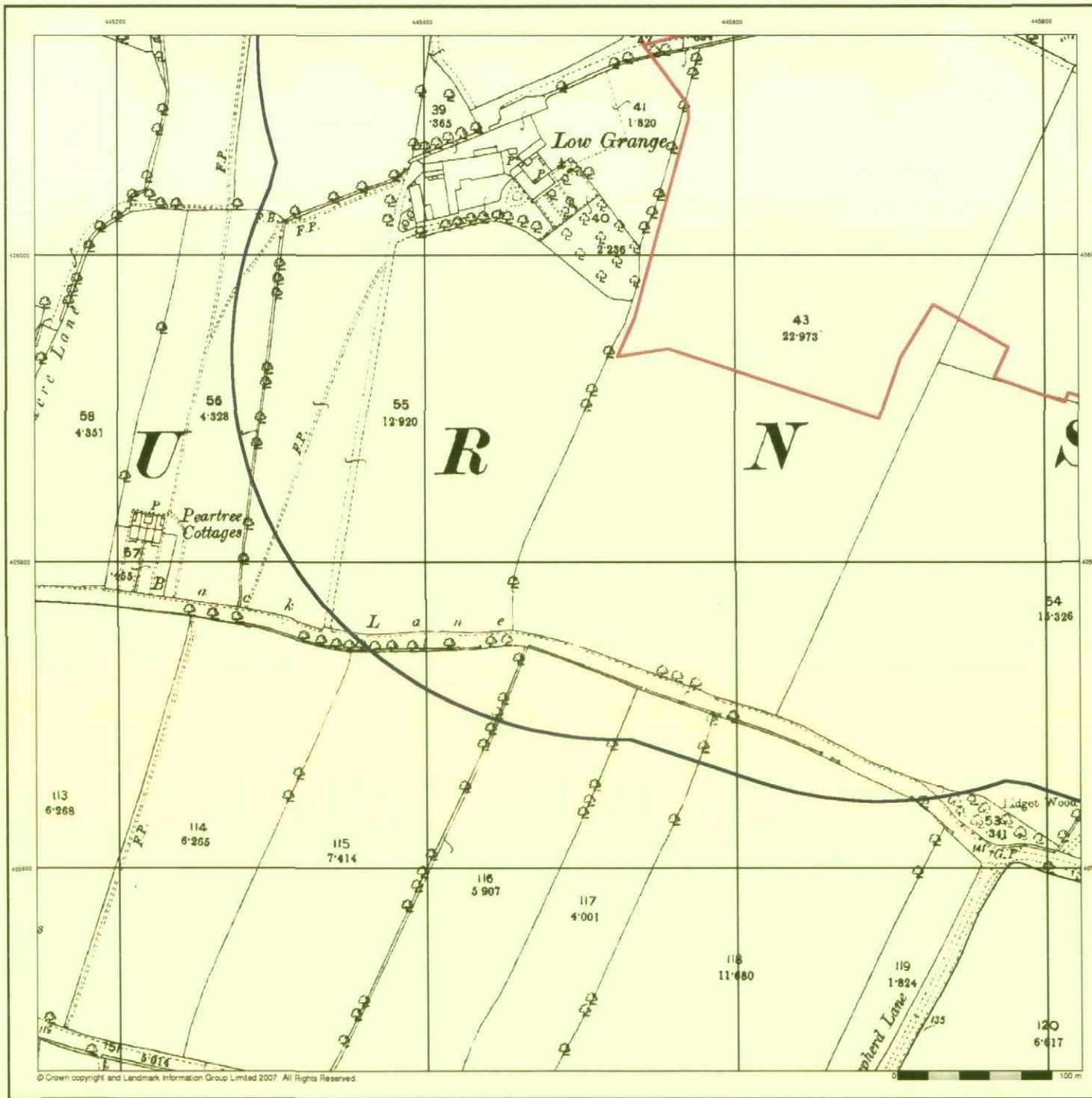
Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire

Tel: 0870 850 6670
 Fax: 0870 850 6671
 Web: www.envisiocheck.co.uk



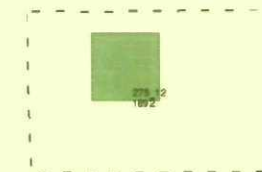
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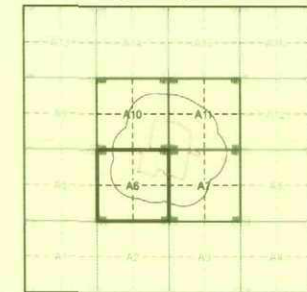
Yorkshire
Published 1892
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A6



Order Details

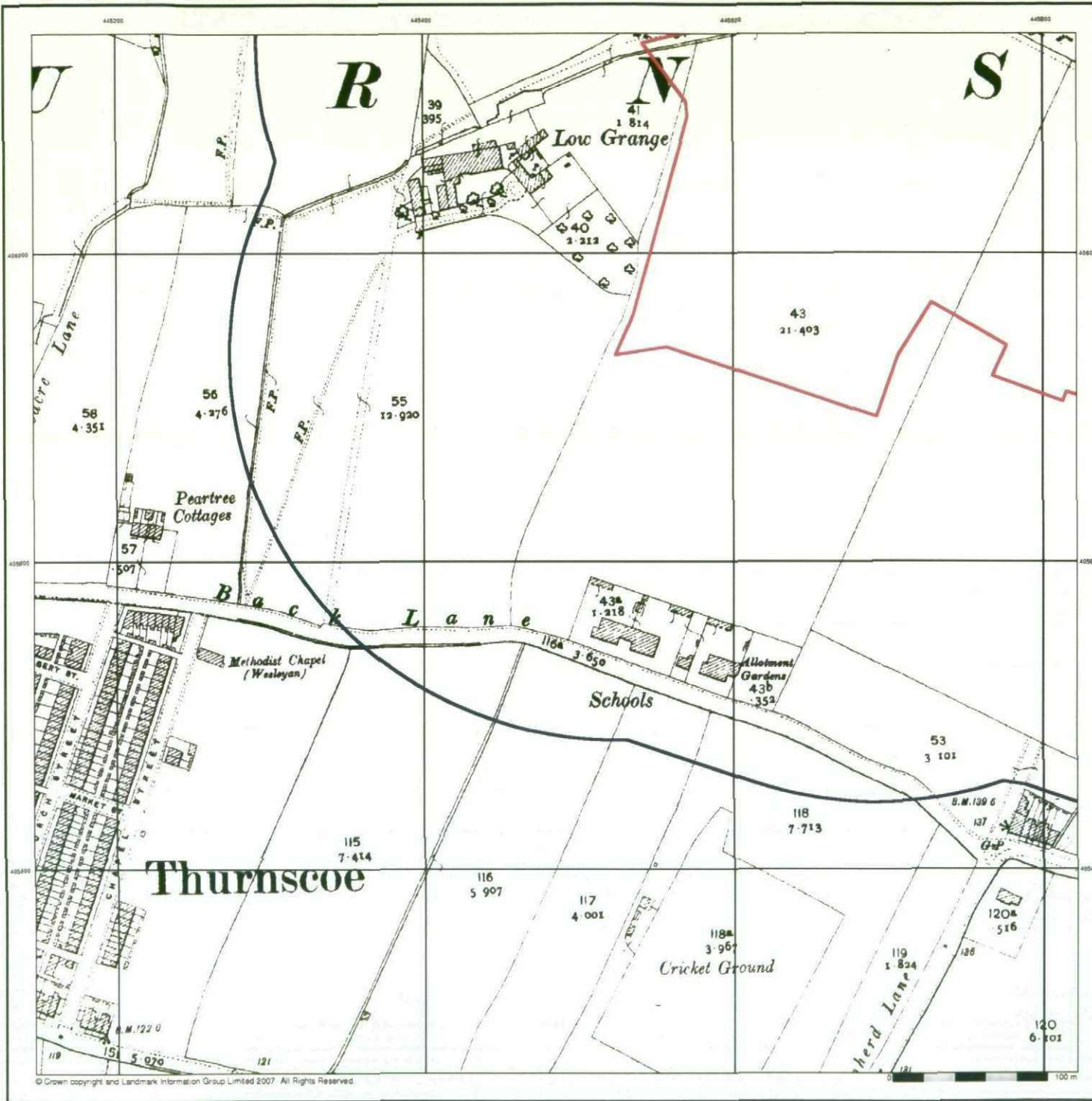
Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



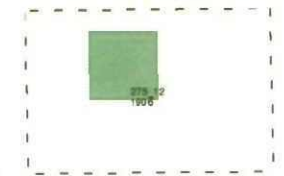
Tel: 0870 850 6670
 Fax: 0870 850 6671
 Web: www.envirocheck.co.uk



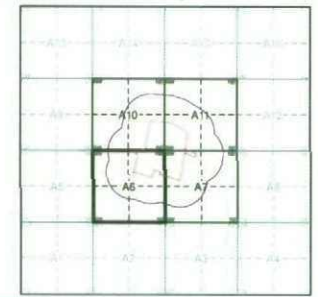
Yorkshire
Published 1906
Source map scale - 1:2,500

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)



Historical Map - Segment A6



Order Details

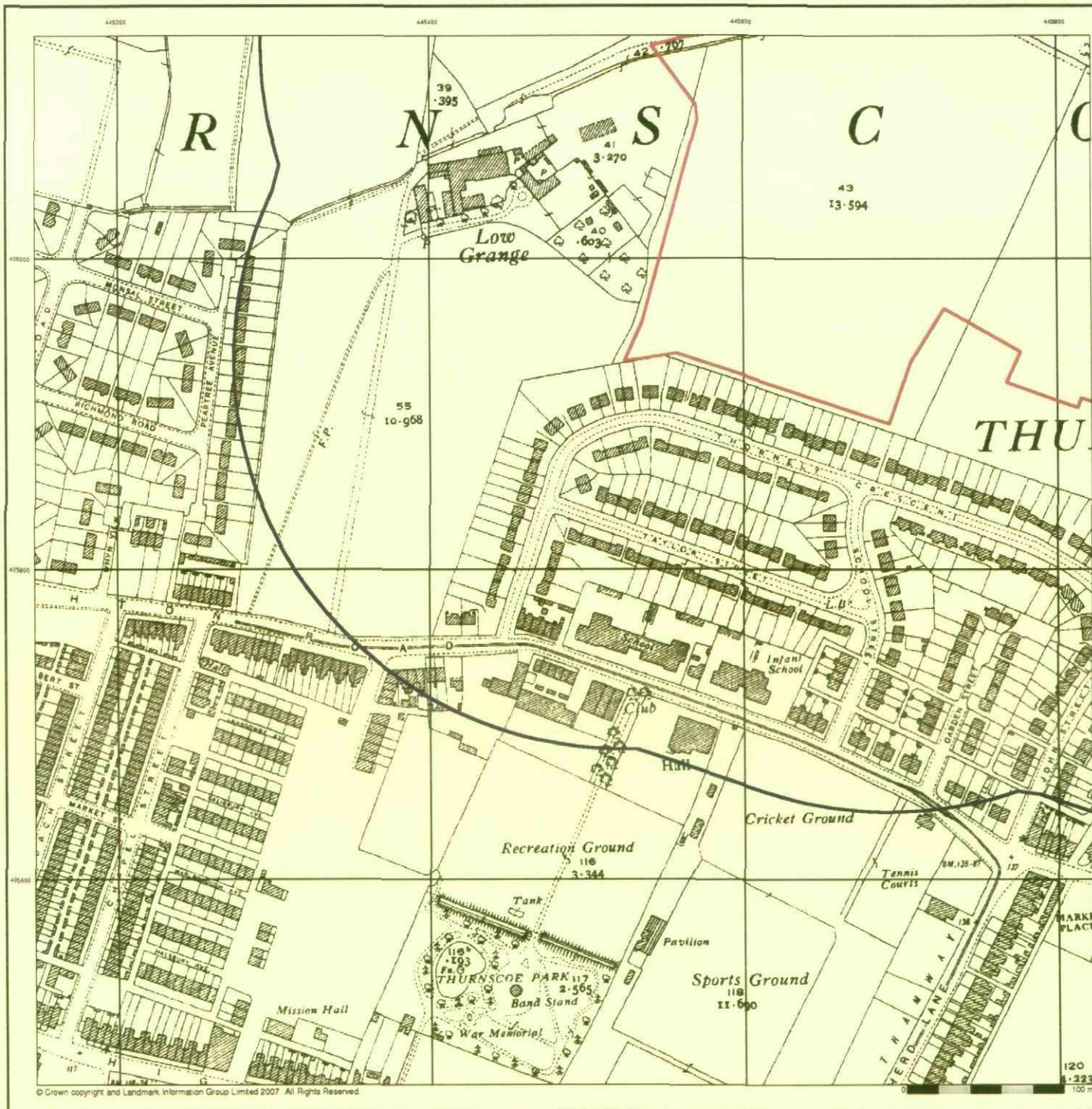
Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



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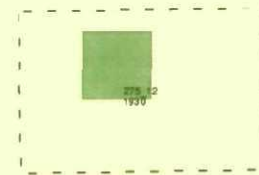


Yorkshire
Published 1930

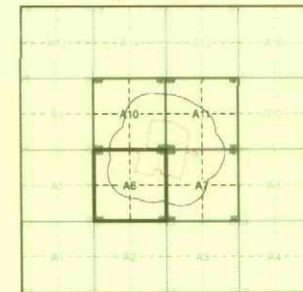
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A6



Order Details

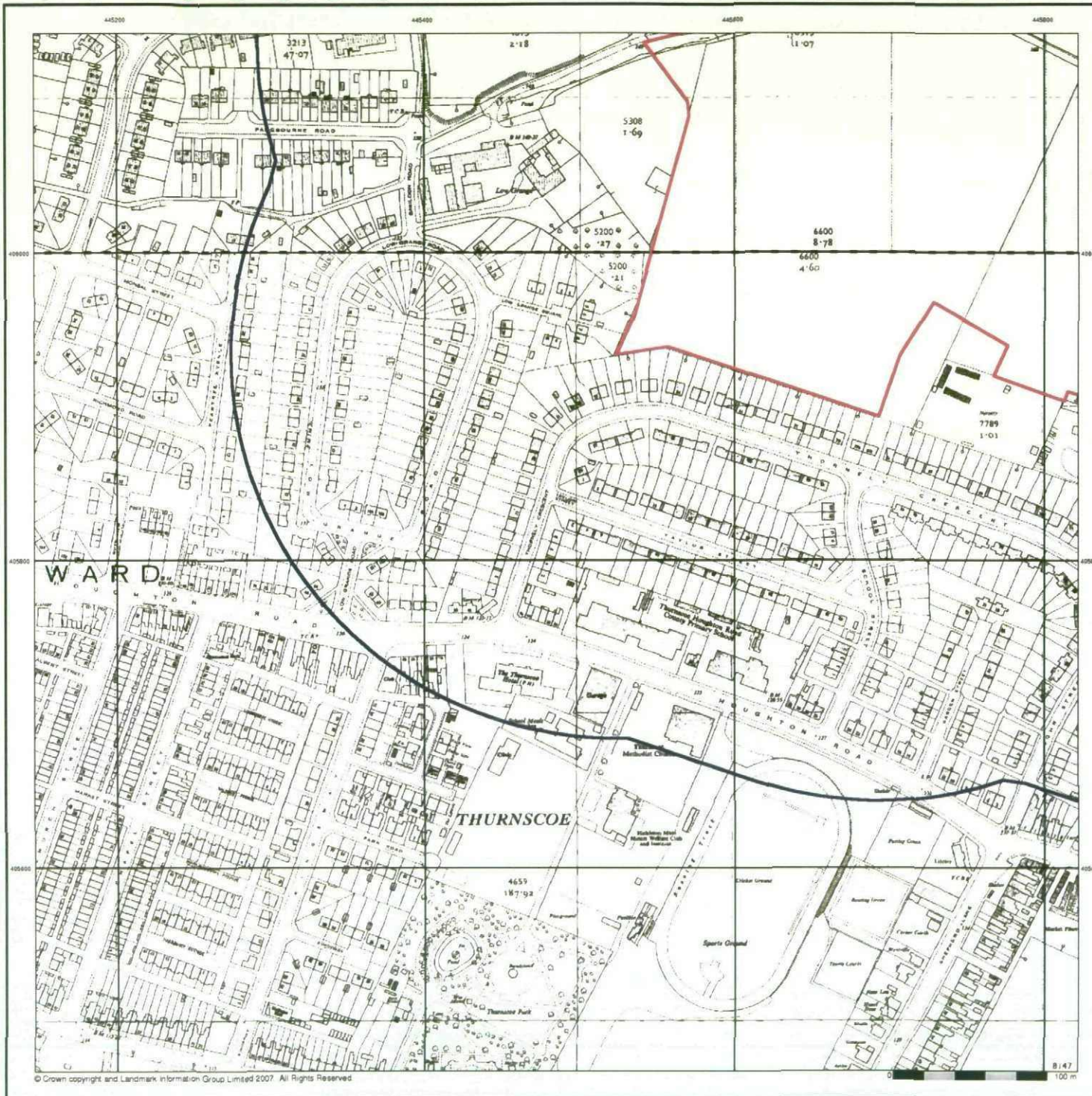
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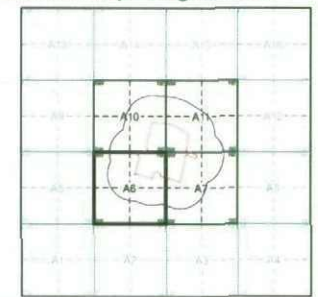
**Ordnance Survey Plan
Published 1962
Source map scale - 1:2,500**

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)



Historical Map - Segment A6



Order Details

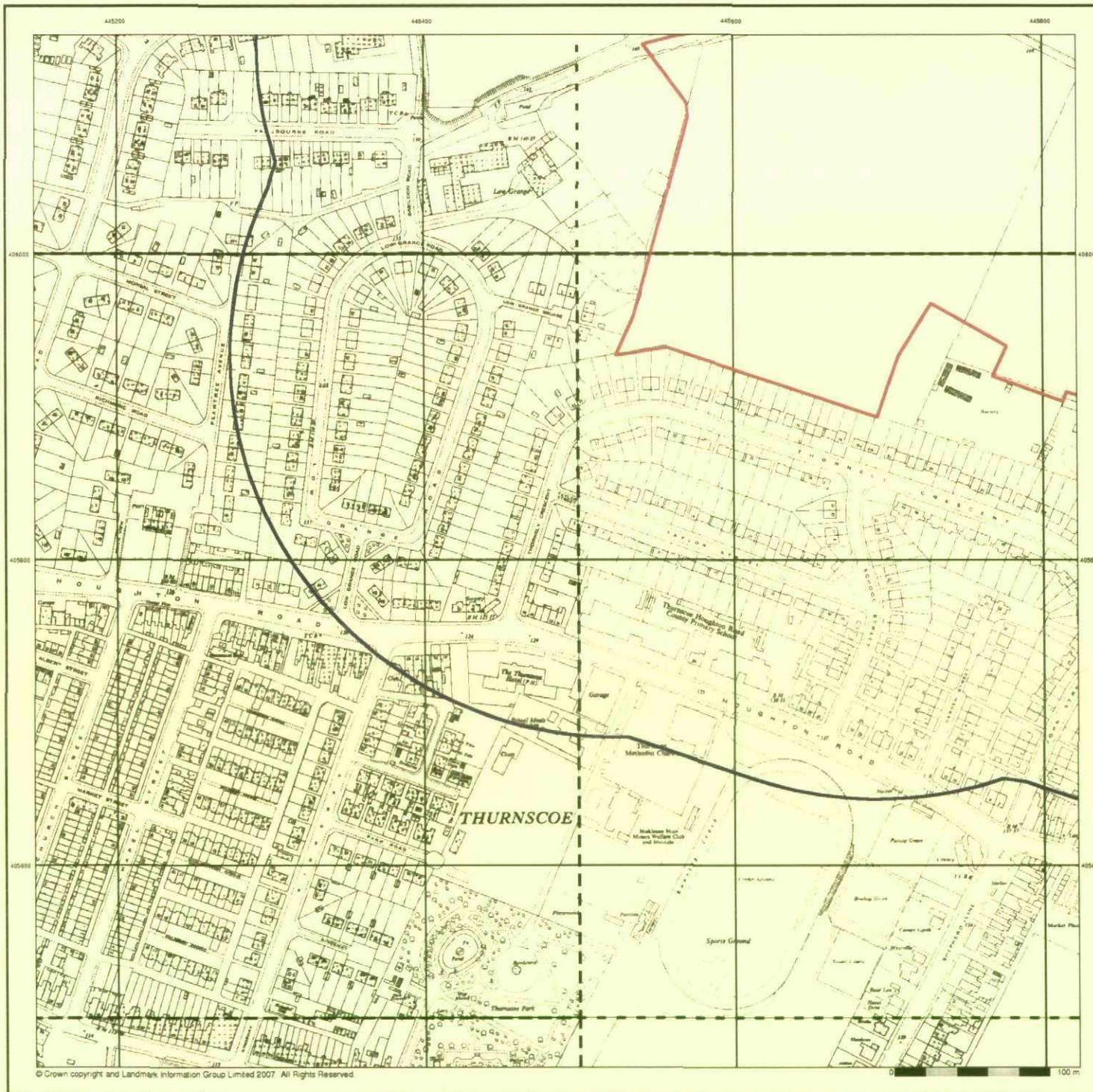
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**Ordnance Survey Plan
Published 1961 - 1962**

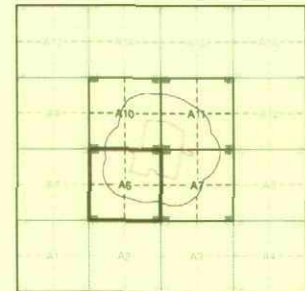
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A6



Order Details

Order Number: 21677106_1_1
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Site Details

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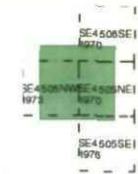
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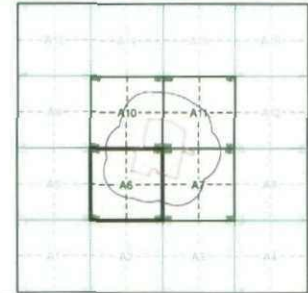
**Ordnance Survey Plan
Published 1970 - 1976
Source map scale - 1:1,250**

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

Map Name(s) and Date(s)



Historical Map - Segment A6



Order Details

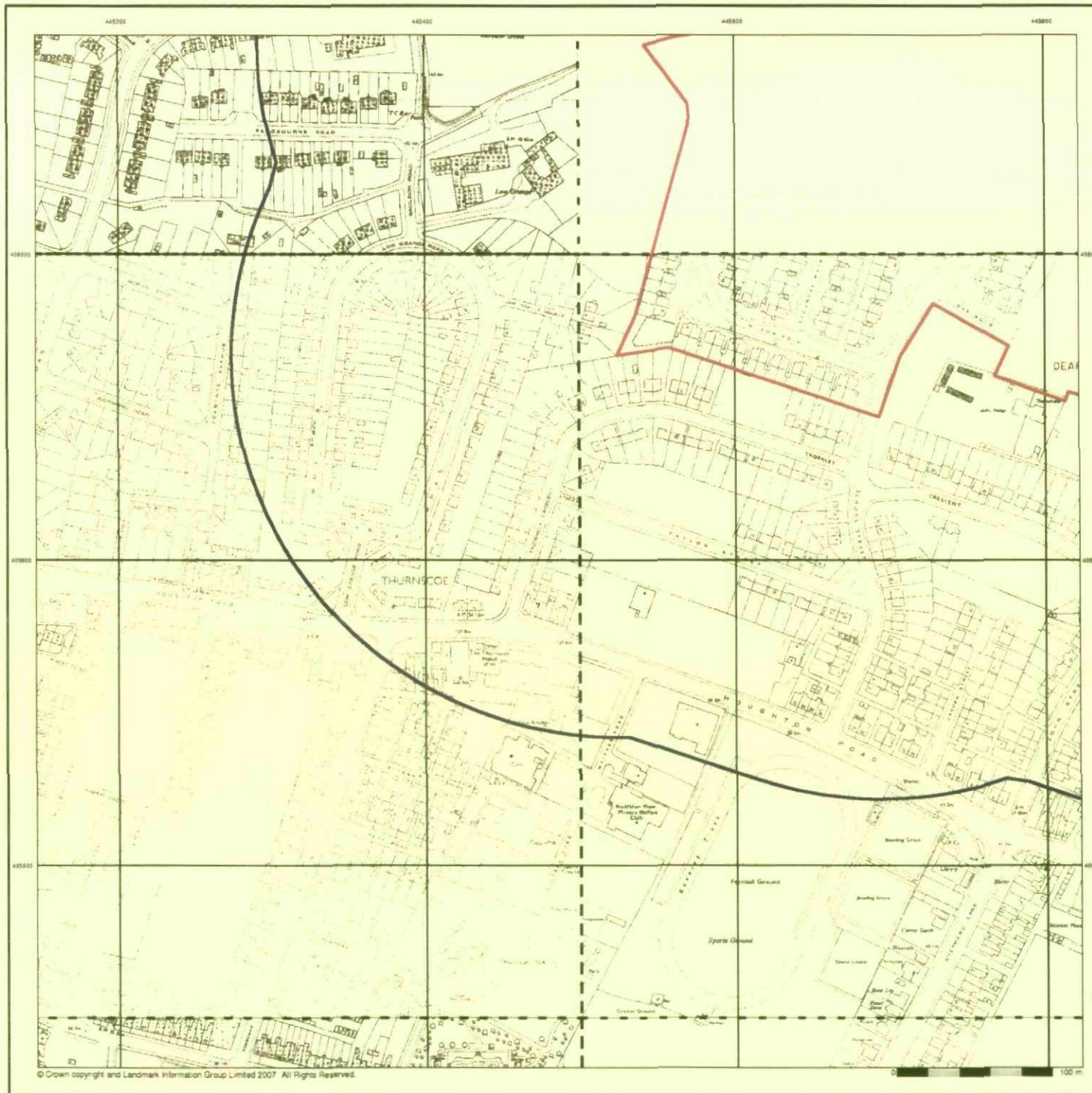
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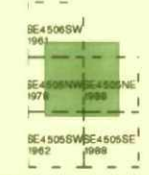
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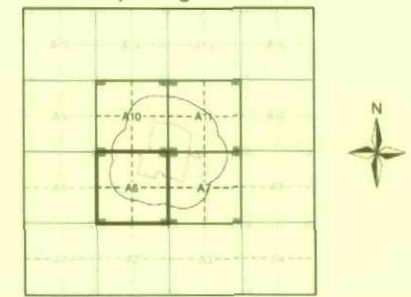
**Additional SIMs
Published 1961 - 1988
Source map scale - 1:1,250**

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)



Historical Map - Segment A6



Order Details

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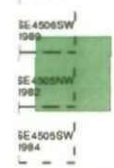
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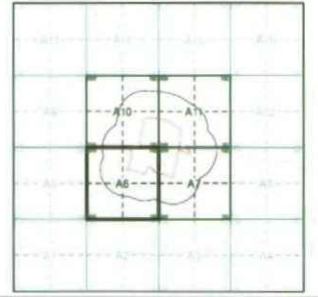
**Additional SIMs
Published 1982 - 1989
Source map scale - 1:1,250**

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 of mapping 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)



Historical Map - Segment A6



Order Details

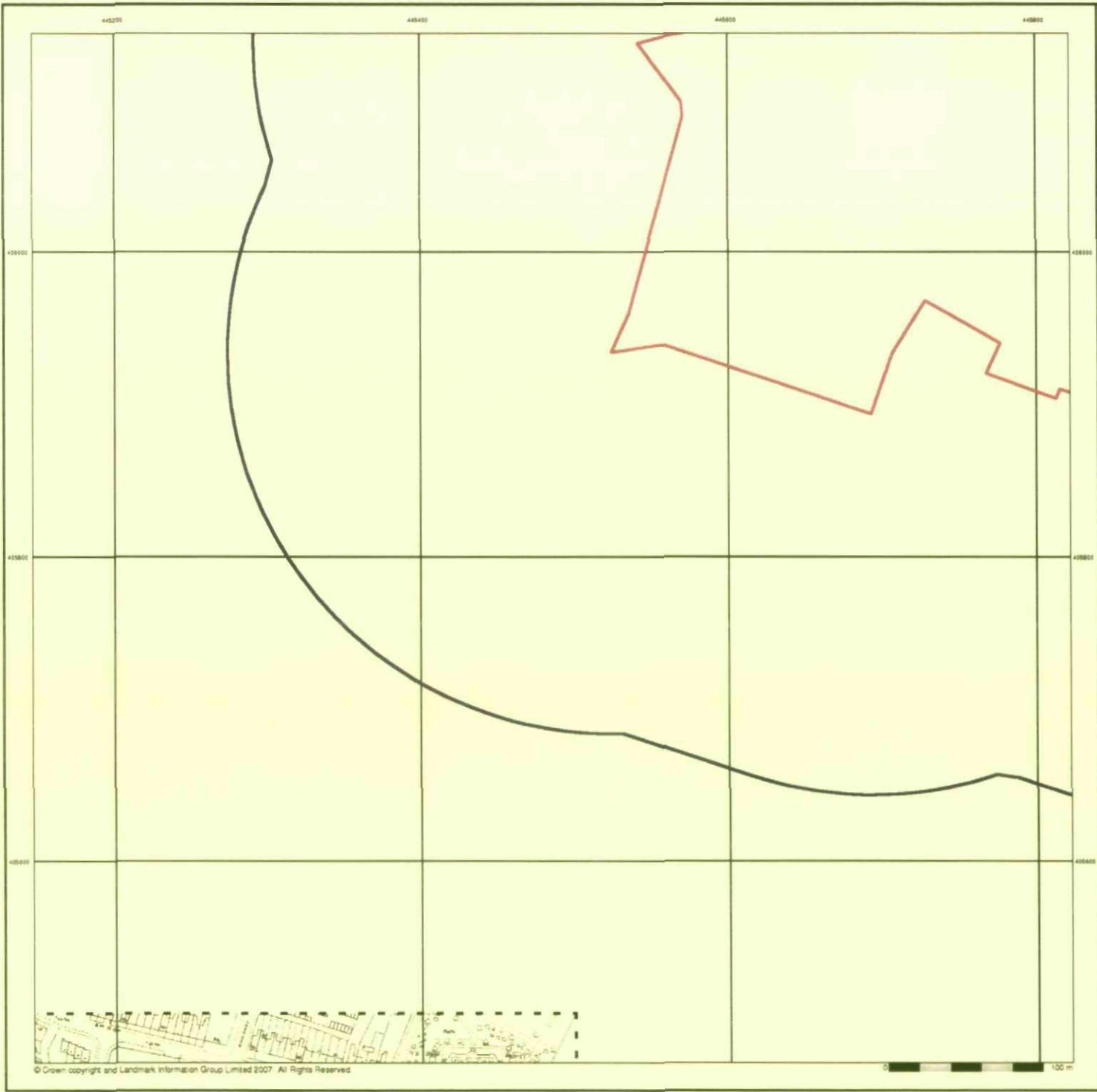
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 Slice: A
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**Additional SIMs
Published 1988
Source map scale - 1:1,250**

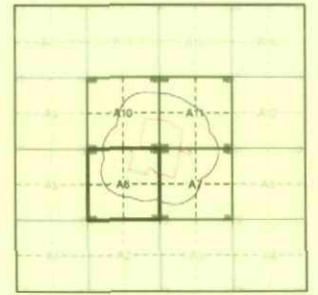
The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps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

Map Name(s) and Date(s)



SC4505SW
1988

Historical Map - Segment A6



Order Details

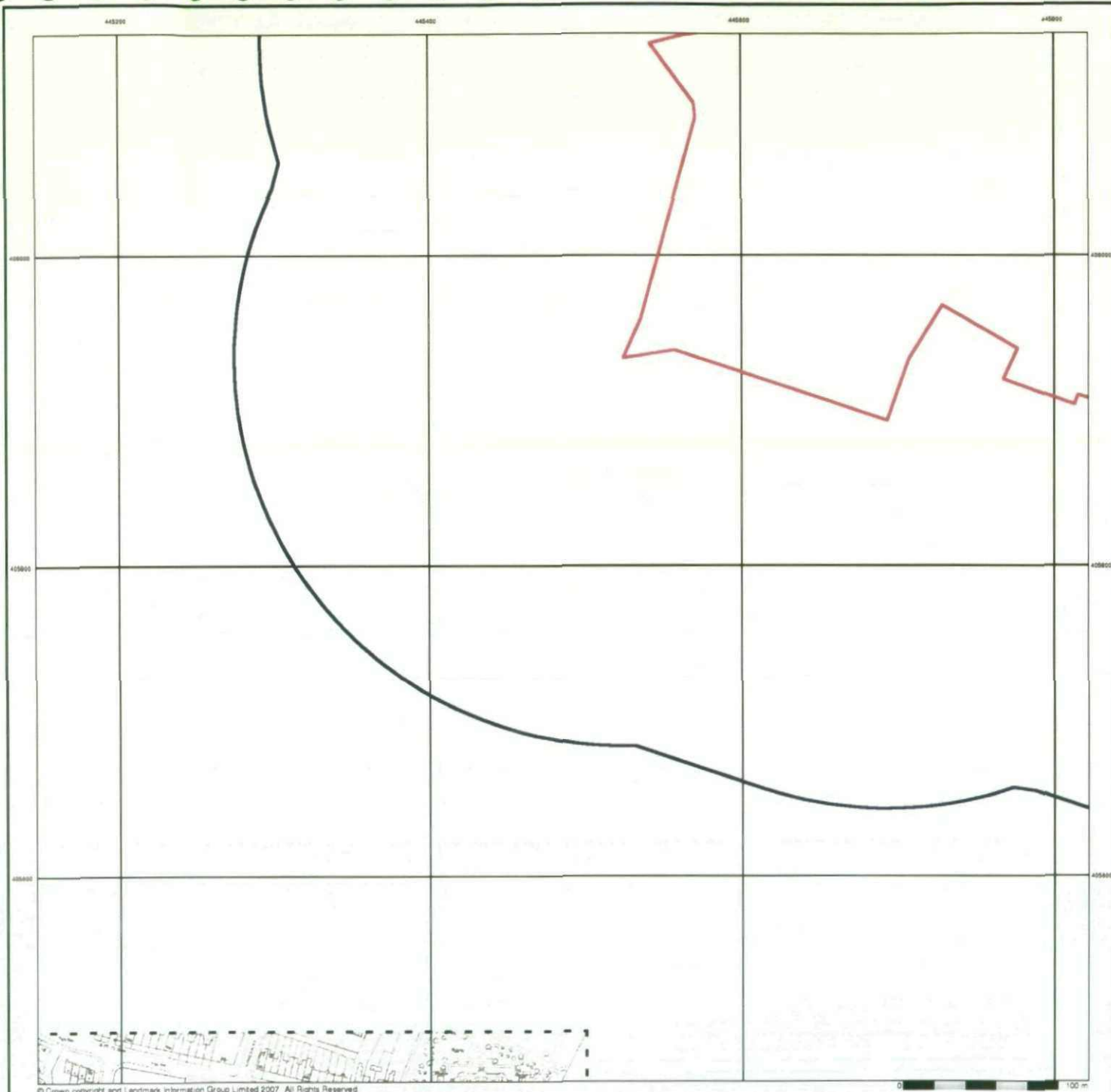
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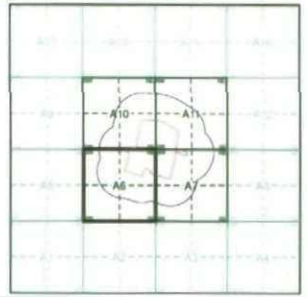
**Additional SIMs
Published 1989
Source map scale - 1:1,250**

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)



Historical Map - Segment A6



Order Details

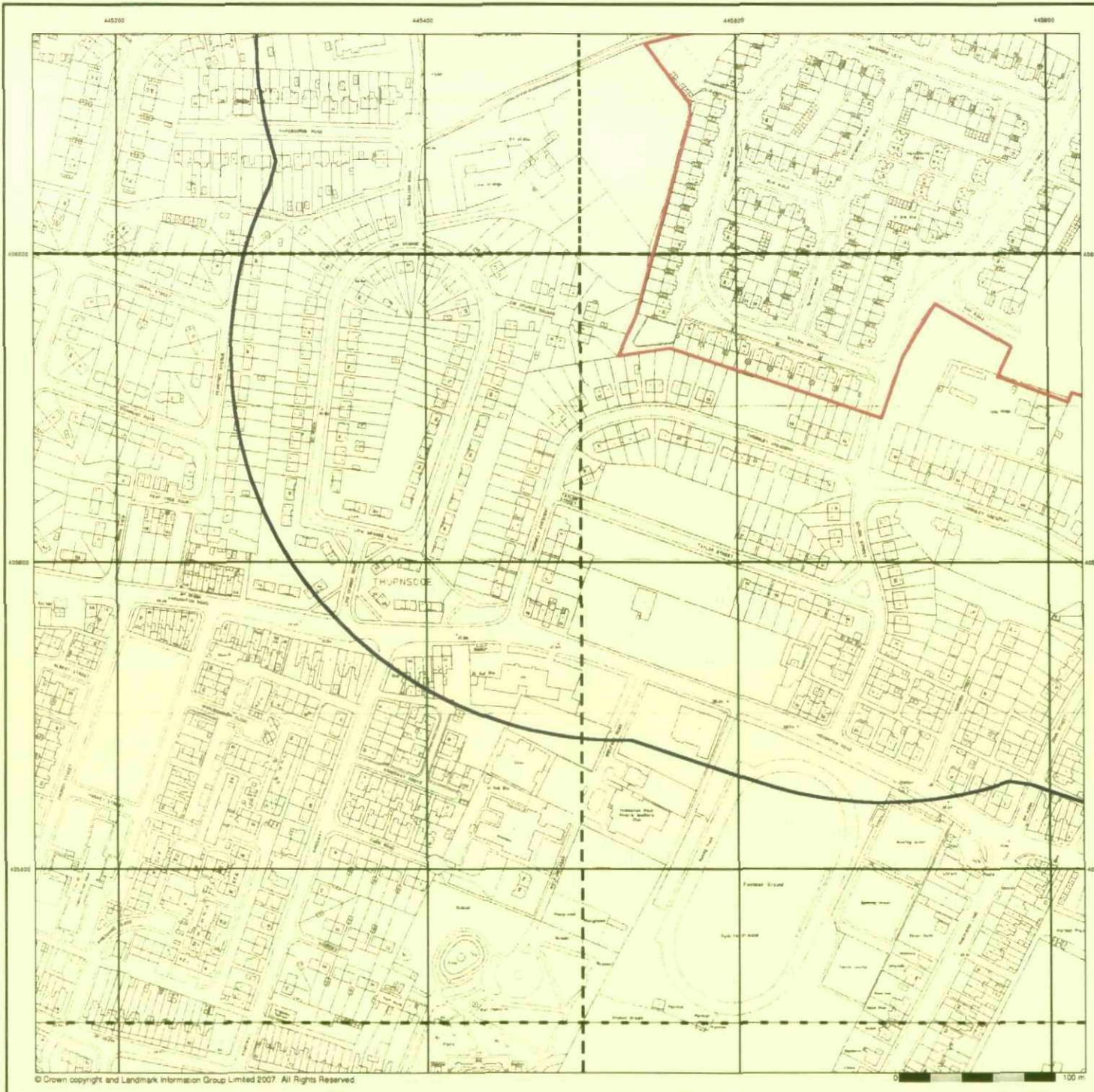
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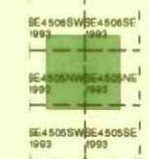


**Large-Scale National Grid Data
Published 1993**

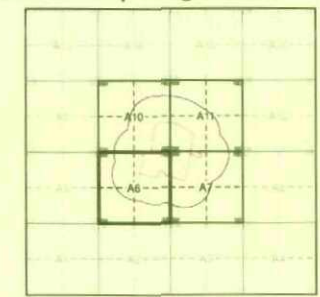
Source map scale - 1:1,250

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)



Historical Map - Segment A6



Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
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Site Details

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0 100 m

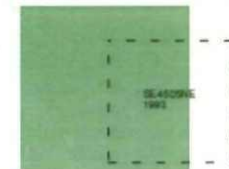


**Large-Scale National Grid Data
Published 1993**

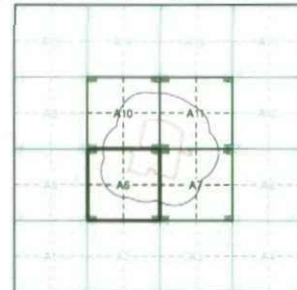
Source map scale - 1:1,250

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 forerunners 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 A6



Order Details

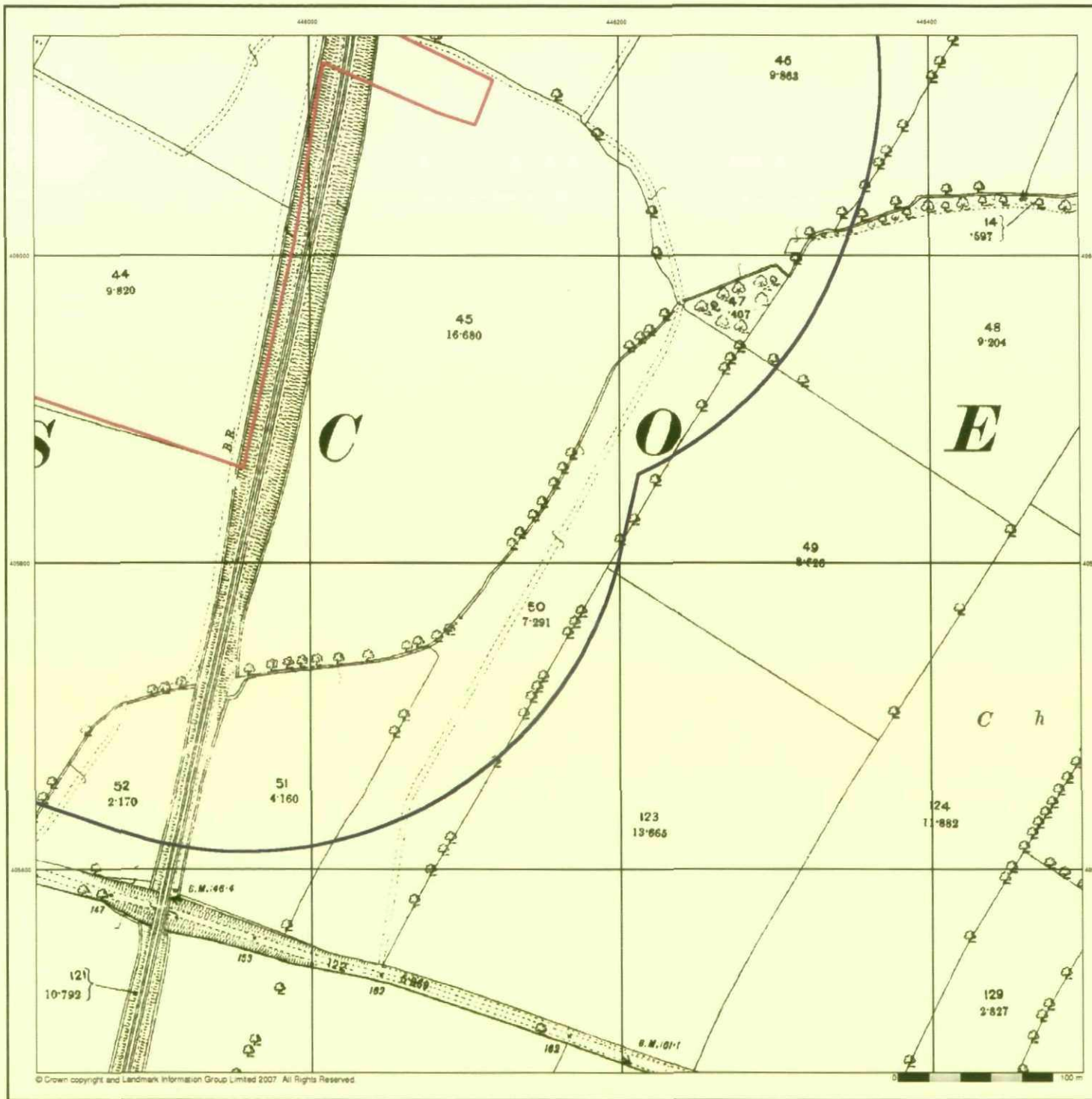
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Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



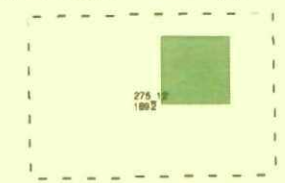
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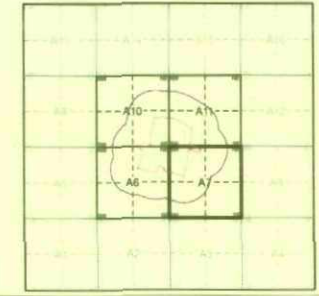
Yorkshire
Published 1892
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A7



Order Details

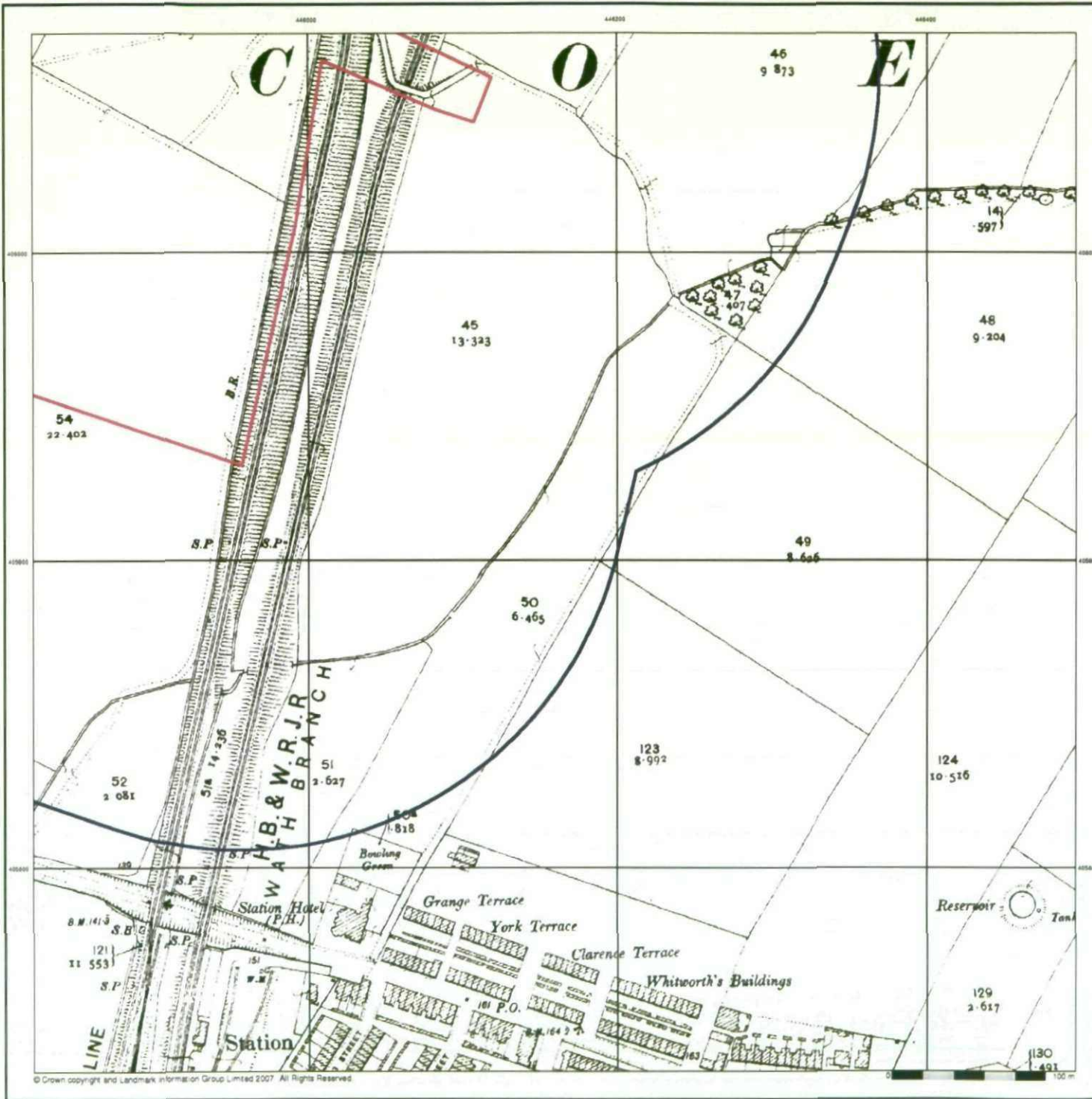
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 Slice: A
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Site Details

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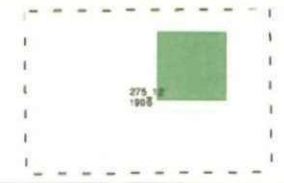
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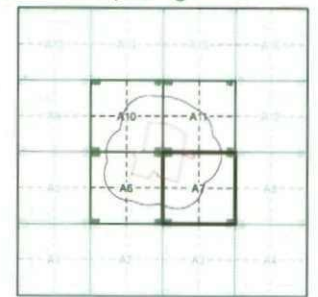
Yorkshire
Published 1906
Source map scale - 1:2,500

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)



Historical Map - Segment A7



Order Details

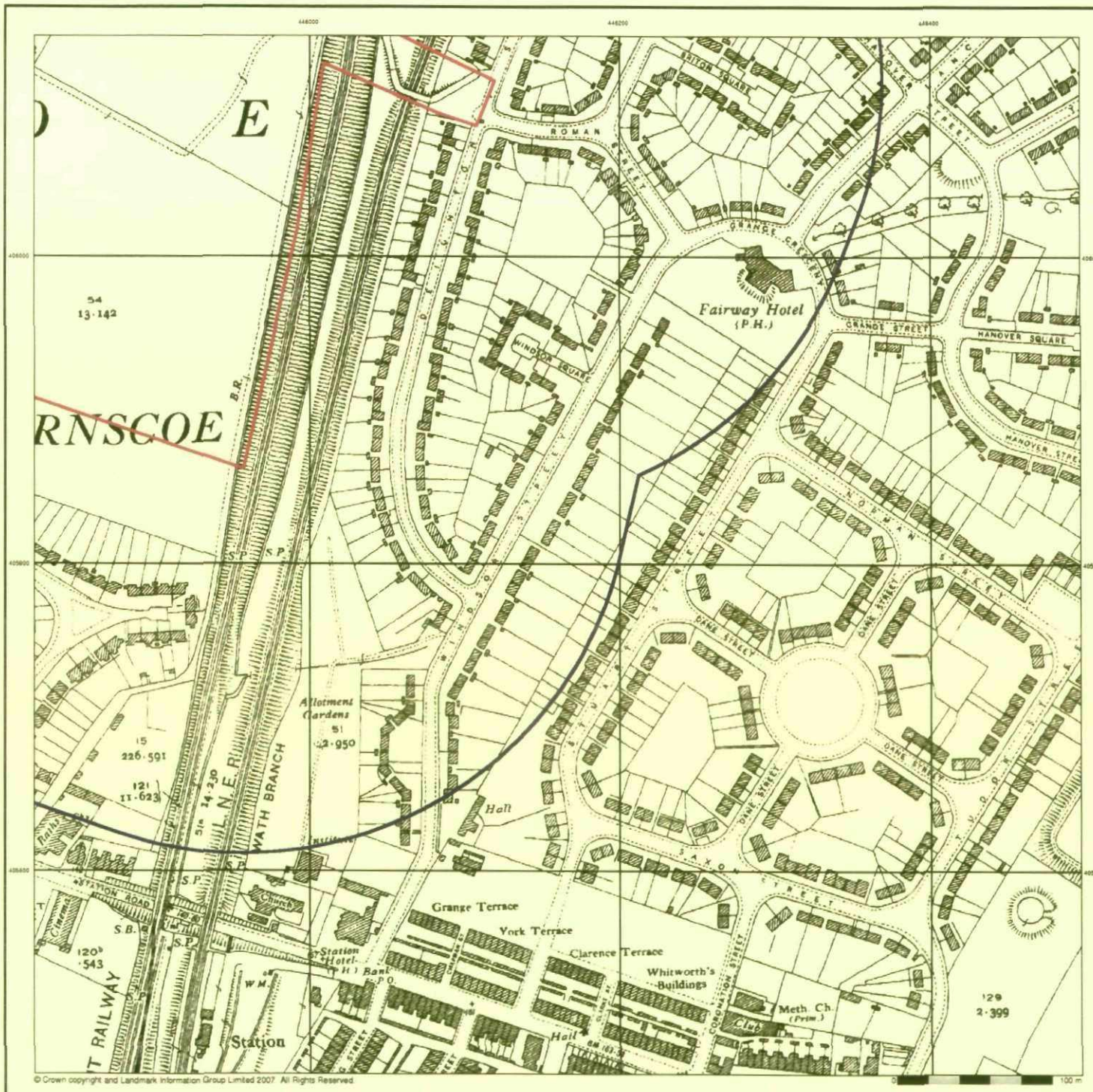
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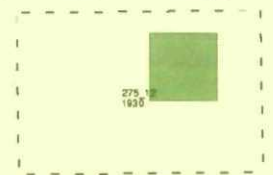
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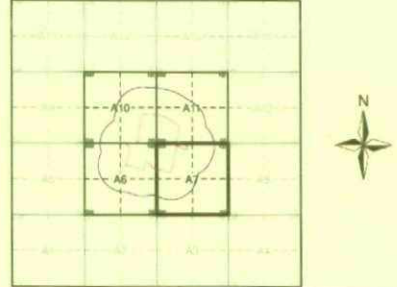
Yorkshire
Published 1930
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A7



Order Details

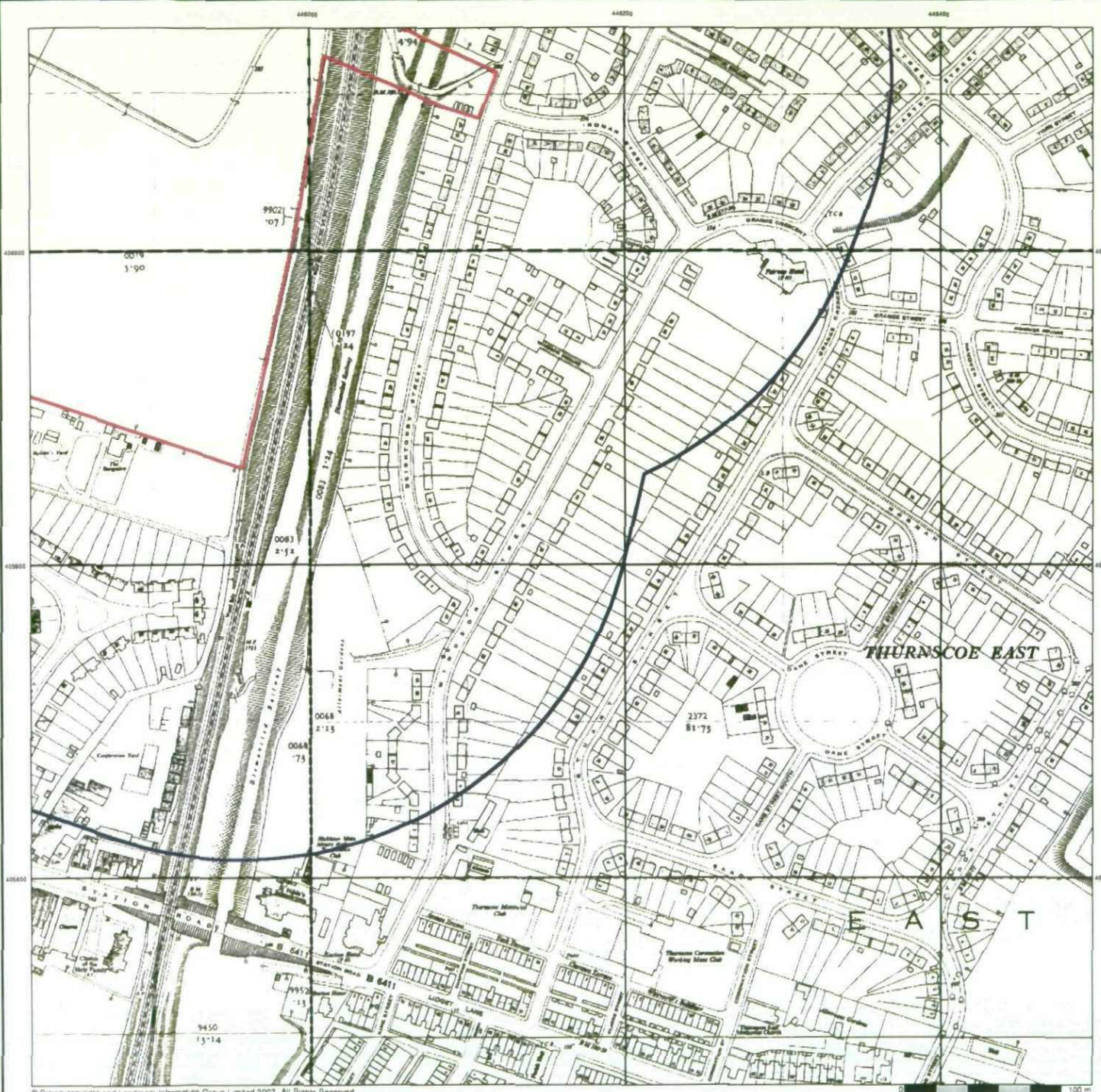
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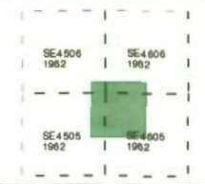
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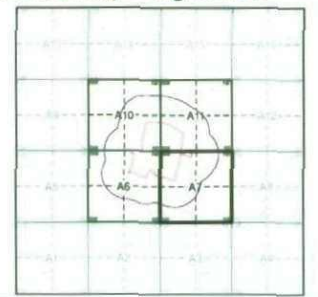
**Ordnance Survey Plan
Published 1962
Source map scale - 1:2,500**

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)



Historical Map - Segment A7



Order Details

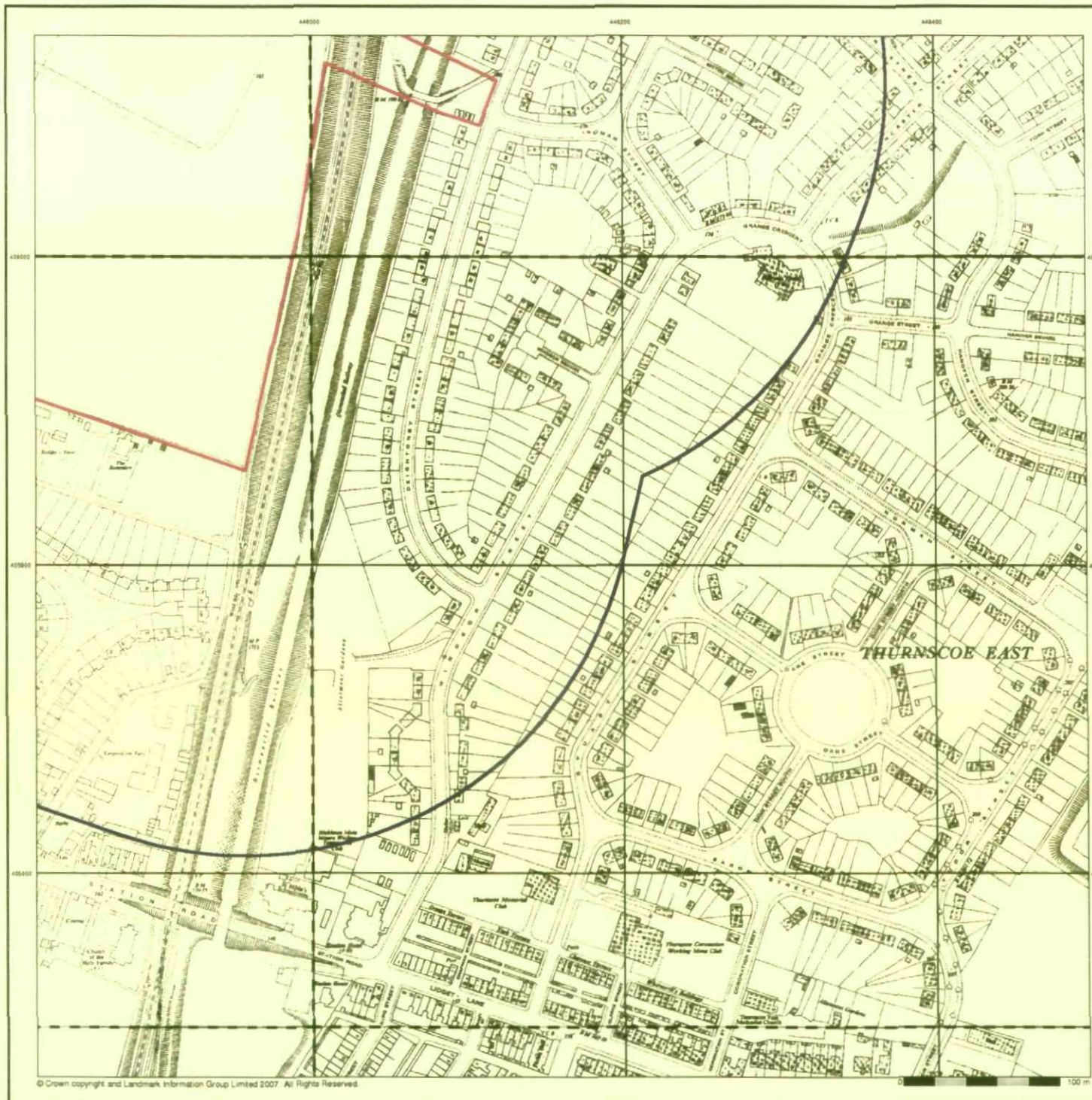
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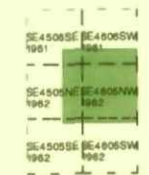
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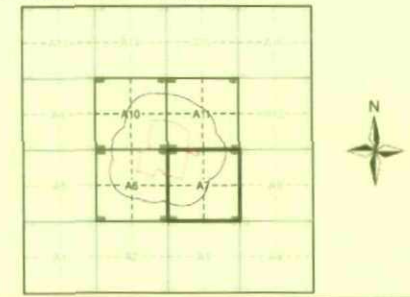
**Ordnance Survey Plan
Published 1961 - 1962
Source map scale - 1:1,250**

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

Map Name(s) and Date(s)



Historical Map - Segment A7



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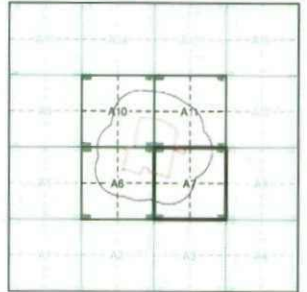
Ordnance Survey Plan
Published 1970 - 1976
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A7



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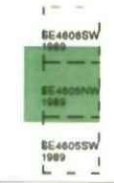
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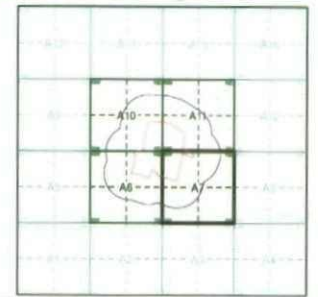
**Additional SIMs
Published 1989
Source map scale - 1:1,250**

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Map Name(s) and Date(s)



Historical Map - Segment A7



Order Details

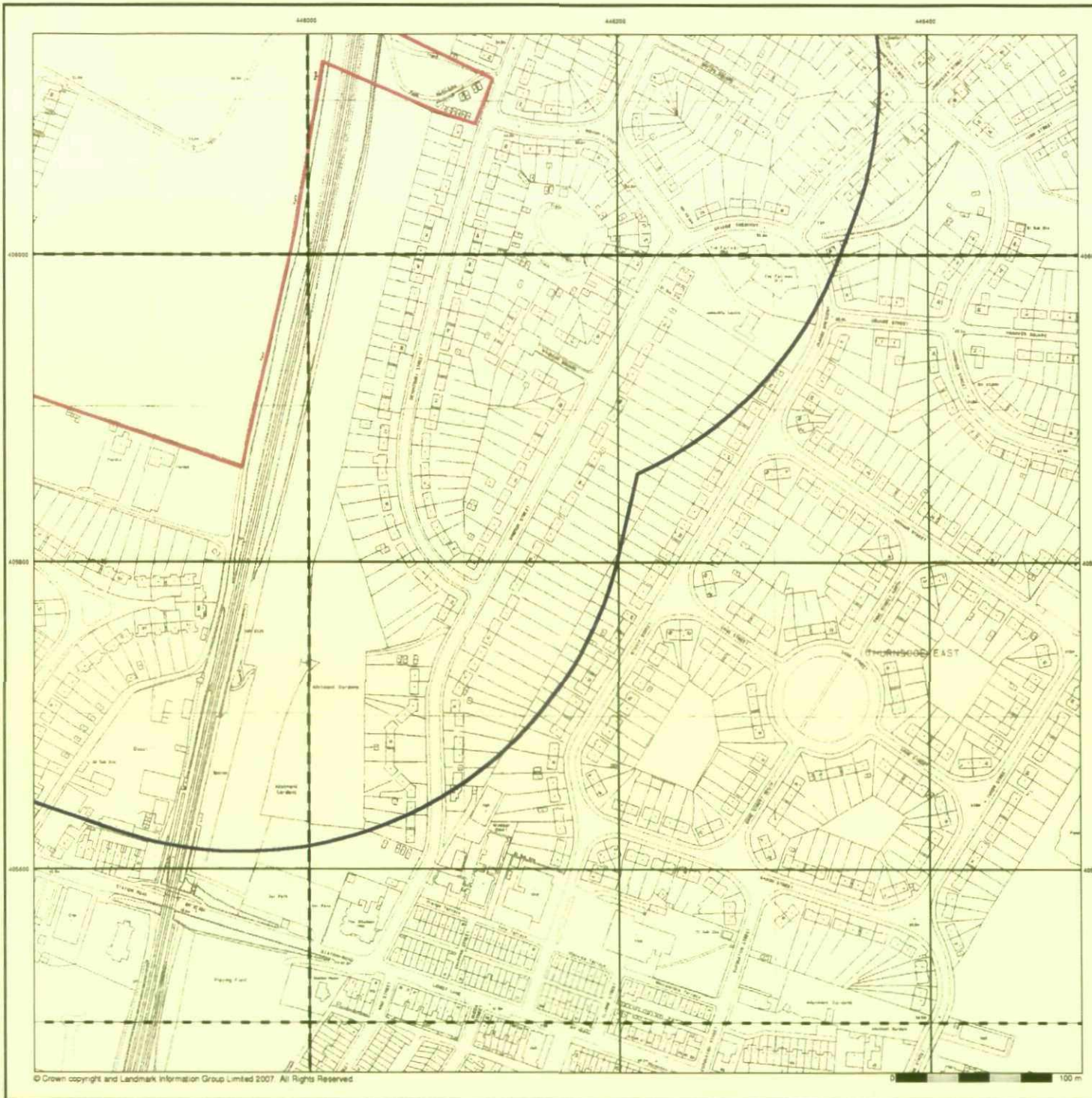
Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



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 Web: www.enhanced.co.uk



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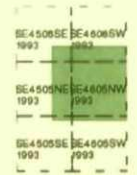


**Large-Scale National Grid Data
Published 1993**

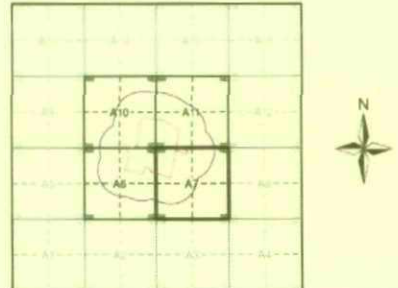
Source map scale - 1:1,250

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)



Historical Map - Segment A7



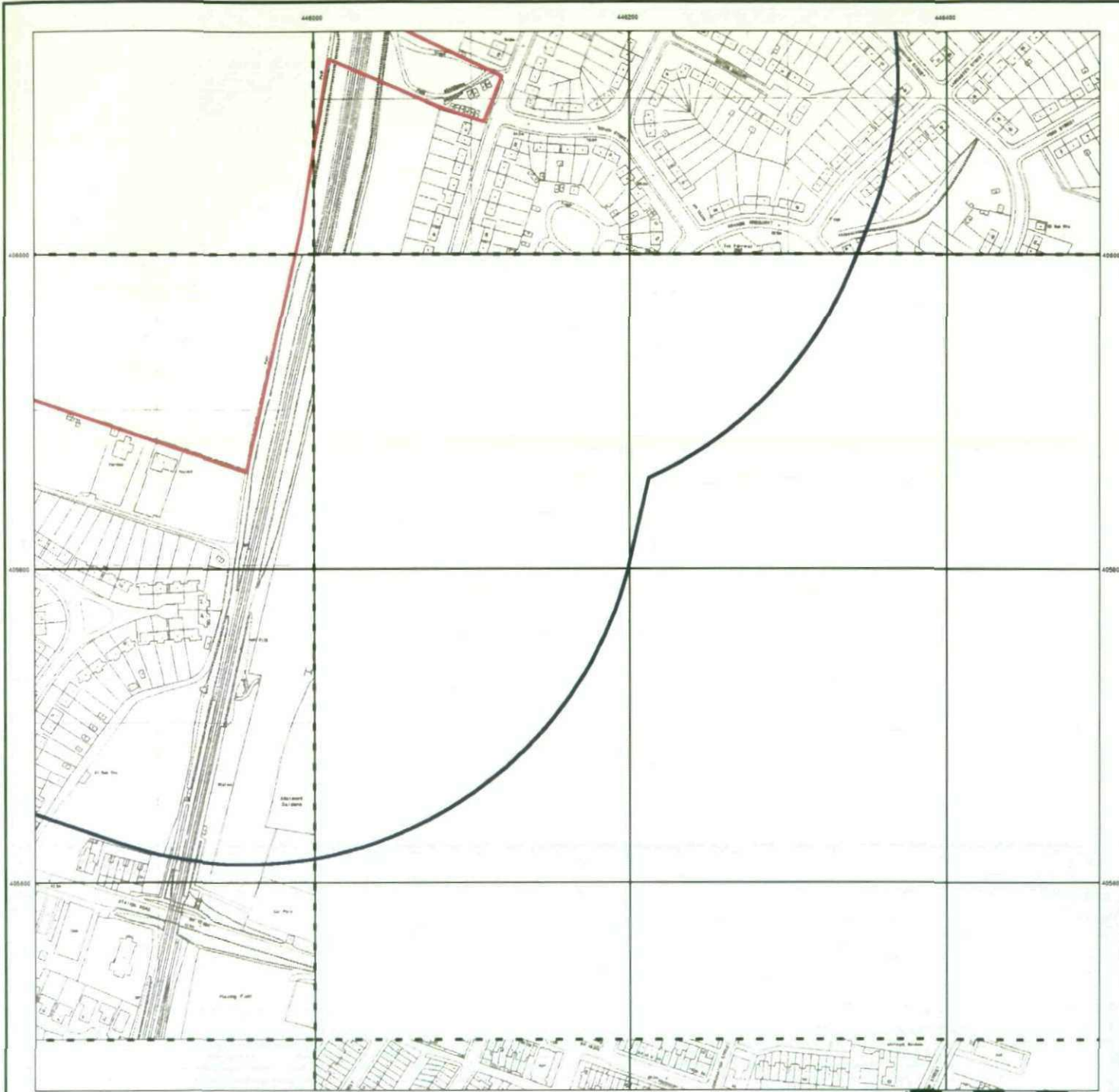
Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
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Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire

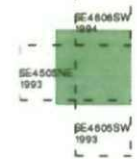




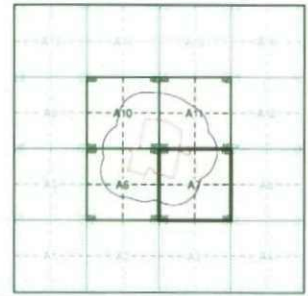
**Large-Scale National Grid Data
Published 1993 - 1994
Source map scale - 1:1,250**

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 forerunners 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 A7



Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire

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 **507** **Altitude at Trig. Station**
B.M. 325 9 **Bench Mark** **342** **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 Borough Boundary (Scotland)
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** **T.** **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 **B.M.** **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**
E.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** **W.P.L. W.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

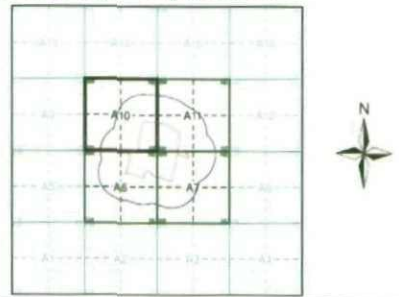
Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 334.6m **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** **PC** **Post Office**
Cem **Cemetery** **PC** **Public Convenience**
Chy **Chimney** **Pp** **Pump**
Cis **Cistern** **Ppg Sta** **Pumping Station**
Dism'd Ry **Dismantled Railway** **PW** **Place of Worship**
El Gen Sta **Electricity Generating Station** **Sewage Ppg Sta** **Sewage Pumping Station**
E.P. **Electricity Pole, Pillar** **SB, S Br** **Signal Box or Bridge**
El 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** **W.P.L. W.T.** **Water Point, Water Tap**
MH **Manhole** **Wks** **Works (building or area)**
MP, MS **Mile Post or Mile Stone** **W** **Well**



Ordnance Survey mapping included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:2,500	1892	2
Yorkshire	1:2,500	1906	3
Yorkshire	1:2,500	1930	4
Ordnance Survey Plan	1:2,500	1962	5
Ordnance Survey Plan	1:1,250	1961	6
Ordnance Survey Plan	1:1,250	1970	7
Additional SIMs	1:1,250	1961	8
Additional SIMs	1:1,250	1989	9
Large-Scale National Grid Data	1:1,250	1993	10

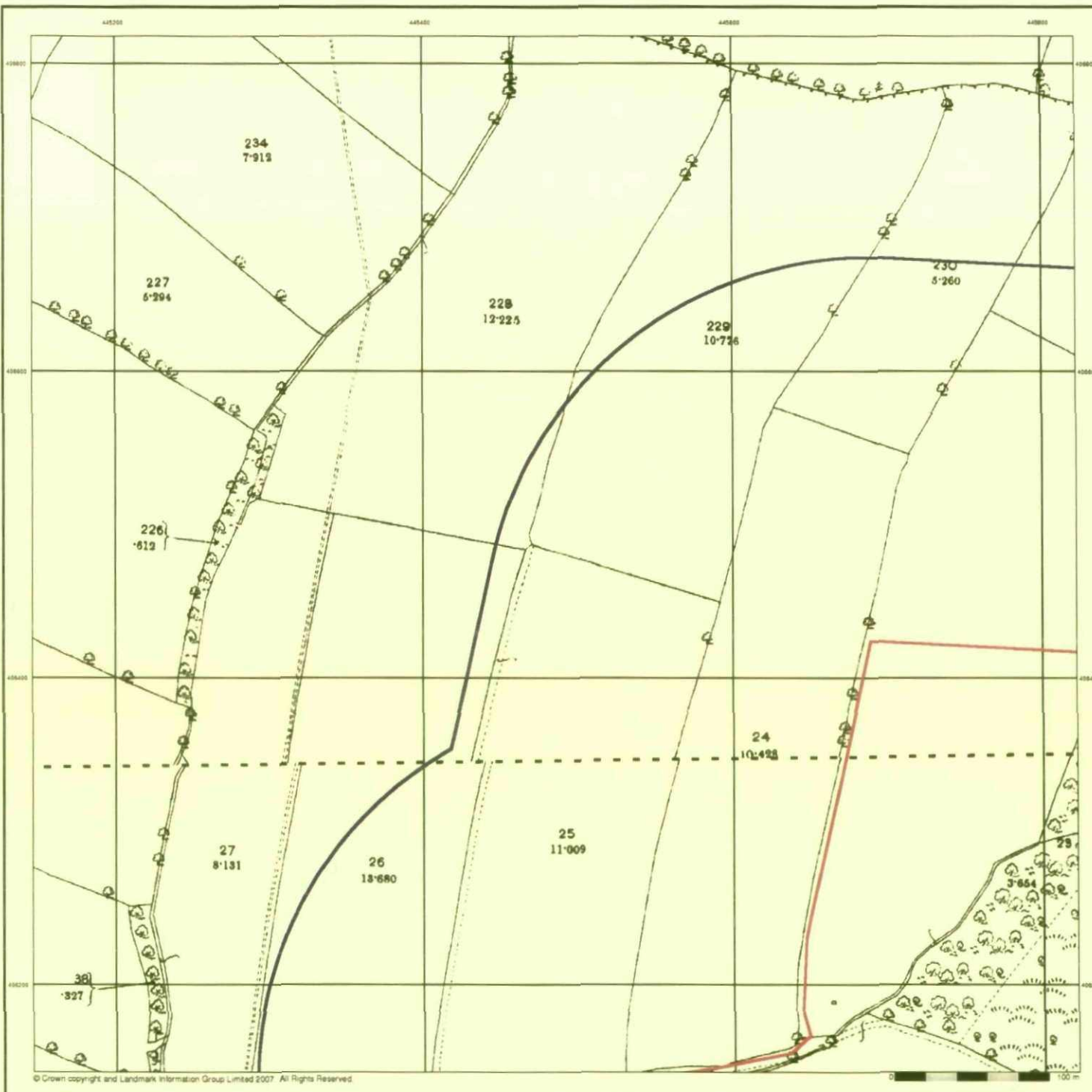
Historical Map - Segment A10



Order Details
 Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details
 The Reema Estate, Thurnscoe, Rotherham, South Yorkshire





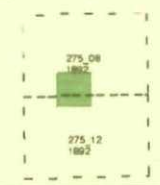
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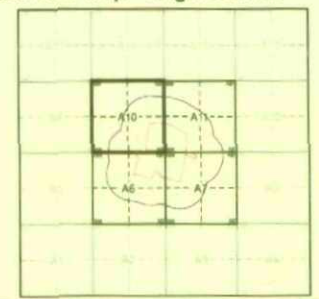
Yorkshire
Published 1892
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A10



Order Details

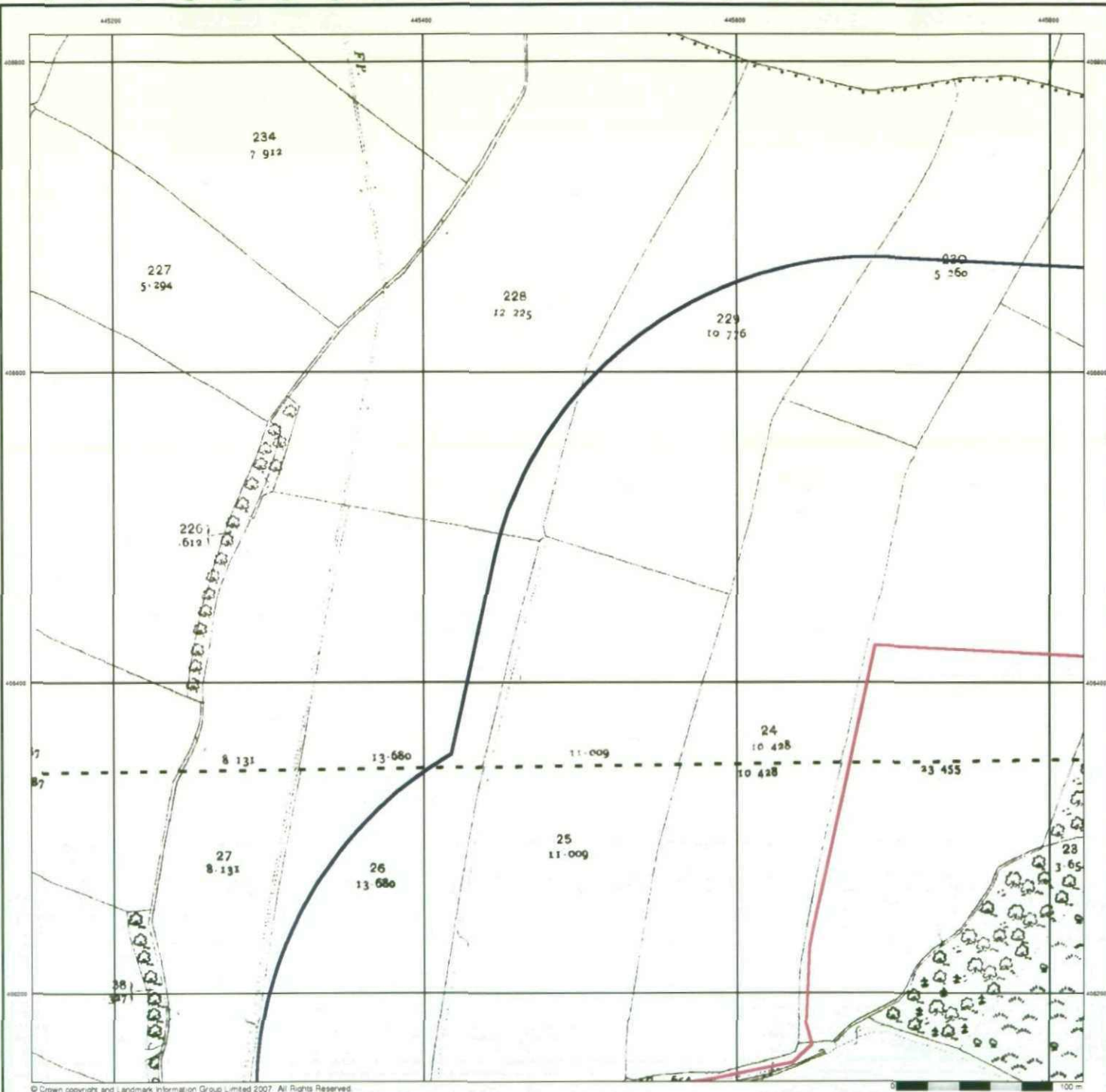
Order Number: 21677106_1_1
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Site Details

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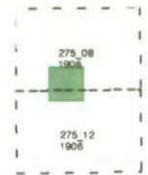
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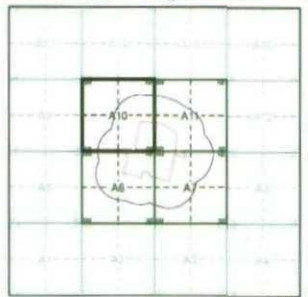
Yorkshire
Published 1906
Source map scale - 1:2,500

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)



Historical Map - Segment A10



Order Details

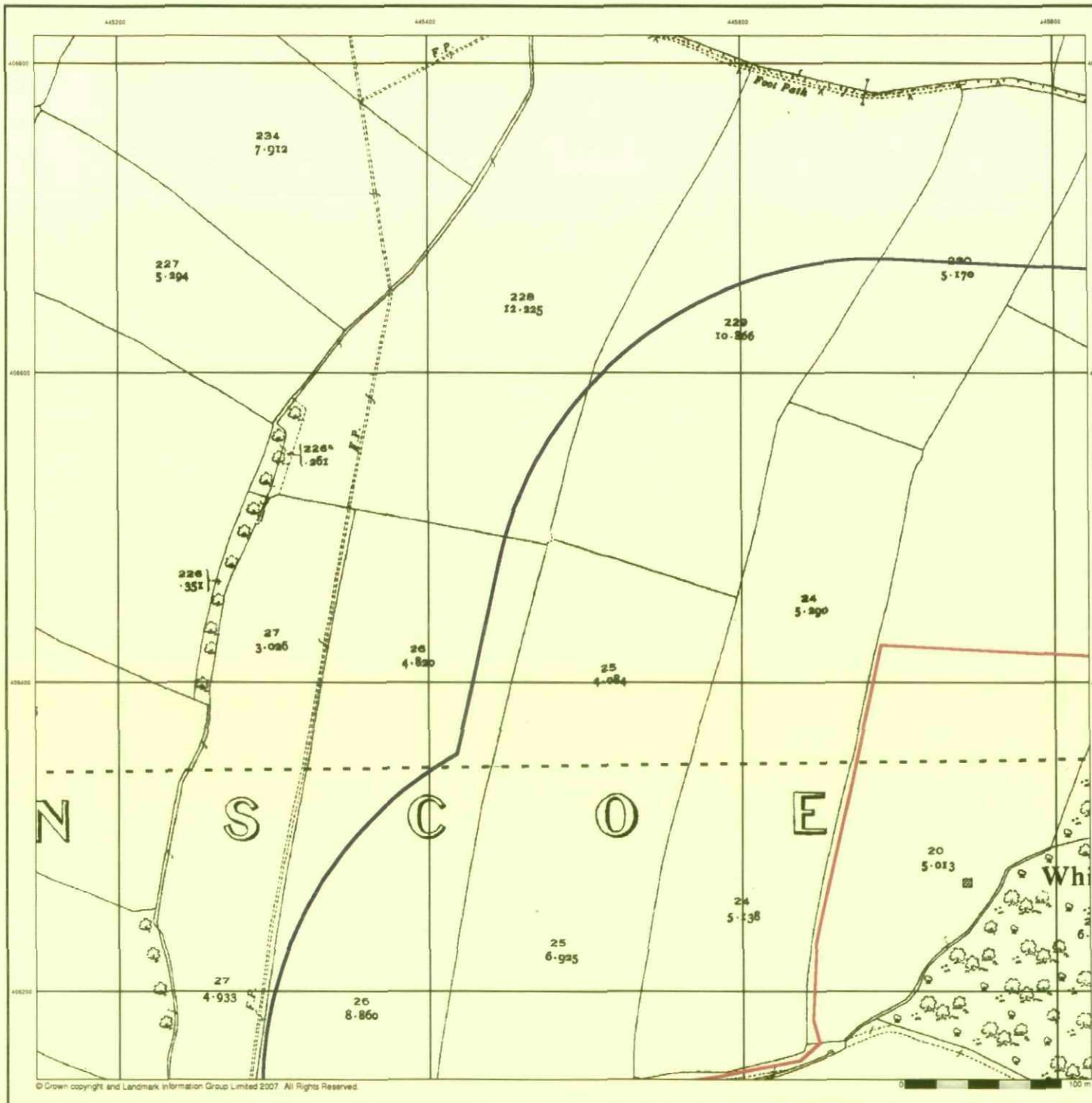
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 Customer Ref: S7/032
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Site Details

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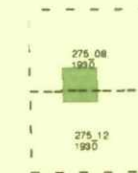
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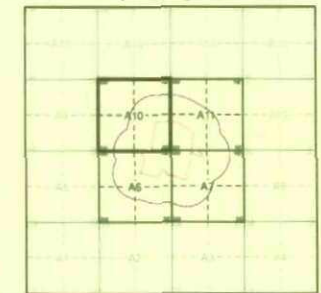
Yorkshire
Published 1930
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A10



Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
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Site Details

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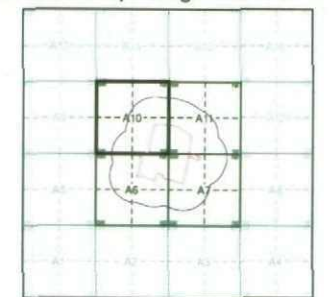
**Ordnance Survey Plan
Published 1962
Source map scale - 1:2,500**

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)



Historical Map - Segment A10



Order Details

Order Number: 21677106_1_1
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 Site Area (Ha): 19.94
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Site Details

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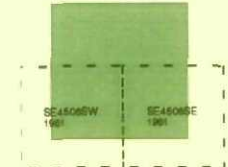


**Ordnance Survey Plan
Published 1961**

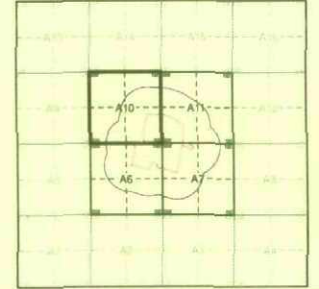
Source map scale - 1:1,250

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)



Historical Map - Segment A10



Order Details

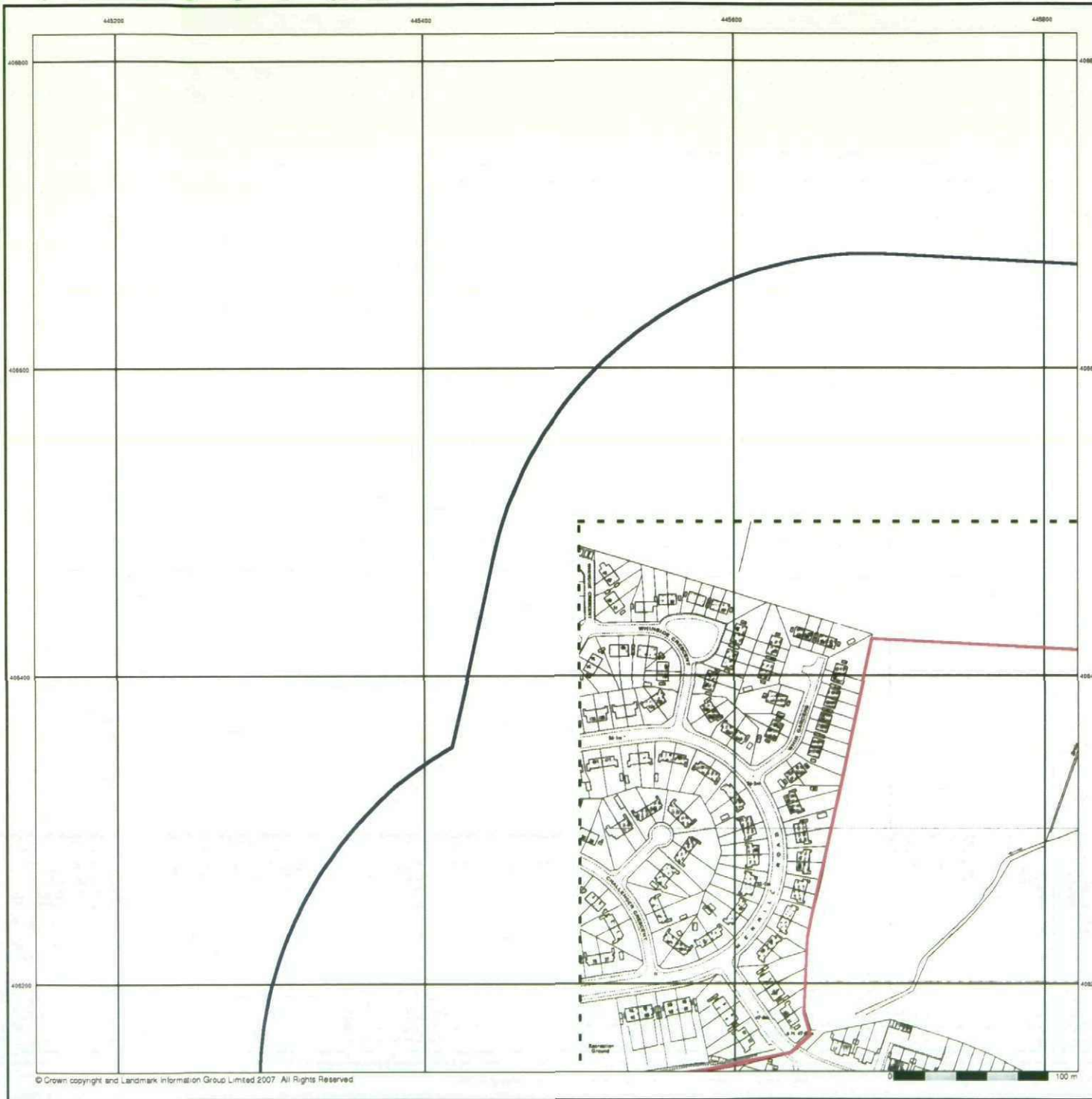
Order Number: 21677106_1_1
 Customer Ref: S7/032
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 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



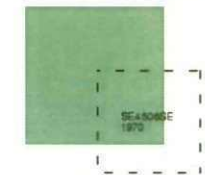
Tel: 0870 850 6670
 Fax: 0870 850 6671
 Web: www.bmvrscheck.co.uk



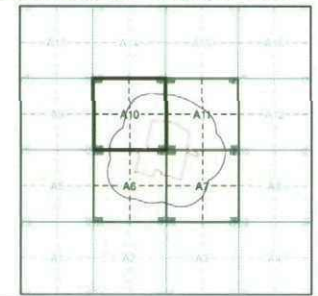
**Ordnance Survey Plan
Published 1970
Source map scale - 1:1,250**

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

Map Name(s) and Date(s)



Historical Map - Segment A10



Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire

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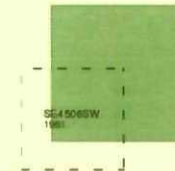


**Additional SIMs
Published 1961**

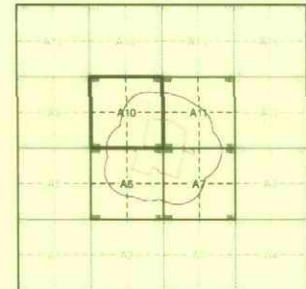
Source map scale - 1:1,250

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)



Historical Map - Segment A10



Order Details

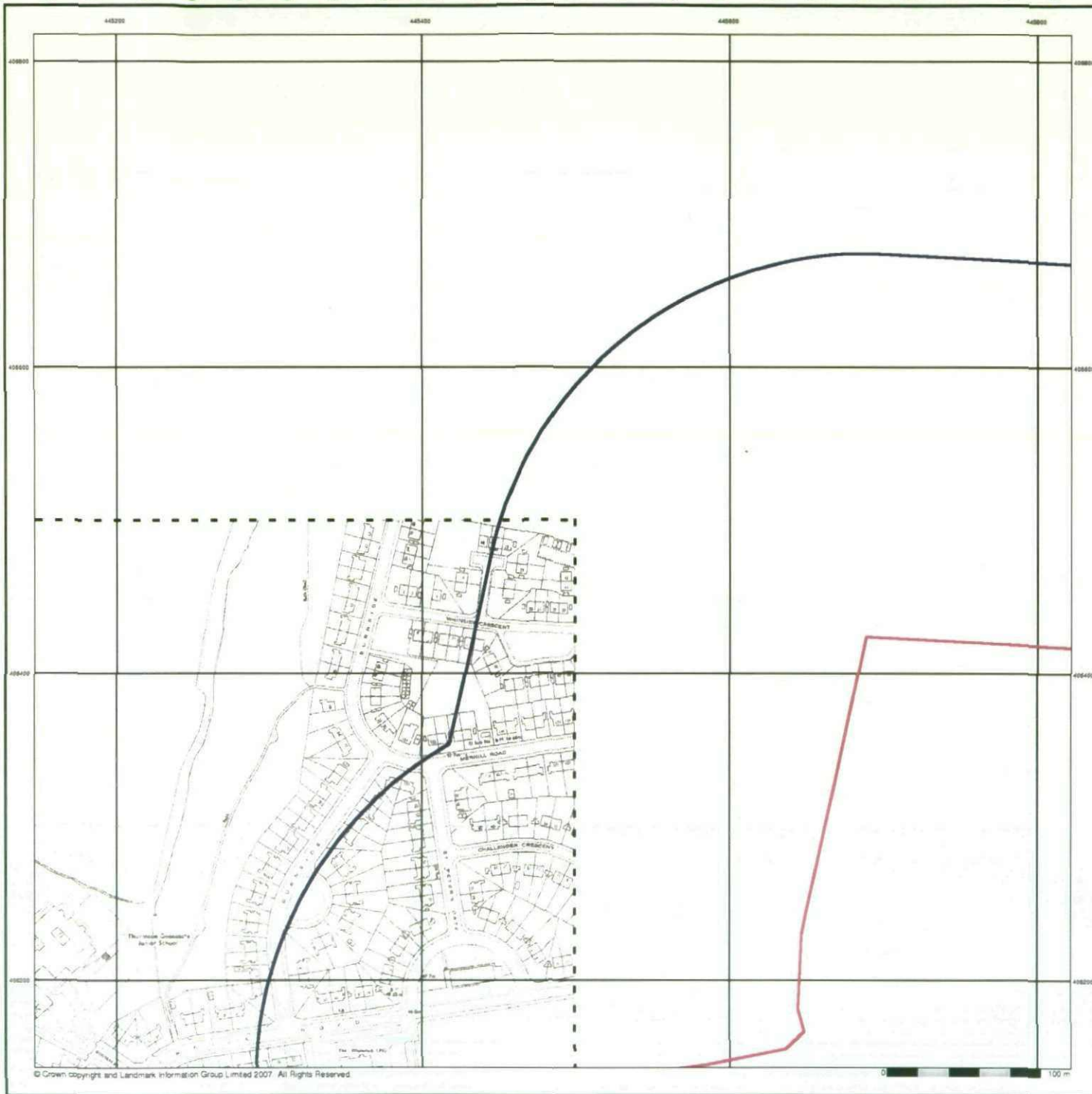
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 Customer Ref: S7/032
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Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



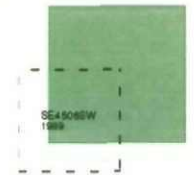
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 Fax: 0870 850 6671
 Web: www.envirocheck.co.uk



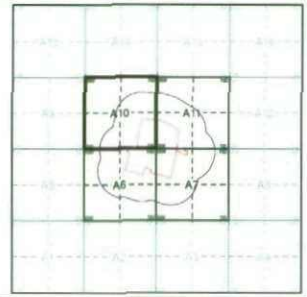
**Additional SIMs
Published 1989
Source map scale - 1:1,250**

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)



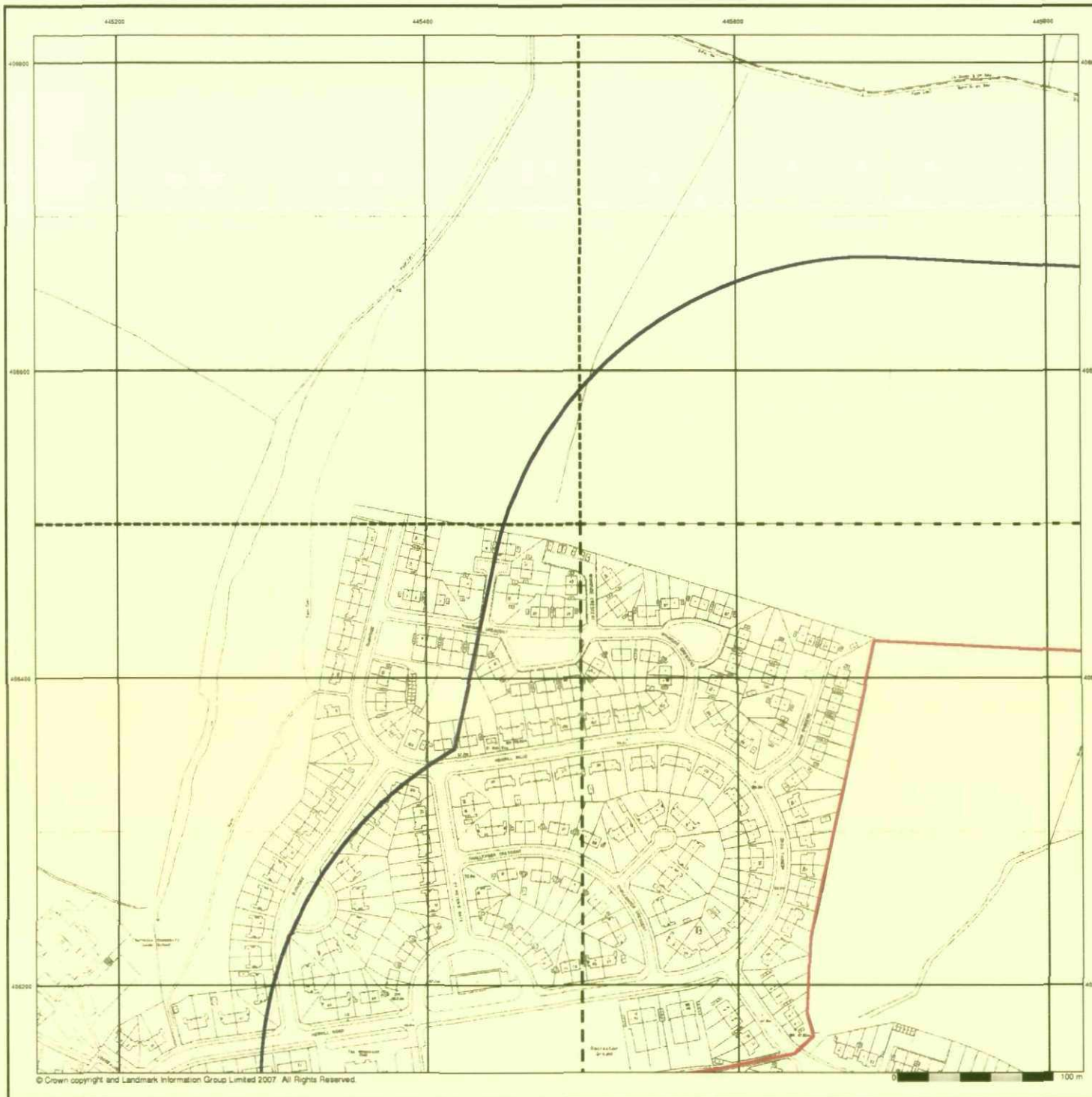
Historical Map - Segment A10



Order Details
 Order Number: 21677106_1_1
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 National Grid Reference: 445810, 406130
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 Site Area (Ha): 19.94
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Site Details
 The Reema Estate, Thurnscoe, Rotherham, South Yorkshire

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**Large-Scale National Grid Data
Published 1993**

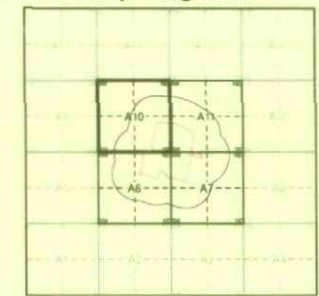
Source map scale - 1:1,250

'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)



Historical Map - Segment A10



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Site Details

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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** **342 -** **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 Borough Boundary (Scotland)**
B.P. B.S. **Boundary Post or Stone** **P.C.B.** **Police Call Box**
B.R. **Bride 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** **T.** **Trough**
M.P. M.L. **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 **B.M.** **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 Pylon or Post** **SB, S Br** **Signal Box or Bridge**
FAP **Fire Alarm Pylon** **SP, SL** **Signal Post or Light**
FB **Foot Bridge** **Spr** **Spring**
GP **Guide Post** **Tx** **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** **Wt Pt, Wt 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

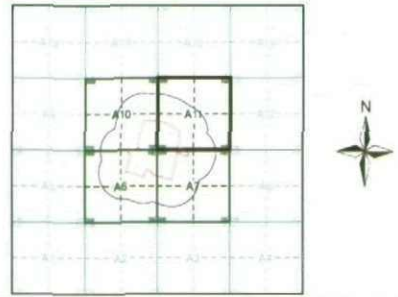
Cliff **Slopes** **Top**
Rock **Rock (scattered)**
Boulders **Boulders (scattered)**
Positioned Boulder **Scree**
Non-Coniferous Tree (surveyed) **Coniferous Tree (surveyed)**
Non-Coniferous Trees (not surveyed) **Coniferous Trees (not surveyed)**
Orchard Tree **Scrub** **Bracken**
Coppice, Osier **Reeds** **Marsh, Saltings**
Rough Grassland **Heath** **Culvert**
Direction of water flow **Triangulation Station** **Antiquity (site of)**
Electricity Transmission Line **Electricity Pylon**
B.M. 324 6n **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**
Cem **Cemetery** **PC** **Public Convenience**
Chy **Chimney** **Pp** **Pump**
Cis **Cistern** **Ppg Sta** **Pumping Station**
Diamd Rly **Dismantled Railway** **PW** **Place of Worship**
EI Gen Sta **Electricity Generating Station** **Sewage Ppg Sta** **Sewage Pumping Station**
EI P **Electricity Pole, Pylon** **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** **Tx** **Tank or Track**
Gas Gov **Gas Valve Compound** **Tr** **Trough**
GVC **Gas Governor** **Wd Pp** **Wind Pump**
GP **Guide Post** **Wt Pt, Wt T** **Water Point, Water Tap**
MH **Manhole** **Wks** **Works (building or area)**
MP, MS **Mile Post or Mile Stone** **W** **Well**



Ordnance Survey mapping included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:2,500	1892	2
Yorkshire	1:2,500	1906	3
Yorkshire	1:2,500	1930	4
Ordnance Survey Plan	1:2,500	1962	5
Ordnance Survey Plan	1:1,250	1961	6
Ordnance Survey Plan	1:1,250	1970	7
Additional SIMs	1:1,250	1961	8
Additional SIMs	1:1,250	1989	9
Large-Scale National Grid Data	1:1,250	1993	10
Large-Scale National Grid Data	1:1,250	1994	11

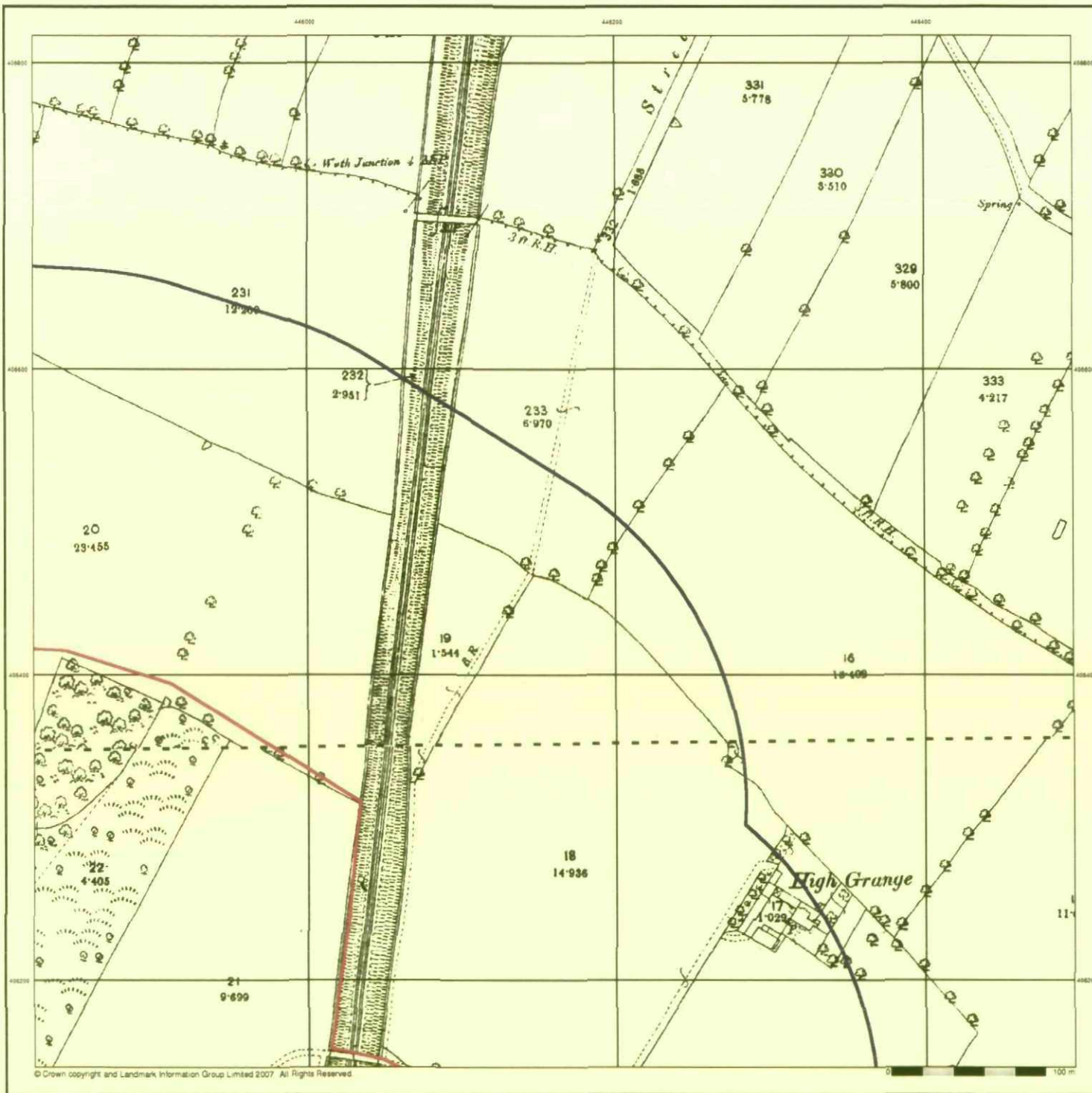
Historical Map - Segment A11



Order Details
 Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details
 The Reema Estate, Thurnscoe, Rotherham, South Yorkshire





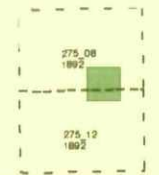
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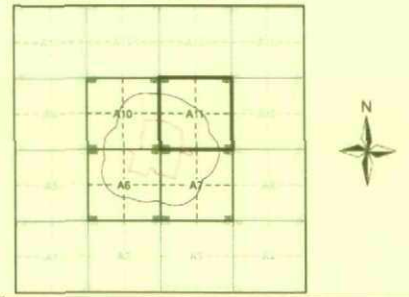
Yorkshire
Published 1892
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

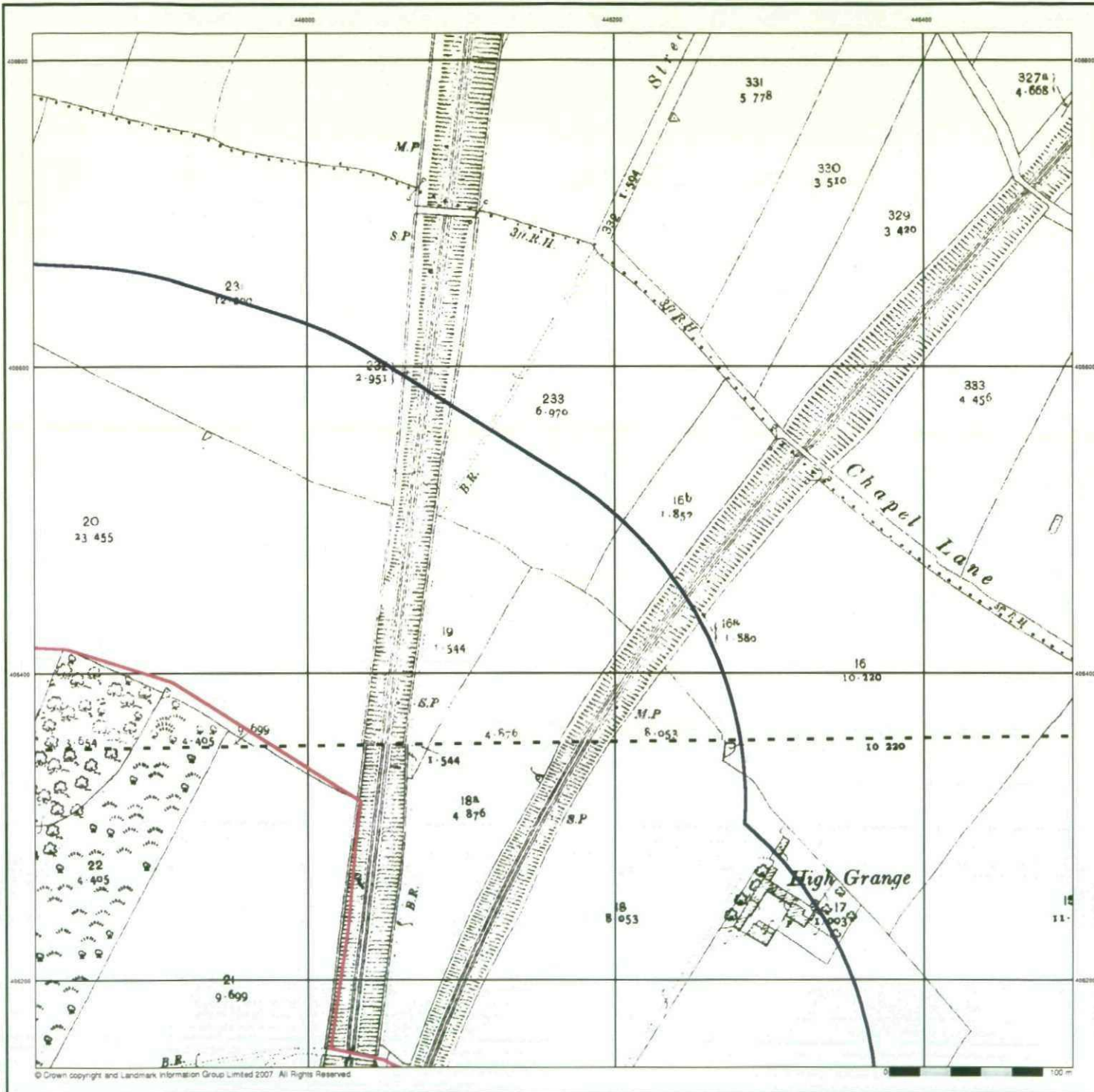
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 Customer Ref: S7/032
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 Slice: A
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 Search Buffer (m): 250

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



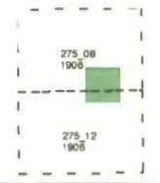
Tel: 0870 850 6670
 Fax: 0870 850 6671
 Web: www.ami/rothcheck.co.uk



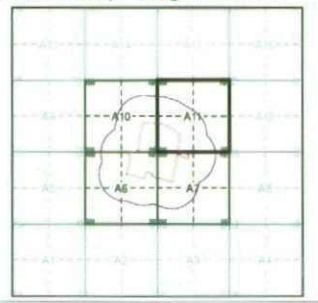
Yorkshire
Published 1906
Source map scale - 1:2,500

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)



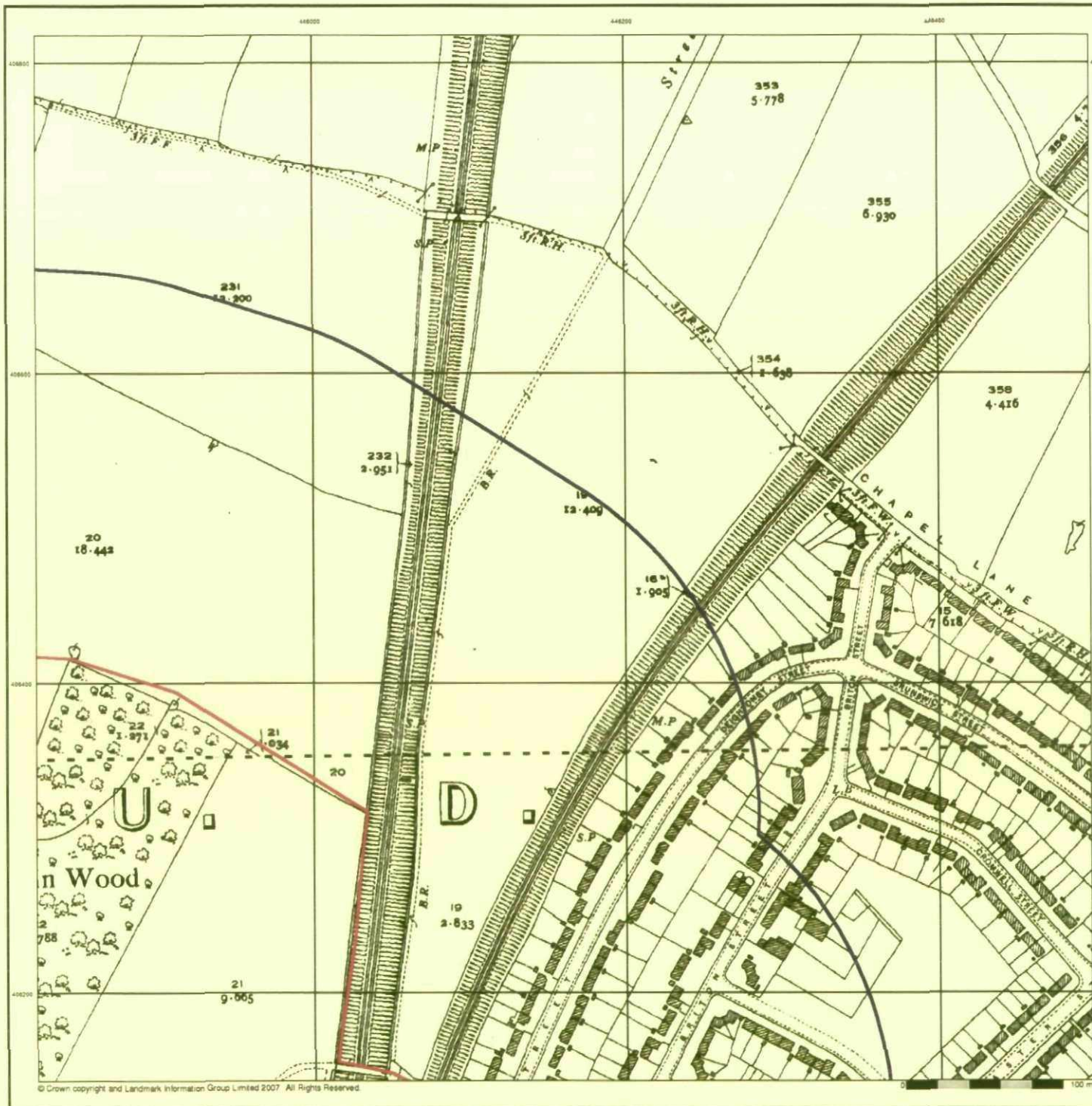
Historical Map - Segment A11



Order Details
 Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details
 The Reema Estate, Thurnscoe, Rotherham, South Yorkshire

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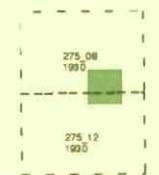
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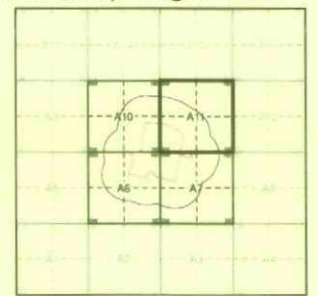
Yorkshire
Published 1930
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



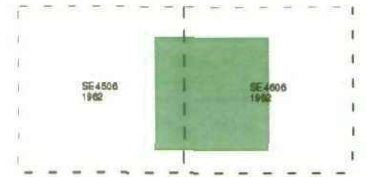
Tel: 0870 850 8670
 Fax: 0870 850 6671
 Web: www.envisi-check.co.uk



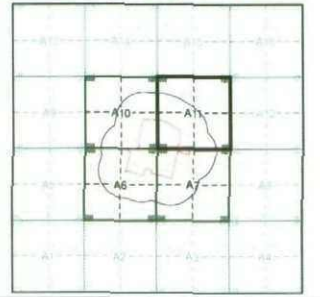
**Ordnance Survey Plan
Published 1962
Source map scale - 1:2,500**

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)



Historical Map - Segment A11



Order Details

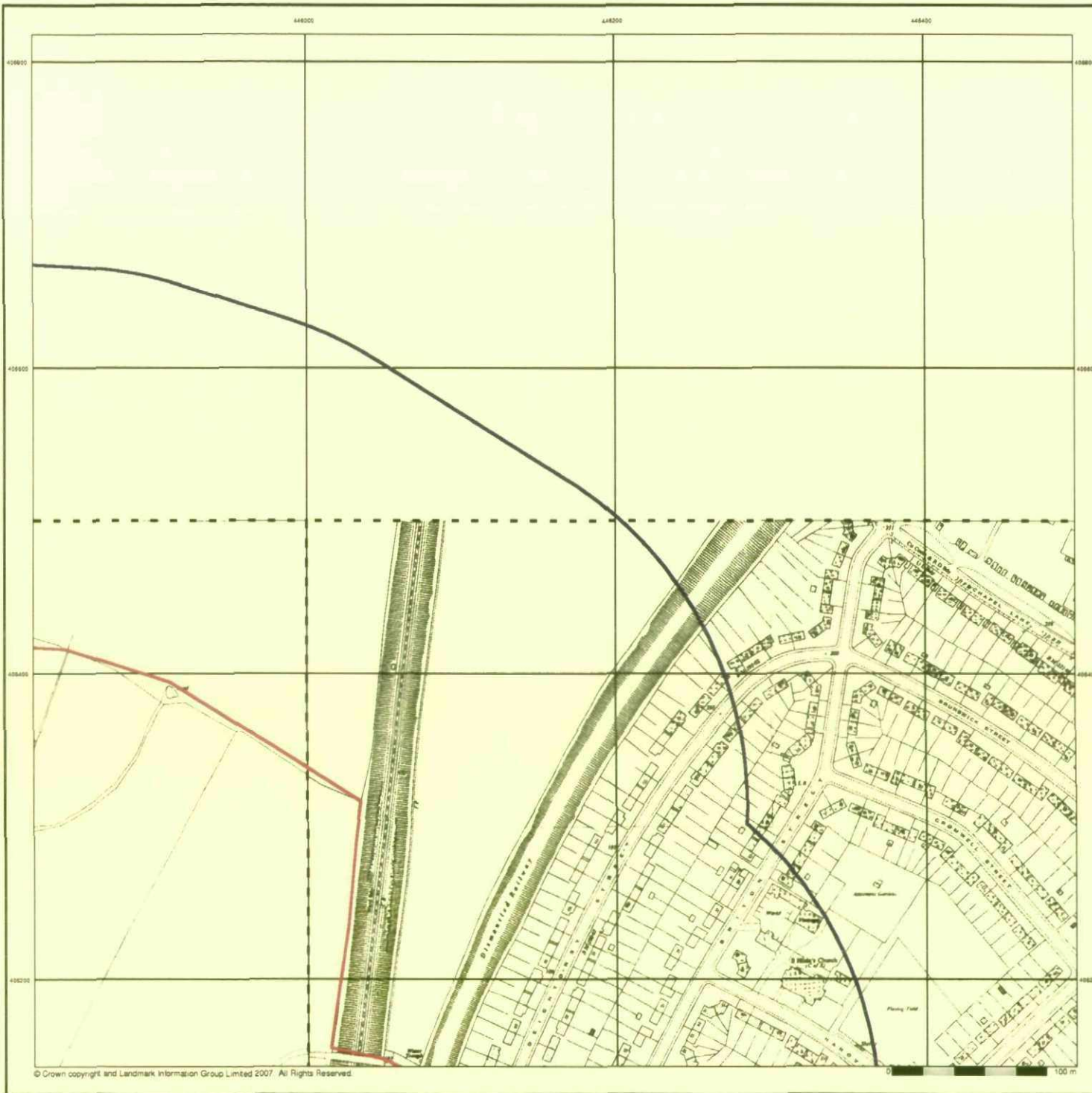
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 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



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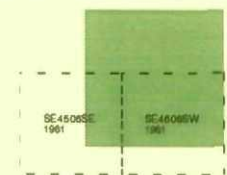


**Ordnance Survey Plan
Published 1961**

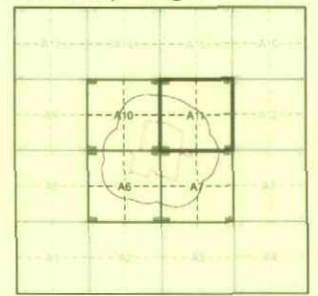
Source map scale - 1:1,250

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)



Historical Map - Segment A11



Order Details

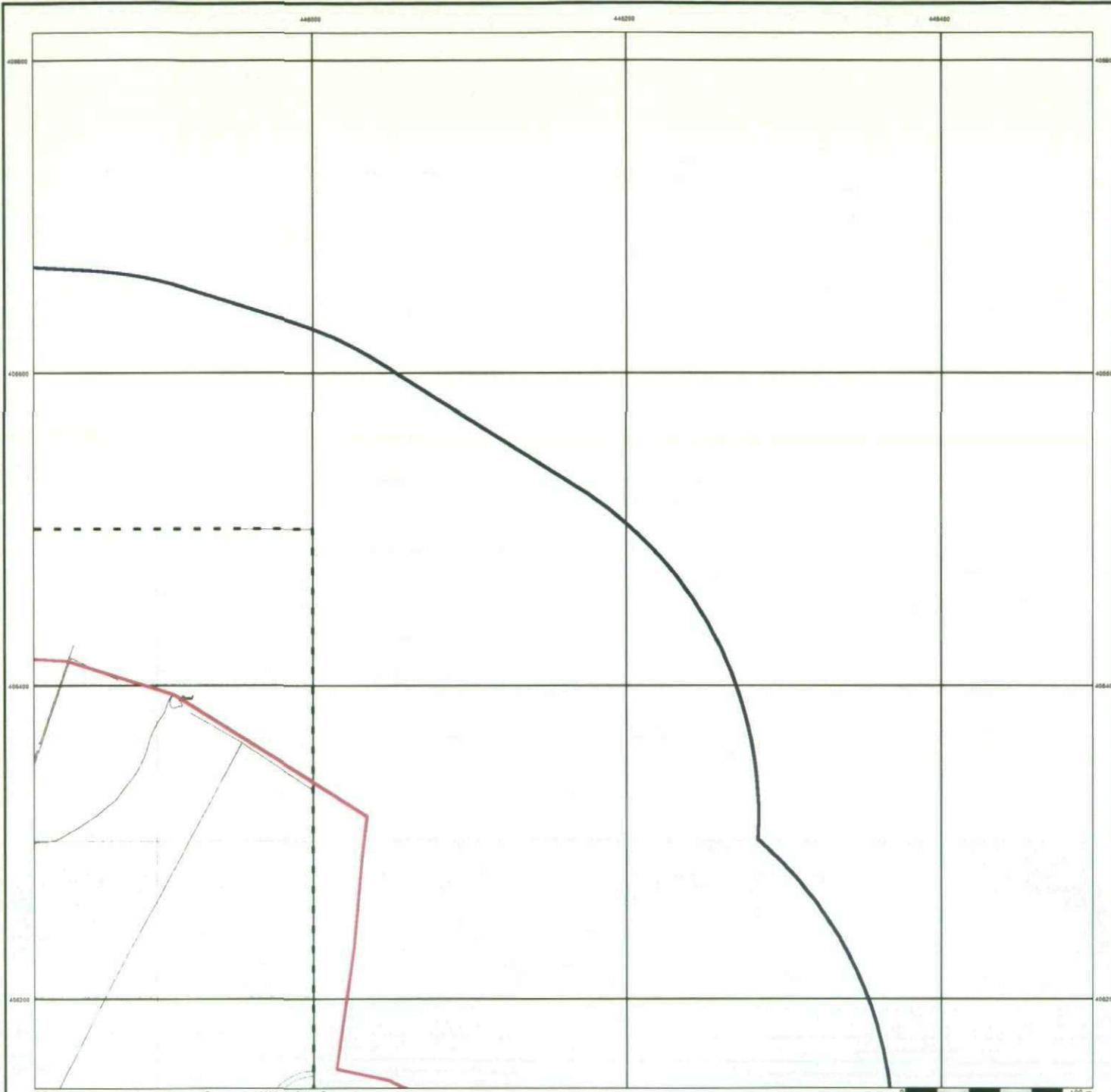
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 Search Buffer (m): 250

Site Details

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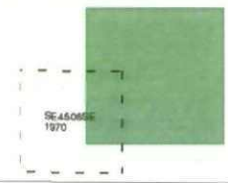
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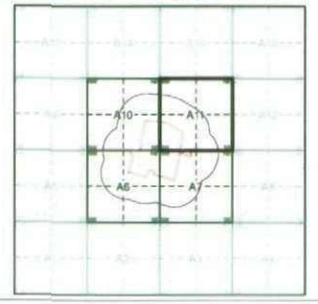
**Ordnance Survey Plan
Published 1970
Source map scale - 1:1,250**

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

Map Name(s) and Date(s)



Historical Map - Segment A11



Order Details

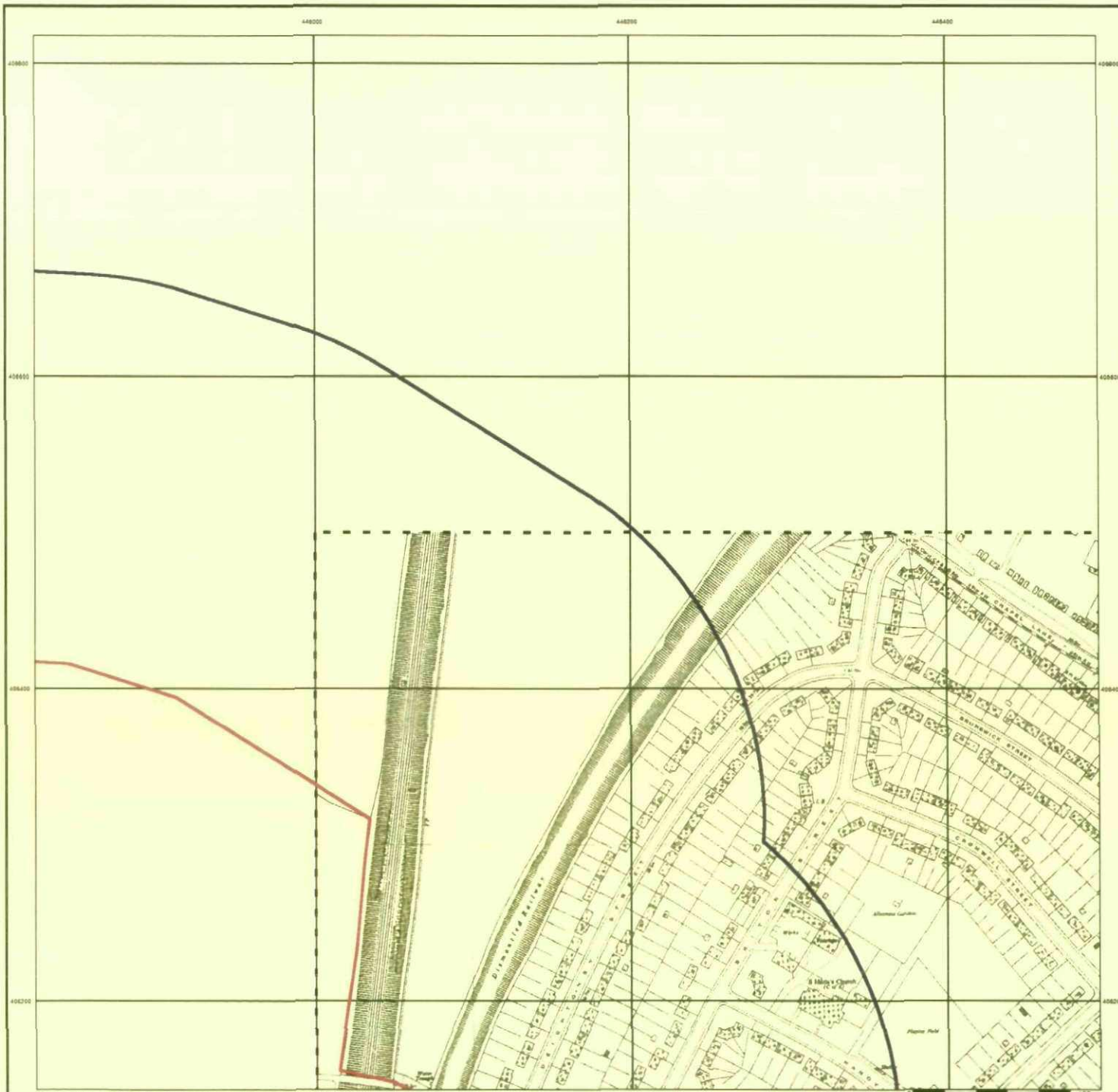
Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details

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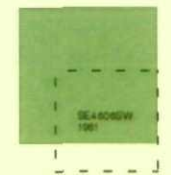


**Additional SIMs
Published 1961**

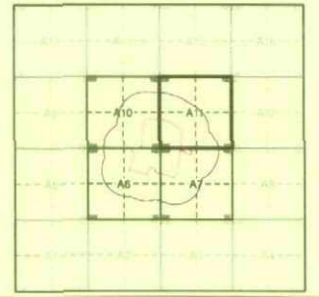
Source map scale - 1:1,250

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)



Historical Map - Segment A11



Order Details

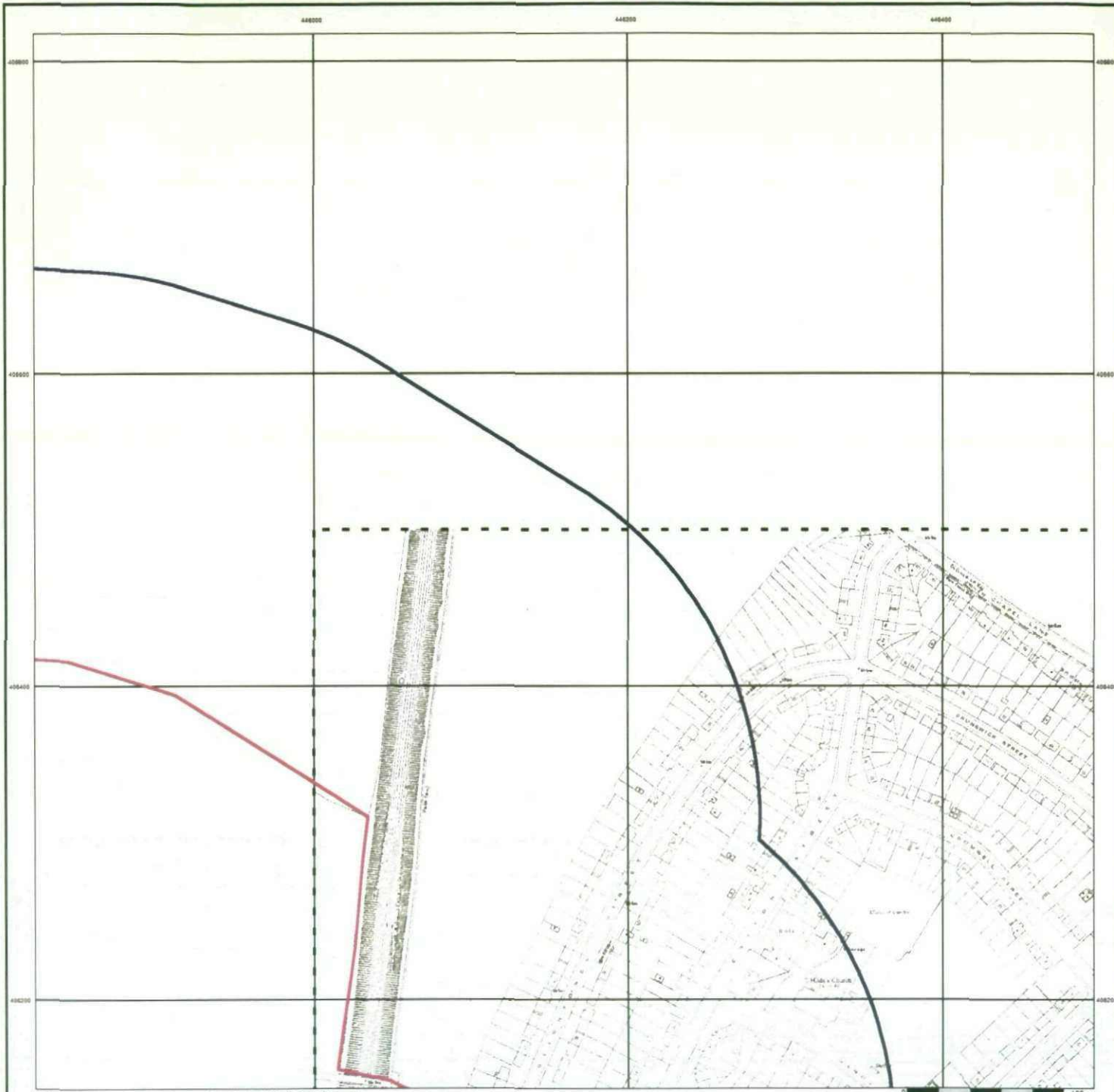
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 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details

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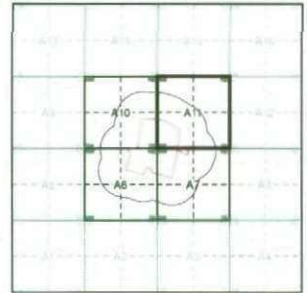
**Additional SIMs
Published 1989
Source map scale - 1:1,250**

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)



Historical Map - Segment A11



Order Details

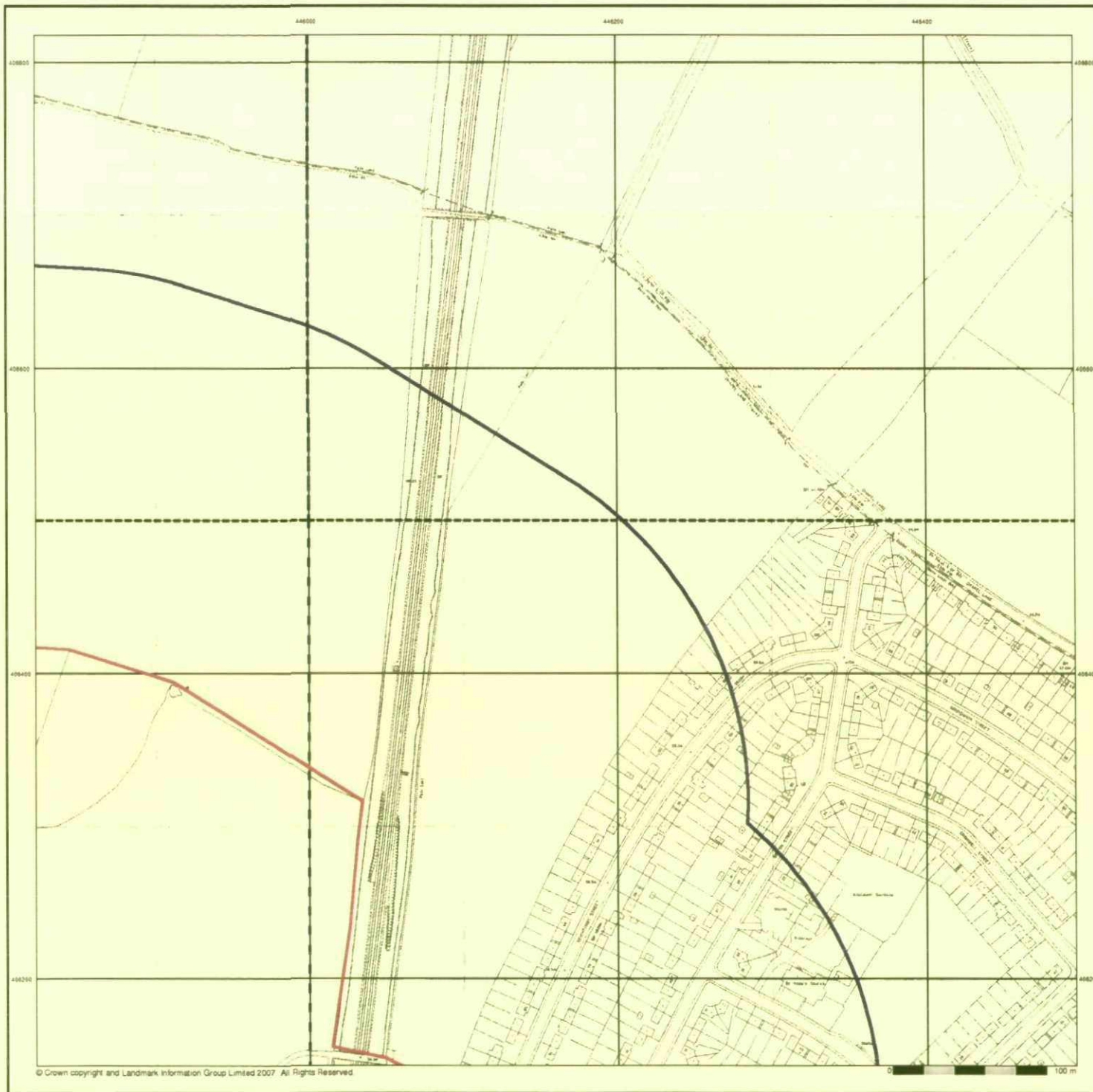
Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details

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**Large-Scale National Grid Data
Published 1993**

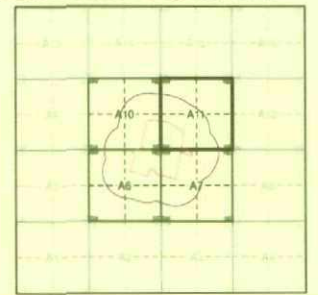
Source map scale - 1:1,250

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)



Historical Map - Segment A11



Order Details

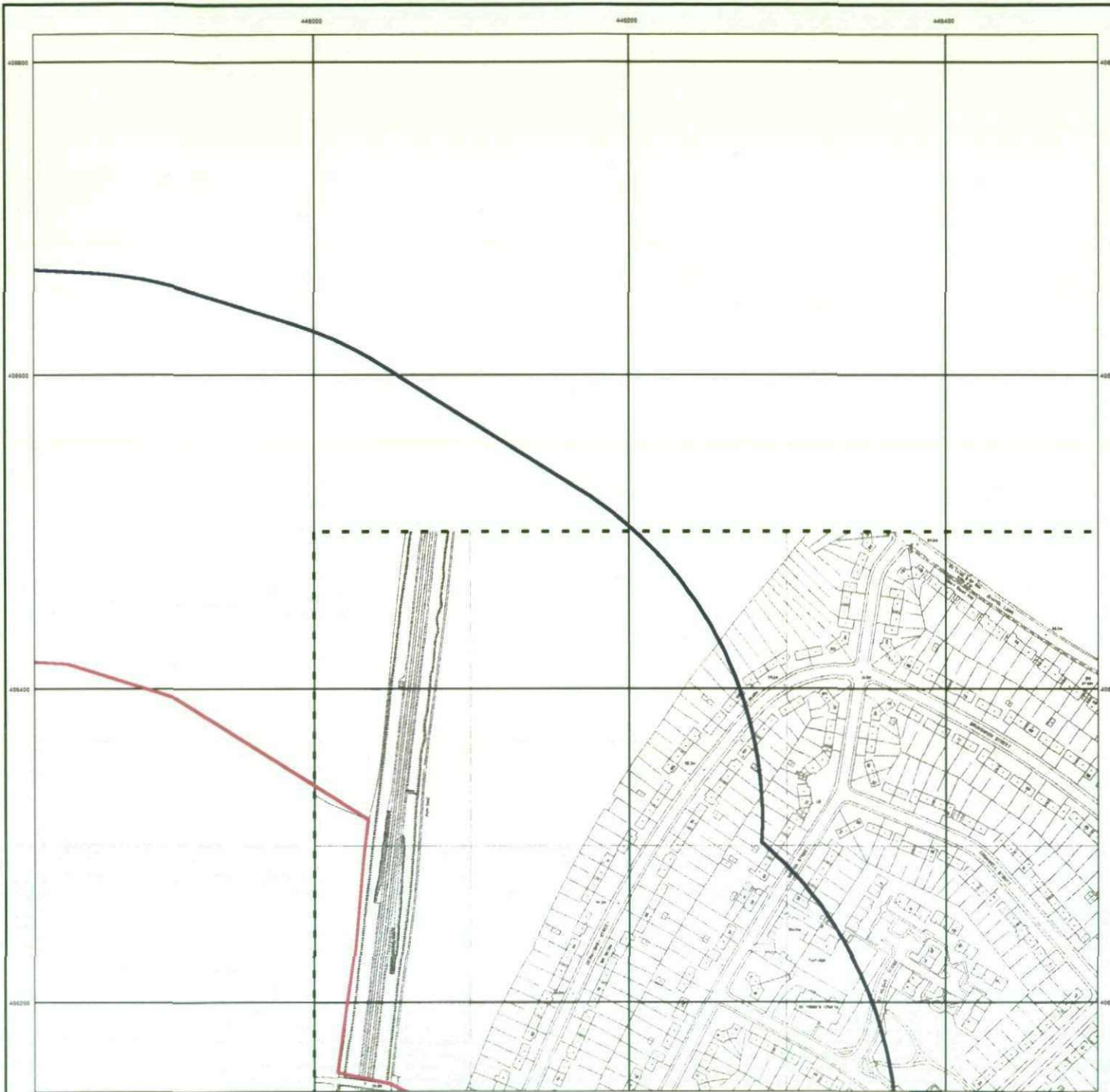
Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



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**Large-Scale National Grid Data
Published 1994**

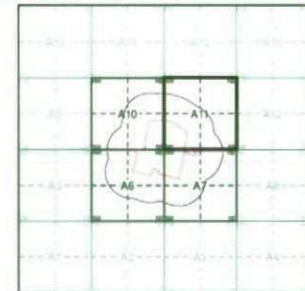
Source map scale - 1:1,250

'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 A11



Order Details

Order Number: 21677106_1_1
 Customer Ref: S7/032
 National Grid Reference: 445810, 406130
 Slice: A
 Site Area (Ha): 19.94
 Search Buffer (m): 250

Site Details

The Reema Estate, Thurnscoe, Rotherham, South Yorkshire



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Issued by:

The Coal Authority, Mining Reports Office, 200 Lichfield Lane, Berry Hill, Mansfield, Nottinghamshire NG18 4RG
 On-Line Service: www.coalminingreports.co.uk - Phone: 0845 762 6848 - DX 716176 MANSFIELD 5

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 ABATECH INTERNATIONAL LTD,
 4 PARK SQUARE,
 NEWTON CHAMBERS ROAD,
 CHAPELTOWN,
 SHEFFIELD,
 SOUTH YORKSHIRE,
 S35 2PH

Person dealing with this matter:	Darren Moody
Our reference:	00059123-07
Your reference:	S7/032
Electronic Ref:	EME_00006919000001_005
RRUID:	005.00006919000001
Date of your enquiry:	29 May 2007
Date we received your enquiry:	29 May 2007
Date of issue:	12 June 2007

This report is for the property described in the address below and the attached plan.

Coal and Brine Report

Land Off, Brunswick Street, Thurnscoe, Rotherham, South Yorkshire

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.

Coal mining	Yes
Brine extraction	No

Information from the Coal Authority

Underground Coal Mining

Past

The property is in the likely zone of influence from workings in 7 seams of coal at 160m to 790m depth, and last worked in 1981.

Any ground movement from these coal workings should have stopped by now.

Present

The property is not in the likely zone of influence of any present underground coal workings.

Future

The property is not in an area for which the Coal Authority is determining whether to grant a licence to remove coal using underground methods.

The property is not in an area for which a licence has been granted to remove coal using underground methods.

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The property is not in an area that is likely to be affected at the surface from any planned future workings.

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

No notice of the risk of the land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

Mine entries

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

Coal-mining geology

At the surface, there are no known faults or other lines of weakness due to coal mining that have made the property unstable.

Opencast Coal Mining

Past

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

Present

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

Future

The property is not within 800 metres of the boundary of an opencast site for which the Coal Authority is determining whether to grant a licence to remove coal by opencast methods.

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.

Coal-mining subsidence

Claim(s) within, or intersecting, the property boundary that do not match the property address are shown on the attached plan.

The Coal Authority has not received a request to carry out preventive work before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property.

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.

Withdrawal of Support

The property is in an area for which a notice of entitlement to withdraw support was published in 1946.

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

Working Facilities Orders

The property is not in an area for which 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.

Payments to Owners of Former Copyhold Land

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

Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Additional remarks

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 2006. The report is compliant with Home Information Pack requirements.

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Issued by:	The Coal Authority, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG
Date:	12 Jun 2007
Ground stability report at:	Land Off, Brunswick Street, Thurnscoe, Rotherham, South Yorkshire
Reference number:	00059123-07
Cost:	£42.56
Plus VAT:	£7.44
Total received:	£50.00
VAT registration number:	598 5850 68

Location map



Approximate position of property



Enquiry boundary

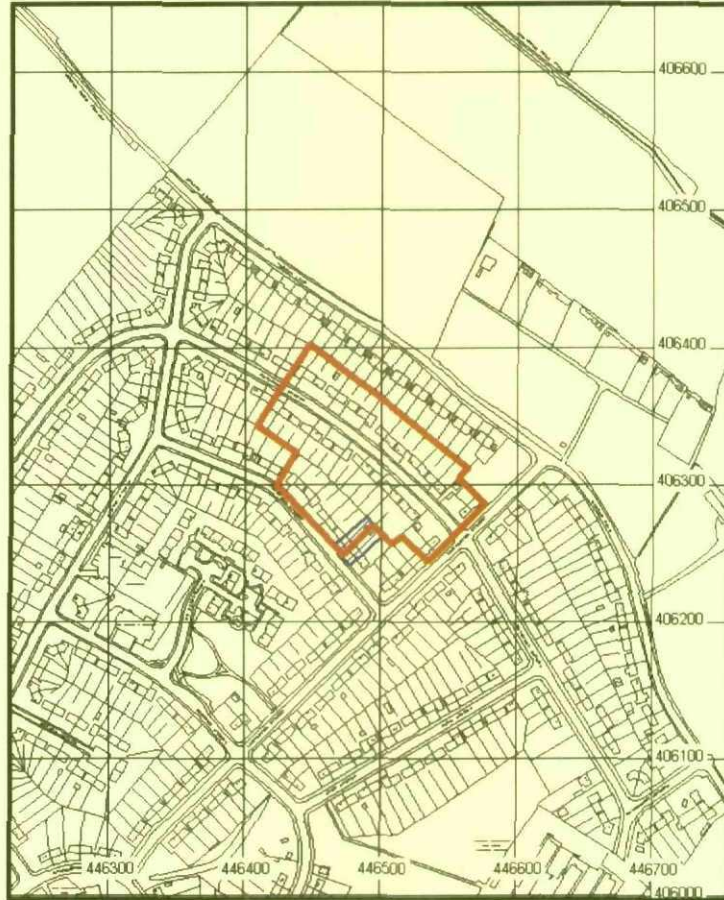
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Key

Approximate position of enquiry boundary shown



Coal Authority mining subsidence claim boundary shown



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 On-Line Service: www.coalminingreports.co.uk - Phone: 0845 762 6848 - DX 716176 MANSFIELD 5

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 ABATECH INTERNATIONAL LTD,
 4 PARK SQUARE,
 NEWTON CHAMBERS ROAD,
 CHAPELTOWN,
 SHEFFIELD,
 SOUTH YORKSHIRE,
 S35 2PH

Person dealing with this matter:	Darren Moody
Our reference:	00059096-07
Your reference:	S7/032
Electronic Ref:	EME_00006918940001_005
RRUID:	005.00006918940001
Date of your enquiry:	29 May 2007
Date we received your enquiry:	29 May 2007
Date of issue:	12 June 2007

This report is for the property described in the address below and the attached plan.

Coal and Brine Report

Land At The Reema Estate, Thurnscoe, Rotherham, South Yorkshire

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.

Coal mining	Yes
Brine extraction	No

Information from the Coal Authority

Underground Coal Mining

Past

The property is in the likely zone of influence from workings in 8 seams of coal at 130m to 800m depth, and last worked in 1981.

Any ground movement from these coal workings should have stopped by now.

Present

The property is not in the likely zone of influence of any present underground coal workings.

Future

The property is not in an area for which the Coal Authority is determining whether to grant a licence to remove coal using underground methods.

The property is not in an area for which a licence has been granted to remove coal using underground methods.

The property is not in an area that is likely to be affected at the surface from any planned future workings.

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

No notice of the risk of the land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

Mine entries

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

Coal-mining geology

At the surface, there are no known faults or other lines of weakness due to coal mining that have made the property unstable.

Opencast Coal Mining

Past

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

Present

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

Future

The property is not within 800 metres of the boundary of an opencast site for which the Coal Authority is determining whether to grant a licence to remove coal by opencast methods.

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.

Coal-mining subsidence

The Coal Authority has not received a damage notice or claim for the property since 1 January 1984. There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority has not received a request to carry out preventive work before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property.

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.

Withdrawal of Support

The property is in an area for which a notice of entitlement to withdraw support was published in 1946.

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

Working Facilities Orders

The property is not in an area for which 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.

Payments to Owners of Former Copyhold Land

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

Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

Additional remarks

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 2006. The report is compliant with Home Information Pack requirements.

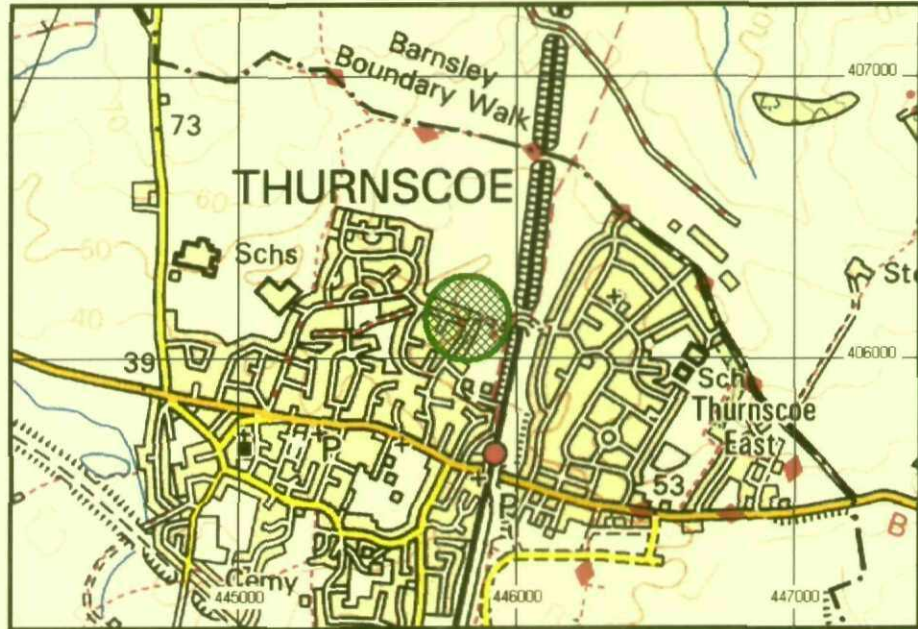
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Issued by:	The Coal Authority, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG
Date:	12 Jun 2007
Ground stability report at:	Land At The Reema Estate, Thumscoe, Rotherham, South Yorkshire
Reference number:	00059096-07
Cost:	£42.56
Plus VAT:	£7.44
Total received:	£50.00
VAT registration number:	598 5850 68

Location map



Approximate position of property

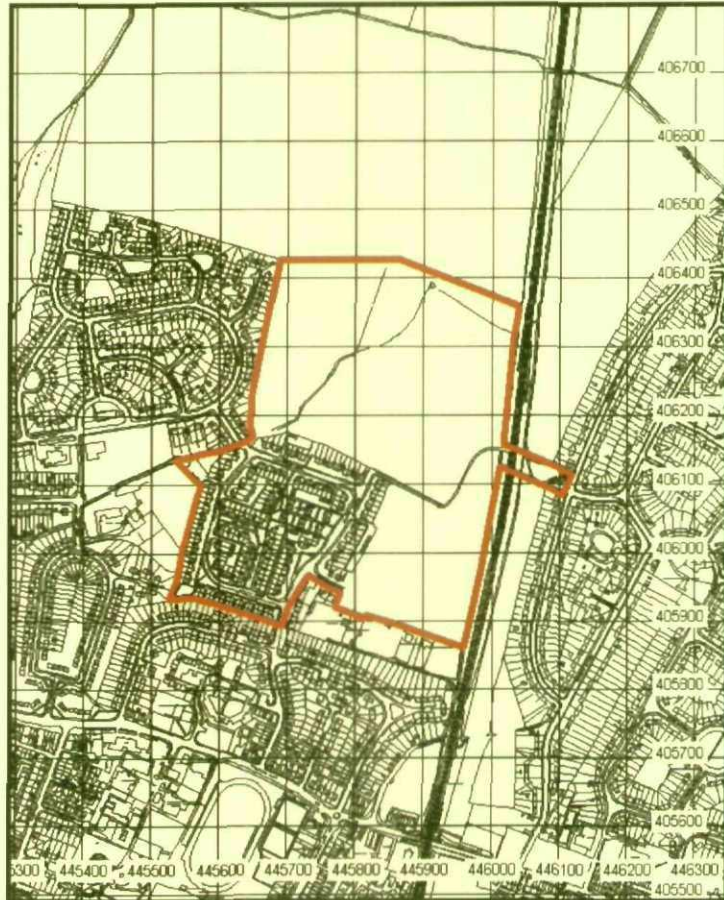


Enquiry boundary

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Key

Approximate position of enquiry boundary shown



PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP01

CLIENT Barratt Sheffield

DATE 24/09/2007


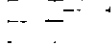
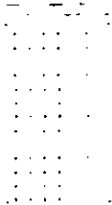
METHOD JCB 3CX

PROJECT No. S7/032

EASTING

NORTHING

GROUND LEVEL (mAOD)

SOUNDING NO.	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
		TOPSOIL					
	0.40	Firm orange brown mottled grey very sandy CLAY					
	1.90	WEATHERED SANDSTONE covered with grey gravel					
	2.50	End of Trial Pit at 2.50 m					

KEY :

Sample Type :

- T - Plastic Tub
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- Water Strike
- ▼ - Water Level

In-situ Tests :

- HSV - Hand Shear Vane (N/mm²)
- PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP02

CLIENT Barratt Sheffield

DATE 24/09/2007

METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
		TOPSOIL					
	0.40	Orange brown clayey SAND			● 0.40	D 001	
	0.90	Firm orange brown, mottled grey, very sandy CLAY					
	1.90	WEATHERED SANDSTONE recovered as weak grey gravel					
	2.50	End of Trial Pit at 2.50 m					

KEY :

Sample Type :

- T - Plastic Tub
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- - Water Strike
- ▼ - Water Level

In-situ Tests :

- HSV - Hand Shear Vane (kN/m²)
- PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP03

CLIENT Barratt Sheffield

DATE 24/09/2007

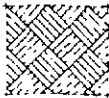
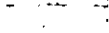



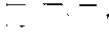

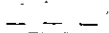
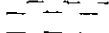


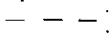

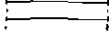
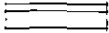
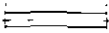
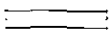
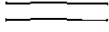
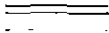
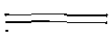
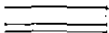


METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER TYPE	DEPTH (m)	DESCRIPTION	LEGEND	SAMPLES & TESTS			
				LEVEL (mAOD)	DEPTH (m)	TYPE	TEST RESULTS
		TOPSOIL					
	0.30	Orange brown clayey SAND					
	0.45	Firm orange brown mottled grey very sandy CLAY					
							
	1.60	WEATHERED CARBONACEOUS MUDSTONE recovered as very weak dark grey gravel					
							
	1.90	WEATHERED MUDSTONE recovered as weak light grey gravel					
							
							
							
							
							
							
							
							
							
							
							
							
							
							
							
	2.50	End of Trial Pit at 2.50 m					

KEY :

Sample Type :
 T - Plastic Tub
 J - Amber Glass Jar
 V - Glass Vial
 W - Water
 D - Disturbed

Groundwater :
 - Water Strike
 ▼ - Water Level

In-situ Tests :
 HSV - Hand Shear Vane (kN/m²)
 PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP04

CLIENT Barratt Sheffield

DATE 24/09/2007




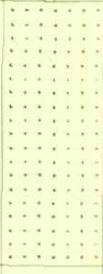
METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
		TOPSOIL					
	0.30	Orange brown clayey SAND			● 0.40	D 001	
	0.60	Firm orange brown, mottled grey, very sandy CLAY 10mm Land drain at 1.00m					
	1.40	WEATHERED SANDSTONE recovered as weak grey gravel					
	2.30	End of Trial Pit at 2.30 m					

KEY :

Sample Type :

- T - Plastic Tub
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- ☐ - Water Strike
- ▼ - Water Level

In-situ Tests :

- HSV - Hand Shear Vane (kN/m²)
- PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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


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PROJECT Brunswick Street & Reema Estate				TRIAL PIT No. TP05			
CLIENT Barratt Sheffield				DATE 24/09/2007			
METHOD JCB 3CX				PROJECT No. S7/032			
EASTING -		NORTHING -		GROUND LEVEL (mAOD) -			
GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
	0.30	TOPSOIL					
		Stiff grey sandy CLAY.					
	0.70	WEATHERED SANDSTONE recovered as weak orange brown gravel with rare ironstone gravel.					
	1.45	SANDSTONE recovered as strong orange grey gravel.					
	1.65	End of Trial Pit at 1.65 m					
KEY : Sample Type : T - Plastic Tub J - Amber Glass Jar V - Glass Vial W - Water D - Disturbed Groundwater :  - Water Strike  - Water Level In-situ Tests : HSV - Hand Shear Vane (kN/m ²) PP - Pocket Penetrometer (daN/cm ²)			REMARKS :				
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FIG	SCALE 1:25	Sheet 1 of 1					

PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP06

CLIENT Barratt Sheffield

DATE 24/09/2007

METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
	0.20	TOPSOIL					
	0.65	Firm orange slightly sandy CLAY					
	1.90	Firm to stiff orange brown sandy CLAY					
	2.35	WEATHERED SANDSTONE recovered as weak grey gravel					
	2.35	End of Trial Pit at 2.35 m					

KEY :

Sample Type :

- T - Plastic Tub
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- Water Strike
- Water Level

In-situ Tests :

- HSV - Hand Shear Vane (kN/m²)
- PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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FIG

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP07

CLIENT Barratt Sheffield

DATE 24/09/2007

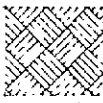





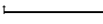

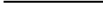
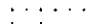
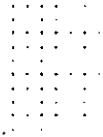
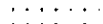

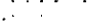
METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS	
					DEPTH (m)	TEST RESULTS
		TOPSOIL				
	0.30	Firm orange mottled grey slightly sandy CLAY				
						
						
						
						
	1.50	WEATHERED MUDSTONE recovered as very weak gravel				
						
						
						
	1.90	WEATHERED SANDSTONE recovered as weak grey gravel				
						
						
						
	2.55	End of Trial Pit at 2.55 m				

KEY :

- Sample Type :**
 T - Plastic Tub
 J - Amber Glass Jar
 V - Glass Vial
 W - Water
 D - Disturbed

- Groundwater :**
 · Water Strike
 ▼ Water Level

- In-situ Tests :**
 HSV Hand Shear Vane (kN/m²)
 PP Pocket Penetrometer (daN/cm²)

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP08

CLIENT Barratt Sheffield

DATE 24/09/2007



METHOD JCB 3CX

PROJECT No. S7/032



EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
	0.30	TOPSOIL					
		Firm to stiff orange mottled grey sandy CLAY					
	1.60	WEATHERED SANDSTONE recovered as weak grey gravel					
	2.60	End of Trial Pit at 2.60 m					

KEY :
Sample Type :
 T - Plastic Tub
 J - Amber Glass Jar
 V - Glass Vial
 W - Water
 D - Disturbed

Groundwater :
 - Water Strike
 - Water Level

In-situ Tests :
 HSV - Hand Shear Vane (kN/m²)
 PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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FIG	SCALE 1:25	Sheet 1 of 1



PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP09

CLIENT Barratt Sheffield

DATE 24/09/2007

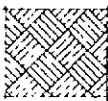

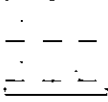

METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
	0.30	TOPSOIL					
		Firm orange grey sandy CLAY			0.40	D	001
	1.20	WEATHERED MUDSTONE recovered as weak grey gravel					
	1.80	SANDSTONE recovered as very strong orange grey gravel					
	1.90	End of Trial Pit at 1.90 m					

KEY :
Sample Type :
 T - Plastic Tub
 J - Amber Glass Jar
 V - Glass Vial
 W - Water
 D - Disturbed

Groundwater :
 - Water Strike
 ▼ - Water Level

In-situ Tests :
 HSV - Hand Shear Vane (kN/m²)
 PP - Pocket Penetrometer (daN/cm²)

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP10

CLIENT Barratt Sheffield

DATE 24/09/2007




METHOD JCB 3CX

PROJECT No. S7/032



EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
	0.30	TOPSOIL					
		Firm to stiff orange grey sandy CLAY					
	1.30	SANDSTONE recovered as strong orange grey gravel					
	1.80	End of Trial Pit at 1.85 m					

KEY :
Sample Type :
 T - Plastic Tub
 J - Amber Glass Jar
 V - Glass Vial
 W - Water
 D - Disturbed

Groundwater :
 - Water Strike
 - Water Level

In-situ Tests :
 HSV - Hand Shear Vane (kN/m²)
 PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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FIG	SCALE 1:25	Sheet 1 of 1



PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP11

CLIENT Barratt Sheffield

DATE 24/09/2007

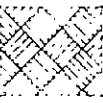
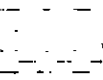
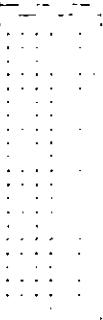
METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

HANDWRITTEN MARK	DEPTH (m)	DESCRIPTION	LEGEND	SAMPLES & TESTS			
				LEVEL (mAOD)	DEPTH (m)	TYPE	TEST RESULTS
		TOPSOIL					
	0.30	Firm to stiff orange grey very sandy CLAY					
	1.10	SANDSTONE recovered as strong orange grey gravel					
	2.10	End of Trial Pit at 2.10 m					

KEY :

Sample Type :
 T - Plastic Tub
 J - Amber Glass Jar
 V - Glass Vial
 W - Water
 D - Disturbed

Groundwater :
 - Water Strike
 ▼ - Water Level

In-situ Tests :
 HSV - Hand Shear Vane (kN/m²)
 PP - Pocket Penetrometer (kN/cm²)

REMARKS :

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP12

CLIENT Barratt Sheffield

DATE 24/09/2007

METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
		TOPSOIL					
	0.30	Firm to stiff orange grey very sandy CLAY			● 0.40	D 001	
	0.90	Firm to stiff orange brown mottled grey sandy CLAY					
	1.55	SANDSTONE recovered as strong orange grey gravel					
	1.65	End of Trial Pit at 1.65 m					

KEY :
Sample Type :
 T - Plastic Tub
 J - Amber Glass Jar
 V - Glass Vial
 W - Water
 D - Disturbed

Groundwater :
 - Water Strike
 - Water Level

In-situ Tests :
 HSV - Hand Shear Vane (kN/m²)
 PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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FIG	SCALE 1:25	Sheet 1 of 1



PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP13

CLIENT Barratt Sheffield

DATE 24/09/2007

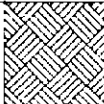
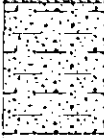
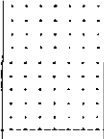
METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
		TOPSOIL					
	0.35	Light yellow grey very clayey gravelly SAND. Gravel is angular to subangular fine to coarse of sandstone			● 0.40	D 001	
	0.80	SANDSTONE recovered as strong orange grey gravel					
	1.25	End of Trial Pit at 1.25 m					

KEY :

Sample Type :

- T - Plastic Tub
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- - Water Strike
- ▼ - Water Level

In-situ Tests :

- HSV - Hand Shear Vane (kNm²)
- PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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FIG	SCALE 1:25	Sheet 1 of 1

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP14

CLIENT Barratt Sheffield

DATE 24/09/2007


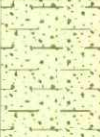
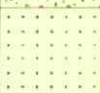
METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
		TOPSOIL					
	0.30	Light yellow grey very clayey gravelly SAND Gravel is angular to subangular fine to coarse of sandstone					
	0.80	SANDSTONE recovered as strong orange grey gravel					
	1.10	End of Trial Pit at 1.10 m					

KEY :

Sample Type :

- T - Plastic Tub
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- ☐ - Water Strike
- ▼ - Water Level

In-situ Tests :

- HSV - Hand Shear Vane (kN/m²)
- PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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FIG

SCALE
1:25

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP15

CLIENT Barratt Sheffield

DATE 24/09/2007

METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS	
				DEPTH (m)	TEST RESULTS
0.00	TOPSOIL				
0.30	Light yellow grey very clayey gravelly SAND. Gravel is angular to subangular fine to coarse of sandstone		0.40	0.001	
0.80	SANDSTONE recovered as strong orange grey gravel				
1.30	End of Trial Pit at 1.30 m				

KEY :

Sample Type :

- T - Plastic Tub
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- Water Strike
- ▼ - Water Level

In-situ Tests :

- HSV - Hand Shear Vane (kN/m²)
- PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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FIG

SCALE
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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP16

CLIENT Barratt Sheffield

DATE 24/09/2007





METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
		TOPSOIL					
	0.35	Firm to stiff orange grey very sandy CLAY			● 0.40	D 001	
	1.10	Stiff grey, locally mottled orange, sandy gravelly CLAY Gravel is angular to subangular fine to coarse of sandstone					
	1.50	SANDSTONE recovered as strong orange grey gravel					
	1.75	End of Trial Pit at 1.75 m					

KEY :
Sample Type :
 T - Plastic Tub
 J - Amber Glass Jar
 V - Glass Vial
 W - Water
 D - Disturbed
Groundwater :
 □ - Water Strike
 ▼ - Water Level
In-situ Tests :
 HSV - Hand Shear Vane (kN/m²)
 PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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FIG	SCALE 1:25	Sheet 1 of 1



PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP17

CLIENT Barratt Sheffield

DATE 24/09/2007



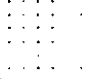
METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

DEPTH (m)	DESCRIPTION	LEGEND	SAMPLES & TESTS			
			LEVEL (mAOD)	DEPTH (m)	TYPE	TEST RESULTS
0.00	TOPSOIL					
0.40	Firm to stiff orange grey s. lightly sandy gravelly CLAY Gravel is angular to subangular fine to coarse of sandstone					
1.30	SANDSTONE recovered as strong orange grey gravel					
1.65	End of Trial Pit at 1.65 m					

KEY :

Sample Type :

- T - Plastic Tub
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- Water Strike
- ▼ Water Level

In-situ Tests :

- HSV Hand Shear Vane (kN/m²)
- PP Pocket Penetrometer (kN/cm²)

REMARKS :

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FIG

SCALE
1:25

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP18

CLIENT Barratt Sheffield

DATE 24/09/2007

METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
		TOPSOIL					
	0.35	Orange, locally mottled grey, clayey slightly gravelly SAND Gravel is angular to subangular fine to coarse of mudstone			● 0.40	D 001	
	0.75	Stiff grey, locally mottled orange slightly sandy slightly gravelly CLAY Gravel is angular to subangular fine to coarse of sandstone					
	1.20	SANDSTONE recovered as strong orange grey gravel					
	1.35	End of Trial Pit at 1.35 m					

KEY :

Sample Type :

- T - Plastic Tub
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- - Water Strike
- ▼ - Water Level

In-situ Tests :

- HSV - Hand Shear Vane (kN/m²)
- PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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FIG

SCALE
1:25

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP19

CLIENT Barratt Sheffield

DATE 25/09/2007

METHOD JCB 3CX

PROJECT No. S7/032

EASTING 0.00

NORTHING 0.00

GROUND LEVEL (mAOD) 0.000

CASCINANTH TRIAL	DEPTH (m)	DESCRIPTION	LEGEND	SAMPLES & TESTS			
				LEVEL mAOD	DEPTH (m)	TYPE	TEST RESULTS
		TOPSOIL					
	0.35	Firm to stiff orange mottled grey slightly sandy gravelly CLAY. Gravel is angular to subangular fine to coarse of sandstone. Land drain at 0.80m		0.35	0.40	D 001	
	1.20	Grey mottled orange slightly clayey sandy angular to subangular fine to coarse GRAVEL of sandstone		1.20			
	1.50	SANDSTONE recovered as weak orange brown gravel		1.50			
	1.65	End of Trial Pit at 1.65 m		1.65			

KEY :

Sample Type :

- T - Plastic Tub
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- Water Strike
- ▼ - Water Level

In-situ Tests :

- HSV - Hand Shear Vane (kNm²)
- PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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FIG

SCALE
1:25

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP20

CLIENT Barratt Sheffield

DATE 24/09/2007

METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
		TOPSOIL					
	0.35	Firm to stiff orange mottled grey sandy gravelly CLAY. Gravel is angular to subangular fine to coarse of sandstone					
	0.80	Stiff grey, locally mottled orange, slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse of sandstone					
	1.35	SANDSTONE recovered as strong orange grey gravel					
	1.80	End of Trial Pit at 1.80 m					

KEY :

Sample Type :

- T - Plastic Tub
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- Water Strike
- Water Level

In-situ Tests :

- HSV - Hand Shear Vane (kN/m²)
- PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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FIG

SCALE
1:25

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP21

CLIENT Barratt Sheffield

DATE 24/09/2007


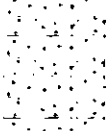


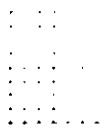
METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER	DEPTH m	DESCRIPTION	LEGEND	SAMPLES & TESTS			
				LEVEL mAOD	DEPTH m	TYPE	TEST RESULTS
		TOPSOIL					
	0.35	Firm to stiff orange mottled grey sandy gravelly CLAY Gravel is angular to subangular fine to coarse of sandstone		● 0.40		D 001	
	1.20	Stiff grey locally mottled orange s. gh, sandy s. gh, gravelly CLAY. Gravel is angular to subangular fine to coarse of sandstone					
	1.60	SANDSTONE recovered as strong orange grey gravel					
	2.15	End of Trial Pit at 2.15 m					

KEY :

Sample Type :

- T - Plastic Tub
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- Water Strike
- ▼ - Water Level

In-situ Tests :

- HSV - Hand Shrink Vane (kNm²)
- PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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FIG

SCALE
1:25

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. TP22

CLIENT Barratt Sheffield

DATE 24/09/2007



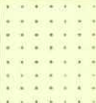
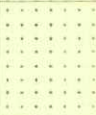
METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
		TOPSOIL					
	0.35	Firm to stiff orange mottled grey sandy gravelly CLAY Gravel is angular to subangular fine to coarse of sandstone					
	1.30	WEATHERED SANDSTONE recovered as very weak orange grey clayey gravel					
	1.70	SANDSTONE recovered as strong grey gravel					
	2.10	End of Trial Pit at 2.10 m					

KEY :
Sample Type :
 T - Plastic Tub
 J - Amber Glass Jar
 V - Glass Vial
 W - Water
 D - Disturbed

Groundwater :
 - - Water Strike
 ▼ - Water Level

In-situ Tests :
 HSV - Hand Shear Vane (kN/m²)
 PP - Pocket Penetrometer (daN/cm²)

REMARKS :

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FIG	SCALE 1:25	Sheet 1 of 1



PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. S01



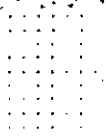
CLIENT Barratt Sheffield

DATE 18/10/2007

METHOD JCB 3CX

PROJECT No. S7/032

GROUND LEVEL (mAOD) -

EASTING		NORTHING		LEGEND	SAMPLES & TESTS		
DEPTH (m)	DESCRIPTION	LEVEL (mAOD)	DEPTH (m)		TYPE	TEST RESULTS	
	TOPSOIL						
0.30	Stiff orange brown mottled grey sandy gravelly CLAY Gravel is angular to subangular fine to medium of sandstone						
1.65	WEATHERED SANDSTONE recovered as moderately strong orange brown gravel						
2.30	End of Trial Pit at 2.30 m						

KEY :

Sample Type :

- T - Plastic Tub
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- Water Strike
- ▼ - Water Level

In-situ Tests :

- HSV - Hand Shear Vane (kN/m²)
- PP - Pocket Penetrometer (daN/cm²)

REMARKS :

Trial pit dug for Soakaway test to be carried out

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FIG

SCALE
1:25

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PROJECT Brunswick Street & Reema Estate

TRIAL PIT No. S02

CLIENT Barratt Sheffield

DATE 18/10/2007

METHOD JCB 3CX

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER STRIKE	DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
					DEPTH (m)	TYPE	TEST RESULTS
	0.30	TOPSOIL					
		Stiff orange brown, mottled grey sandy gravelly CLAY Gravel is angular to subangular fine to medium of sandstone. Rare angular cobbles of sandstone.					
	1.20	WEATHERED SANDSTONE recovered as moderately strong orange brown gravel					
	1.90	End of Trial Pit at 1.90 m					

KEY :

Sample Type :

- T - Plastic Tub
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- Water Strike
- Water Level

In-situ Tests :

- HSV - Hand Shear Vane (kN/m²)
- PP - Pocket Penetrometer (daN/cm²)

REMARKS :

Trial pit dug for Soakaway test to be carried out.

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FIG

SCALE
1:25

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PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS01

CLIENT Barratt Sheffield

DATE 24/09/2007

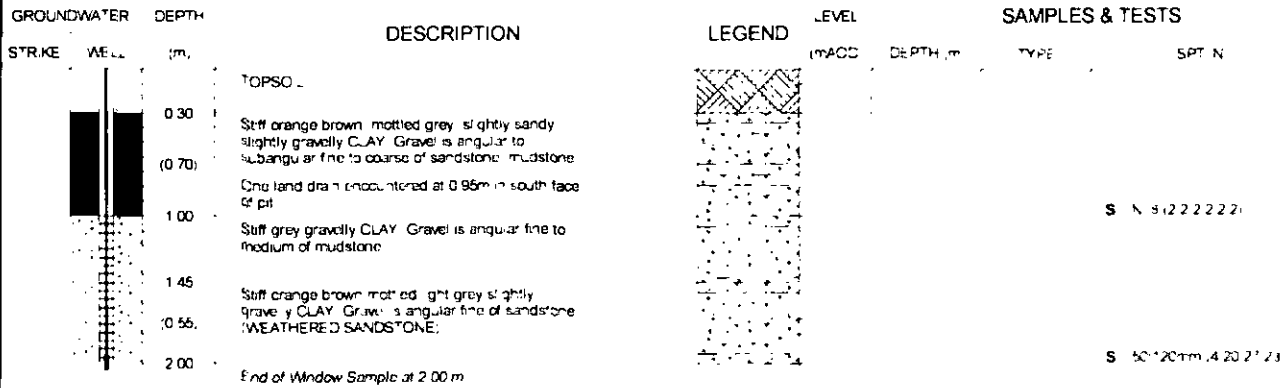
METHOD Windowless sampling using Competitor rig

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -



KEY :

Sample Type :

- T Plastic Tub disturbed
- J Amber Glass Jar
- V Glass Vial
- W Water
- D Disturbed

Groundwater :

- Water Strike
- ▼ Water Level

In-situ Tests :

- S Standard Penetration Test
- C Cone Penetration Test

REMARKS :

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FIG

SCALE
1:50

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PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS02

CLIENT Barratt Sheffield

DATE 24/09/2007




METHOD Windowless sampling with Competitor rig.

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
			TOPSOIL					
		0.30	Grey mottled orange clayey slightly gravelly SAND Gravel is angular fine of sandstone		● 0.35	D 001		
		0.55	Stiff orange brown mottled grey slightly sandy slightly gravelly CLAY Gravel is angular fine of sandstone		● 0.60	D 002		
		(0.95)						S N=8 (2,3,2,2,2,2)
		1.50	No Recovery					
		2.00	End of Window Sample at 2.00 m					S 50/145mm (17,8,22,28)

KEY :

Sample Type :

T - Plastic Tub (disturbed)
J - Amber Glass Jar
V - Glass Vial
W - Water
D - Disturbed

Groundwater :

○ - Water Strike
▼ - Water Level

In-situ Tests :

S - Standard Penetration Test
C - Cone Penetration Test

REMARKS :

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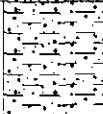
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FIG

SCALE
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PROJECT Brunswick Street & Reema Estate					BOREHOLE No. WS03		
CLIENT Barratt Sheffield					DATE 24/09/2007		
METHOD Windowless sampling using Competitor rig					PROJECT No. S7/032		
EASTING -			NORTHING -		GROUND LEVEL (mAOD) -		
GROUNDWATER		DEPTH	DESCRIPTION	LEGEND	LEVEL	SAMPLES & TESTS	
STRIKE	WELL	(m)				(mAOD)	DEPTH (m)
		0.20	TOPSOIL				
		(0.80)	Stiff orange brown mottled light grey slightly sandy slightly gravelly CLAY Gravel is angular fine of sandstone				
		1.00	End of Window Sample at 1.00 m				S 50/95mm (20.5.37.13)
KEY :				REMARKS :			
Sample Type :		Groundwater :		In-situ Tests :			
T - Plastic Tub (disturbed)		☐ - Water Sinker		S - Standard Penetration Test			
J - Amber Glass Jar		▼ - Water Level		C - Cone Penetration Test			
V - Glass Vial							
W - Water							
D - Disturbed							
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FIG		SCALE		Sheet 1 of 1			
		1:50					

PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS04

CLIENT Barratt Sheffield

DATE 24/09/2007





METHOD Windowless sampling using Competitor rig.

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N
			TOPSOIL					
		0.35	Stiff dark grey slightly sandy slightly gravelly CLAY					
		0.55	Gravel is angular fine of sandstone and mudstone					
		1.00	Stiff to very stiff orange brown mottled grey slightly sandy slightly gravelly CLAY Gravel is angular fine of sandstone. (WEATHERED SANDSTONE) End of Window Sample at 1.00 m					S 50/145mm (2.12.16.34)

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- ◻ - Water Strike
- ▼ - Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

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FIG	SCALE 1:50	Sheet 1 of 1

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PROJECT Brunswick Street & Reema Estate **BOREHOLE No. WS05**

CLIENT Barratt Sheffield **DATE** 24/09/2007

METHOD Windowless sampling using Competitor rig **PROJECT No.** S7/032

EASTING - **NORTHING -** **GROUND LEVEL (mAOD) -**

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N
		0.25	TOPSOIL					
		0.40	Limestone AGGREGATE		● 0.40	D 001		
		0.80	Stiff to very stiff orange brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse of sandstone					S 50/110mm (18 7, 28, 22)
		1.00						
			WEATHERED SANDSTONE recovered as orange brown very gravelly clay. End of Window Sample at 1.00 m					

KEY :

Sample Type :
 T - Plastic Tub (disturbed)
 J - Amber Glass Jar
 V - Glass Vial
 W - Water
 D - Disturbed

Groundwater :
 - Water Strike
 - Water Level

In-situ Tests :
 S - Standard Penetration Test
 C - Cone Penetration Test

REMARKS :

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FIG	SCALE 1:50	Sheet 1 of 1



PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS06

CLIENT Barratt Sheffield

DATE 24/09/2007





METHOD Windowless sampling with Competitor rig.

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
		0.10	TOPSOIL					
		0.45	Very stiff orange brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to medium of mudstone and sandstone.			● 0.50	D 001	
		0.80	Very stiff grey mottled orange brown slightly sandy CLAY					
		1.00	Stiff grey mottled dark grey slightly sandy slightly gravelly CLAY. Gravel is angular fine of mudstone and carbonaceous mudstone. End of Window Sample at 1.00 m					S 50/85mm (13,12,38,12)

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- ☐ - Water Strike
- ▼ - Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

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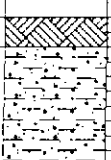



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FIG

SCALE
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PROJECT Brunswick Street & Reema Estate				BOREHOLE No. WS07							
CLIENT Barratt Sheffield				DATE 24/09/2007							
METHOD Windowless sampling with Competitor rig				PROJECT No. S7/032							
EASTING -			NORTHING -			GROUND LEVEL (mAOD) -					
GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS					
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'			
		0.20 (0.80) 1.00	TOPSOIL Stiff to very stiff orange brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular fine of sandstone End of Window Sample at 2.00 m				S. 50/120mm (14,11,27,23)				
KEY : Sample Type : T - Plastic Tub (disturbed) J - Amber Glass Jar V - Glass Vial W - Water D - Disturbed				Groundwater :  - Water Strike  - Water Level				In-situ Tests : S - Standard Penetration Test C - Cone Penetration Test			
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FIG		SCALE 1:50		Sheet 1 of 1							

PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS08

CLIENT Barratt Sheffield

DATE 24/09/2007



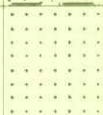
METHOD Windowless sampling with Competitor rig.

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
		0.30	TOPSOIL					
		0.80	Orange brown mottled grey clayey gravelly SAND. Gravel is angular to subangular fine to coarse of sandstone					
		(0.80)	WEATHERED SANDSTONE recovered as orange brown gravel					S N=24 (4,6,6,5,6,7)
		1.60	No Recovery.					
		2.00	End of Window Sample at 2.00 m					S 50/155mm (18,7,21,24,5)

KEY :

Sample Type :

T - Plastic Tub (disturbed)
J - Amber Glass Jar
V - Glass Vial
W - Water
D - Disturbed

Groundwater :

□ - Water Strike
▼ - Water Level

In-situ Tests :

S - Standard Penetration Test
C - Cone Penetration Test

REMARKS :

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FIG

SCALE
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PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS09

CLIENT Barratt Sheffield

DATE 25/09/2007

METHOD Windowless sampling with Competitor rig.

PROJECT No. S7/032

EASTING

NORTHING

GROUND LEVEL (mAOD)

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT N
		0.30	Stiff orange brown mottled grey sandy gravelly CLAY Gravel is angular to subangular fine to coarse of limestone sandstone concrete and brick (MADE GROUND)		● 0.40	D 001		
		(2.70)	Stiff orange brown locally mottled black slightly sandy slightly gravelly CLAY Gravel is angular to subangular fine to coarse of sandstone mudstone and rare ironstone		1.40		S N-9 (2 2 2 2 3 2)	
		3.00	WEATHERED SANDSTONE recovered as grey gravel		1.70	D 002		
		3.45	WEATHERED CARBONACEOUS MUDSTONE recovered as black		2.00	D 003	\$ N-14 (2 3 3 4 4 3)	
		3.60	WEATHERED MUDSTONE recovered as grey gravel				\$ N-16 (4 3 4 4 4 4)	
		4.00	End of Window Sample at 4.00 m				\$ 50/215mm (12 13 14 16 20)	

KEY :

Sample Type :

- T Plastic Tub (disturbed)
- J Amber Glass Jar
- V Glass Vial
- W Water
- D Disturbed

Groundwater :

- Water Strike
- ▼ Water Level

In-situ Tests :

- S Standard Penetration Test
- C Cone Penetration Test

REMARKS :

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FIG

SCALE
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PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS10

CLIENT Barratt Sheffield

DATE 25/09/2007

METHOD Windowless sampling with Competitor rig

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
		0.30	TOPSOIL					
		0.60	Firm orange brown mottled grey sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse sandstone		0.30 0.45 0.60	D 001 D 002		
		1.00	WEATHERED SANDSTONE recovered as grey gravel End of Window Sample at 1.00 m					S 50/135mm (14,11,24,26)

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- ☐ - Water Strike
- ▼ - Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

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FIG	SCALE 1:50	Sheet 1 of 1

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PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS11

CLIENT Barratt Sheffield

DATE 25/09/2007



METHOD Windowless sampling using Competitor rig.

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
		0.20	TOPSOIL					
		(0.80)	Silt to very stiff orange brown mottled grey slightly sandy slightly gravelly CLAY Gravel is angular to subangular fine to coarse of sandstone					
		1.00	End of Window Sample at 1.00 m					§ 50/155mm (16,9,20,28,2)

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- ☼ - Water Sinke
- ▼ - Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

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FIG	SCALE 1:50	Sheet 1 of 1

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PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS12

CLIENT Barratt Sheffield

DATE 25/09/2007


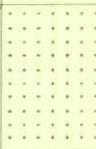
METHOD Windowless sampling with Competitor rig

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -



GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
		0.00	Stiff orange brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular fine of mudstone and sandstone					
		(1.00)	WEATHERED SANDSTONE recovered as orange brown mottled grey gravel			● 0.40	D 001	
		1.00	End of Window Sample at 1.00 m					\$ 50/210mm (2,2,12,16,22)

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

-  - Water Strike
-  - Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

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FIG	SCALE 1:50	Sheet 1 of 1

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PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS13

CLIENT Barratt Sheffield

DATE 25/09/2007






METHOD Windowless sampling using Competitor rig

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
		0.40	TOPSOIL					
		0.60	Soft grey gravelly CLAY. Gravel is angular medium to coarse of sandstone.					
		1.00	Firm to stiff orange brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular fine of sandstone		● 0.70	D 001		S. N=17 (2.2, 2.4, 5.6)
		(0.70)	Silt orange brown mottled light grey slightly gravelly CLAY. Gravel is angular fine of sandstone					
		1.70	WEATHERED SANDSTONE recovered as orange brown mottled grey gravel					
		2.00	End of Window Sample at 2.00 m					S. 50/125mm (12, 13, 25, 25)

KEY :

Sample Type :

T - Plastic Tub (disturbed)
 J - Amber Glass Jar
 V - Glass Vial
 W - Water
 D - Disturbed


Groundwater :

☼ - Water Strike
 ▼ - Water Level

In-situ Tests :

S - Standard Penetration Test
 C - Cone Penetration Test

REMARKS :

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FIG	SCALE 1:50	Sheet 1 of 1	

PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS14

CLIENT Barratt Sheffield

DATE 25/09/2007




METHOD Windowless sampling with Competitor rig.

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
			TOPSOIL					
		0.30	Stiff to very stiff orange grey slightly sandy slightly gravelly CLAY Gravel is angular to subangular fine to coarse of sandstone.			0.35	D 001	
		0.70				0.55		
		1.00	WEATHERED SANDSTONE recovered as orange brown mottled grey gravel					
			End of Window Sample at 1.00 m					

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- ☐ - Water Strike
- ▼ - Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

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FIG	SCALE 1:50	Sheet 1 of 1

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PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS15

CLIENT Barratt Sheffield

DATE 25/09/2007


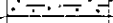
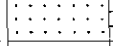
METHOD Windowless sampling with Competitor rig.

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
		0.40	TOPSOIL					
		0.60	Very stiff orange brown gravelly CLAY. Gravel is angular to subangular fine to coarse of sandstone.					
		1.00	WEATHERED SANDSTONE recovered as orange brown gravel. End of Window Sample at 1.00 m					

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed


Groundwater :


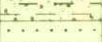
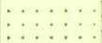
- ☐ - Water Strike
- ▼ - Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

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FIG	SCALE 1:50	Sheet 1 of 1	



PROJECT Brunswick Street & Reema Estate					BOREHOLE No. WS16		
CLIENT Barratt Sheffield					DATE 25/09/2007		
METHOD Windowless sampling with Competitor rig.					PROJECT No. S7/032		
EASTING -			NORTHING -		GROUND LEVEL (mAOD) -		
GROUNDWATER		DEPTH	DESCRIPTION	LEGEND	LEVEL	SAMPLES & TESTS	
STRIKE	WELL	(m)			(mAOD)	DEPTH (m)	TYPE
		0.25	TOPSOIL				
		0.50	Stiff to very stiff grey CLAY				
		0.50	WEATHERED SANDSTONE recovered as orange brown mottled grey gravel				
		1.00	End of Window Sample at 1.00 m				S 50/170mm (12,13,17,23,10)

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

-  - Water Strike
-  - Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

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FIG

SCALE
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PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS17

CLIENT Barratt Sheffield

DATE 26/09/2007


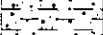
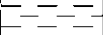
METHOD Windowless sampling using Competitor rig.

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
		0.20	TOPSOIL Very stiff orange brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse of sandstone					
		(0.80)						
		1.00	Very stiff orange brown CLAY.					S. N=15 (2,3,3,3,4,5)
		1.50	WEATHERED SANDSTONE recovered as orange brown gravel					
		2.00	End of Window Sample at 2.00 m					S. 50/195mm (14,11,17,17,16)

KEY :

Sample Type :

T - Plastic Tub (disturbed)
 J - Amber Glass Jar
 V - Glass Vial
 W - Water
 D - Disturbed

Groundwater :

☞ - Water Strike
 ▼ - Water Level

In-situ Tests :

S - Standard Penetration Test
 C - Cone Penetration Test

REMARKS :

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FIG	SCALE 1:50	Sheet 1 of 1

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PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS18

CLIENT Barratt Sheffield

DATE 26/09/2007

METHOD Windowless sampling using Competitor rig.

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
		0.40	TOPSOIL					
		(0.60)	Very stiff orange brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to medium of sandstone.					
		1.00	WEATHERED SANDSTONE recovered as orange brown gravel.					S N=18 (3,4,3,4,4,7)
		1.70	WEATHERED MUDSTONE recovered as grey gravel					
		2.00	Coal gravel at 1.90m.					S 50/230mm (7,9,12,15,20,3)
		(0.80)	No Recovery					
		2.80	End of Window Sample at 2.80 m					

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- ☐ - Water Strike
- ▼ - Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

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
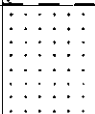
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FIG

SCALE
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PROJECT Brunswick Street & Reema Estate					BOREHOLE No. WS19		
CLIENT Barratt Sheffield					DATE 26/09/2007		
METHOD Windowless sampling with Competitor rig					PROJECT No. S7/032		
EASTING -			NORTHING -		GROUND LEVEL (mAOD) -		
GROUNDWATER		DEPTH	DESCRIPTION	LEGEND	LEVEL	SAMPLES & TESTS	
STRIKE	WELL	(m)				(mAOD)	DEPTH (m)
		0.40	TOPSOIL				
		0.90	Stiff orange brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular fine to medium of sandstone		0.40 0.60	D 001	
		1.70	WEATHERED SANDSTONE recovered as light yellow grey gravel.				S N=20 (4.3,3.4,5.8)
			End of Window Sample at 1.70 m				S 50/195mm (12,13,17,17,16)

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- ∇ - Water Strike
- ▼ - Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

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FIG	SCALE 1:50	Sheet 1 of 1

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PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS20

CLIENT Barratt Sheffield

DATE 26/09/2007

METHOD Windowless sampling with Competitor rig.

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
		0.30	TOPSOIL					
		0.70	Stiff orange brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular fine to medium of sandstone					
		1.00	WEATHERED SANDSTONE recovered as orange brown gravel					S N=17 (5,5,3,4,4,6)
		(1.00)	WEATHERED SANDSTONE recovered as light yellow grey gravel					
		2.00	End of Window Sample at 2.00 m					S 50/125mm (10,15,26,24)

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- ☐ - Water Strike
- ▼ - Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

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FIG	SCALE 1:50	Sheet 1 of 1

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PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS21

CLIENT Barratt Sheffield

DATE 26/09/2007

METHOD Windowless sampling using Competitor rig.

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
		0.00	TOPSOIL					
		0.40	Very stiff orange brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to medium of sandstone					
		0.90	WEATHERED SANDSTONE recovered as orange grey gravel.					S N=32 (3,7,10,9,5,8)
		1.10	WEATHERED SANDSTONE recovered as orange gravel					
		(0.60)						
		1.70	WEATHERED SANDSTONE recovered as light grey gravel.					
		2.00	No Recovery.					S 50/120mm (25,32,18)
		2.50	End of Window Sample at 2.50 m					

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- ☐ - Water Strike
- ▼ - Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

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FIG	SCALE 1:50	Sheet 1 of 1

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PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS22

CLIENT Barratt Sheffield

DATE 26/09/2007




METHOD Windowless sampling using Competitor rig.

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
			TOPSOIL					
		0.35	Very stiff orange brown mottled grey slightly sandy slightly gravelly CLAY Gravel is angular fine to coarse of sandstone			0.35	D 001	
		0.70				0.55		
		1.00	WEATHERED SANDSTONE recovered as gravel.					
			End of Window Sample at 1.00 m					S 50/190mm (2,2,2,4,44)

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- - Water Strike
- ▼ - Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

LOGGED BY EM	CHECKED BY	APPROVED BY
FIG	SCALE 1:50	Sheet 1 of 1

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PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS23

CLIENT Barratt Sheffield

DATE 26/09/2007



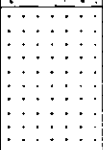
METHOD Windowless sampling using Competitor rig.

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
		0.30	TOPSOIL					
		(0.70)	Very stiff orange brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular fine of sandstone					
		1.00	WEATHERED SANDSTONE recovered as orange brown gravel					S N=26 (3 3,4 6,8 8)
		(1.00)						
		2.00	End of Window Sample at 2.00 m					S 50/190mm (16.9, 16 18, 16)

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- ☐ - Water Strike
- ▼ - Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

LOGGED BY EM	CHECKED BY	APPROVED BY
FIG	SCALE 1:50	Sheet 1 of 1

abatech
consulting engineers

PROJECT Brunswick Street & Reema Estate

BOREHOLE No. WS24

CLIENT Barratt Sheffield

DATE 26/09/2007

METHOD Windowless sampling using competitor rig

PROJECT No. S7/032

EASTING -

NORTHING -

GROUND LEVEL (mAOD) -

GROUNDWATER		DEPTH (m)	DESCRIPTION	LEGEND	LEVEL (mAOD)	SAMPLES & TESTS		
STRIKE	WELL					DEPTH (m)	TYPE	SPT 'N'
		0.20	TOPSOIL					
		(0.80)	Stiff orange mottled light grey slightly sandy CLAY			0.40 0.50 0.60	D 001 D 002	
		1.00	Very stiff orange brown gravelly CLAY. Gravel is angular fine to coarse of sandstone					S N=16 (3,3,3,4,4,5)
		(1.30)						S 50/190mm (16,9,18,18,14)
		2.30	WEATHERED SANDSTONE recovered as orange brown gravel					S N=27 (6,7,7,6,7,7)
		2.60	End of Window Sample at 2.60 m					

KEY :

Sample Type :

- T - Plastic Tub (disturbed)
- J - Amber Glass Jar
- V - Glass Vial
- W - Water
- D - Disturbed

Groundwater :

- Water Strike
- Water Level

In-situ Tests :

- S - Standard Penetration Test
- C - Cone Penetration Test

REMARKS :

LOGGED BY
EM

CHECKED BY

APPROVED BY

FIG

SCALE
1:50

Sheet 1 of 1

abatech
consulting engineers

Abatech International Ltd
4 Park Square
Chapelton
Sheffield
S35 2PH

LABORATORY TEST REPORT

Chemtest

Report Date
09 October 2007

Results of analysis of 26 samples
received 01 October 2007

FAO Emma Mason

Reema

Login Batch No

80544

Chemtest LIMS ID	AC36360	AC36361	AC36362	AC36363	AC36364	AC36365	AC36366	AC36367
Sample ID	WS02	WS05	WS06	WS07	WS08	WS09	WS09	WS10
Sample No	D1	D1	D1	D1	D1	D1	D3	D1
Depth								
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SOP↓ Determinand↓	CAS No↓	Units↓	*					
2300 Cyanide (total)	57125	mg kg ⁻¹	M	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2310 Cyanide (free)	57125	mg kg ⁻¹	M	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2320 Sulfide	18496258	mg kg ⁻¹	N	0.8	1.3	1.2	1.0	0.7
2610 Loss on ignition		%	N	4.82	5.36	7.7	9.93	5.48
2120 Boron (hot water soluble)	7440428	mg kg ⁻¹	U	0.4	0.5	0.6	<0.4	0.5
2210 Sulfate (2:1 water soluble)	14808798	g l ⁻¹	M	<0.01	<0.01	<0.01	<0.01	0.04
2430 Sulfate (total)	14808798	%	U	0.03	0.06	0.12	0.08	0.05
2450 Arsenic	7440382	mg kg ⁻¹	M	7.7	14	26	10	11
Cadmium	7440439	mg kg ⁻¹	M	0.12	0.18	0.30	0.12	0.23
Chromium	7440473	mg kg ⁻¹	U	31	28	21	17	16
Copper	7440508	mg kg ⁻¹	M	25	12	37	13	17
Mercury	7439976	mg kg ⁻¹	M	<0.1	<0.1	0.15	<0.1	0.12
Nickel	7440020	mg kg ⁻¹	M	27	22	35	20	15
Lead	7439921	mg kg ⁻¹	M	37	45	45	28	48
Selenium	7782492	mg kg ⁻¹	U	0.27	0.33	0.78	0.28	0.28
Zinc	7440666	mg kg ⁻¹	M	83	98	57	60	61
2490 Chromium (hexavalent)	18540299	mg kg ⁻¹	N	< 5	< 5	< 5	< 5	< 5
2700 Naphthalene	91203	mg kg ⁻¹	M	<0.1	0.5	<0.1	<0.1	0.1
Acenaphthylene	208968	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	0.1
Acenaphthene	83329	mg kg ⁻¹	M	<0.1	0.2	<0.1	<0.1	<0.1
Fluorene	86737	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	85018	mg kg ⁻¹	M	<0.1	<0.1	0.1	<0.1	0.3
Anthracene	120127	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	0.3
Fluoranthene	206440	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	0.4
Pyrene	129000	mg kg ⁻¹	M	<0.1	<0.1	0.2	<0.1	0.3
Benzo[a]anthracene	56553	mg kg ⁻¹	M	<0.1	0.2	<0.1	<0.1	0.3
Chrysene	218019	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	0.2
Benzo[b]fluoranthene	205992	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	0.2
Benzo[k]fluoranthene	207089	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	0.1
Benzo[a]pyrene	50328	mg kg ⁻¹	M	<0.1	<0.1	0.4	<0.1	<0.1

All tests undertaken between 03-Oct-2007 and 9-Oct-2007

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 1 of 2

Report sample ID range AC36360 to AC36385

LABORATORY TEST REPORT

Report Date
09 October 2007

Results of analysis of 26 samples
received 01 October 2007

FAO Emma Mason

Reema

Login Batch No

80544

Chemtest LIMS ID	AC36368	AC36369	AC36370	AC36371	AC36372	AC36373	AC36374	AC36375
Sample ID	WS12	WS15	WS19	WS21	WS24	TP02	TP04	TP06
Sample No	D1	D1	D1	D1	D1	D1	D1	D1
Depth								
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SOP↓ Determinand↓	CAS No↓	Units↓	*					
2300 Cyanide (total)	57125	mg kg ⁻¹	M	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2310 Cyanide (free)	57125	mg kg ⁻¹	M	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2320 Sulfide	18496258	mg kg ⁻¹	N	1.3	1.3	1.7	< 0.5	1.8
2610 Loss on ignition		%	N	4.48	2.79	5.78	5.93	4.84
2120 Boron (hot water soluble)	7440428	mg kg ⁻¹	U	0.6	<0.4	0.4	<0.4	<0.4
2210 Sulfate (2:1 water soluble)	14808798	g l ⁻¹	M	<0.01	<0.01	<0.01	<0.01	<0.01
2430 Sulfate (total)	14808798	%	U	0.05	0.02	0.04	0.03	0.03
2450 Arsenic	7440382	mg kg ⁻¹	M	8.4	8.3	20	4.2	12
Cadmium	7440439	mg kg ⁻¹	M	<0.1	<0.1	<0.1	0.36	0.16
Chromium	7440473	mg kg ⁻¹	U	13	10	23	29	26
Copper	7440508	mg kg ⁻¹	M	8.5	5.7	24	30	13
Mercury	7439976	mg kg ⁻¹	M	<0.1	<0.1	0.11	<0.1	<0.1
Nickel	7440020	mg kg ⁻¹	M	16	12	15	62	26
Lead	7439921	mg kg ⁻¹	M	22	17	32	34	33
Selenium	7782492	mg kg ⁻¹	U	0.20	0.12	0.39	0.14	0.28
Zinc	7440666	mg kg ⁻¹	M	38	30	64	130	83
2490 Chromium (hexavalent)	18540299	mg kg ⁻¹	N	< 5	< 5	< 5	< 5	< 5
2700 Naphthalene	91203	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	0.6
Acenaphthylene	208968	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	83329	mg kg ⁻¹	M	<0.1	0.3	<0.1	<0.1	<0.1
Fluorene	86737	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	85018	mg kg ⁻¹	M	<0.1	0.2	<0.1	<0.1	<0.1
Anthracene	120127	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	206440	mg kg ⁻¹	M	<0.1	0.5	<0.1	<0.1	<0.1
Pyrene	129000	mg kg ⁻¹	M	<0.1	0.3	<0.1	<0.1	<0.1
Benzo[a]anthracene	56553	mg kg ⁻¹	M	<0.1	0.3	<0.1	<0.1	<0.1
Chrysene	218019	mg kg ⁻¹	M	<0.1	0.2	<0.1	<0.1	<0.1
Benzo[b]fluoranthene	205992	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo[k]fluoranthene	207089	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo[a]pyrene	50328	mg kg ⁻¹	M	<0.1	0.5	<0.1	<0.1	<0.1

All tests undertaken between 03-Oct-2007 and 9-Oct-2007

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 2

Report page 1 of 2

Report sample ID range AC36360 to AC36385

Abatech International Ltd
4 Park Square
Chapelton
Sheffield
S35 2PH

LABORATORY TEST REPORT

Chemtest

Report Date
09 October 2007

Results of analysis of 26 samples
received 01 October 2007

FAO Emma Mason

Reema

Login Batch No

80544

Chemtest LIMS ID

Sample ID	Sample No	Depth	Matrix	AC36376	AC36377	AC36378	AC36379	AC36380	AC36381	AC36382	AC36383
				TP08	TP09	TP12	TP13	TP15	TP16	TP18	TP19
				D1	D1	D1	D1	D1	D1	D1	D1
				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
SOP↓	Determinand↓	CAS No↓	Units↓	*							
2300	Cyanide (total)	57125	mg kg ⁻¹	M	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2310	Cyanide (free)	57125	mg kg ⁻¹	M	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
2320	Sulfide	18496258	mg kg ⁻¹	N	< 0.5	1.0	0.7	0.7	0.8	1.6	1.1
2610	Loss on ignition		%	N	4.31	5.02	4.31	2.99	4.06	7.78	6.61
2120	Boron (hot water soluble)	7440428	mg kg ⁻¹	U	0.4	<0.4	<0.4	<0.4	0.5	0.5	<0.4
2210	Sulfate (2:1 water soluble)	14808798	g l ⁻¹	M	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2430	Sulfate (total)	14808798	%	U	0.02	0.03	0.03	0.02	0.02	0.21	0.04
2450	Arsenic	7440382	mg kg ⁻¹	M	4.3	4.8	12	7.3	5.7	40	7.2
	Cadmium	7440439	mg kg ⁻¹	M	0.18	<0.1	0.17	<0.1	<0.1	0.15	<0.1
	Chromium	7440473	mg kg ⁻¹	U	31	36	33	15	23	32	31
	Copper	7440508	mg kg ⁻¹	M	29	25	21	9.0	14	72	21
	Mercury	7439976	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Nickel	7440020	mg kg ⁻¹	M	44	34	34	22	23	24	17
	Lead	7439921	mg kg ⁻¹	M	34	29	34	22	18	39	35
	Selenium	7782492	mg kg ⁻¹	U	<0.1	<0.1	0.21	0.12	<0.1	2.5	0.52
	Zinc	7440666	mg kg ⁻¹	M	110	85	110	34	43	74	69
2490	Chromium (hexavalent)	18540299	mg kg ⁻¹	N	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2700	Naphthalene	91203	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Acenaphthylene	208968	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Acenaphthene	83329	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Fluorene	86737	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Phenanthrene	85018	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Anthracene	120127	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Fluoranthene	206440	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Pyrene	129000	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo[a]anthracene	56553	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Chrysene	218019	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo[a]pyrene	50328	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

All tests undertaken between 03-Oct-2007 and 9-Oct-2007

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 3

Report page 1 of 2

Report sample ID range AC36360 to AC36385

LABORATORY TEST REPORT

Report Date
09 October 2007

Results of analysis of 26 samples
received 01 October 2007

FAO Emma Mason

Reema

Login Batch No

80544

				AC36384	AC36385
Chemtest LIMS ID	Sample ID	Sample No	Depth	TP21	TP22
			Matrix	D1	D1
SOP↓	Determinand↓	CAS No↓	Units↓	SOIL	SOIL
2300	Cyanide (total)	57125	mg kg ⁻¹	< 0.5	< 0.5
2310	Cyanide (free)	57125	mg kg ⁻¹	< 0.5	< 0.5
2320	Sulfide	18496258	mg kg ⁻¹	0.6	1.5
2610	Loss on ignition		%	4.84	5.27
2120	Boron (hot water soluble)	7440428	mg kg ⁻¹	0.5	<0.4
2210	Sulfate (2:1 water soluble)	14808798	g l ⁻¹	<0.01	<0.01
2430	Sulfate (total)	14808798	%	0.02	0.03
2450	Arsenic	7440382	mg kg ⁻¹	2.2	5.0
	Cadmium	7440439	mg kg ⁻¹	<0.1	<0.1
	Chromium	7440473	mg kg ⁻¹	29	29
	Copper	7440508	mg kg ⁻¹	21	14
	Mercury	7439976	mg kg ⁻¹	<0.1	<0.1
	Nickel	7440020	mg kg ⁻¹	29	27
	Lead	7439921	mg kg ⁻¹	29	28
	Selenium	7782492	mg kg ⁻¹	<0.1	<0.1
	Zinc	7440666	mg kg ⁻¹	75	82
2490	Chromium (hexavalent)	18540299	mg kg ⁻¹	< 5	< 5
2700	Naphthalene	91203	mg kg ⁻¹	<0.1	<0.1
	Acenaphthylene	208968	mg kg ⁻¹	<0.1	<0.1
	Acenaphthene	83329	mg kg ⁻¹	<0.1	<0.1
	Fluorene	86737	mg kg ⁻¹	<0.1	<0.1
	Phenanthrene	85018	mg kg ⁻¹	<0.1	<0.1
	Anthracene	120127	mg kg ⁻¹	<0.1	<0.1
	Fluoranthene	206440	mg kg ⁻¹	<0.1	<0.1
	Pyrene	129000	mg kg ⁻¹	<0.1	<0.1
	Benzo[a]anthracene	56553	mg kg ⁻¹	<0.1	<0.1
	Chrysene	218019	mg kg ⁻¹	<0.1	<0.1
	Benzo[b]fluoranthene	205992	mg kg ⁻¹	<0.1	<0.1
	Benzo[k]fluoranthene	207089	mg kg ⁻¹	<0.1	<0.1
	Benzo[a]pyrene	50328	mg kg ⁻¹	<0.1	<0.1

All tests undertaken between 03-Oct-2007 and 9-Oct-2007

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 4

Report page 1 of 2

Report sample ID range AC36360 to AC36385

Abatech International Ltd
 4 Park Square
 Chapeltown
 Sheffield
 S35 2PH

LABORATORY TEST REPORT

Chemtest

Report Date
 09 October 2007

Results of analysis of 26 samples
 received 01 October 2007

FAO Emma Mason

Reema

				80544							
				AC36360	AC36361	AC36362	AC36363	AC36364	AC36365	AC36366	AC36367
				WS02	WS05	WS06	WS07	WS08	WS09	WS09	WS10
				D1	D1	D1	D1	D1	D1	D3	D1
				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2700	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	M	<0.1	<0.1	<0.1	0.1	<0.1	0.5	<0.1
	Total (of 16) PAHs		mg kg ⁻¹	M	<2	<2	<2	<2	2	9.8	<2
2920	Phenols (total)		mg kg ⁻¹	M	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
2010	pH		-	M	7.9	7.7	7.0	7.1	7.3	7.9	6.4

All tests undertaken between 03-Oct-2007 and 9-Oct-2007

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 1

Report page 2 of 2

Report sample ID range AC36360 to AC36385

LABORATORY TEST REPORT

Report Date
 09 October 2007

Results of analysis of 26 samples
 received 01 October 2007

FAO Emma Mason

Reema

				80544							
				AC36368	AC36369	AC36370	AC36371	AC36372	AC36373	AC36374	AC36375
				WS12	WS15	WS19	WS21	WS24	TP02	TP04	TP06
				D1	D1	D1	D1	D1	D1	D1	D1
				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2700	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Total (of 16) PAHs		mg kg ⁻¹	M	<2	2.2	<2	<2	<2	<2	4.3
2920	Phenols (total)		mg kg ⁻¹	M	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
2010	pH		-	M	5.9	7.5	7.4	7.5	7.6	6.5	7.0

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 Sheffield
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LABORATORY TEST REPORT

Chemtest

Report Date
 09 October 2007

Results of analysis of 26 samples
 received 01 October 2007

FAO Emma Mason

Reema

				80544							
				AC36376	AC36377	AC36378	AC36379	AC36380	AC36381	AC36382	AC36383
				TP08	TP09	TP12	TP13	TP15	TP16	TP18	TP19
				D1	D1	D1	D1	D1	D1	D1	D1
				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
2700	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	M	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	Total (of 16) PAHs		mg kg ⁻¹	M	<2	<2	<2	<2	<2	<2	<2
2920	Phenols (total)		mg kg ⁻¹	M	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
2010	pH		-	M	7.1	7.7	7.1	7.2	7.3	7.5	7.7

All tests undertaken between 03-Oct-2007 and 9-Oct-2007

* Accreditation status

This report should be interpreted in conjunction with the notes on the accompanying cover page

Column page 3

Report page 2 of 2

Report sample ID range AC36360 to AC36385

LABORATORY TEST REPORT

Report Date
09 October 2007

Results of analysis of 26 samples
received 01 October 2007

FAO Emma Mason

Reema

80544

				AC36384	AC36385	
				TP21	TP22	
				D1	D1	
				SOIL	SOIL	
2700	Dibenzo[a,h]anthracene	53703	mg kg ⁻¹	M	<0.1	<0.1
	Indeno[1,2,3-cd]pyrene	193395	mg kg ⁻¹	M	<0.1	<0.1
	Benzo[g,h,i]perylene	191242	mg kg ⁻¹	M	<0.1	<0.1
	Total (of 16) PAHs		mg kg ⁻¹	M	<2	<2
2920	Phenols (total)		mg kg ⁻¹	M	<0.3	<0.3
2010	pH		-	M	7.6	8.0

MONITORING OF SOIL GASES & GROUNDWATER

abatech
consulting engineers

**Abatech International Ltd,
Consulting Engineers
Abatech House, Bull Close Road, Lenton,
Nottingham NG7 2UL
Tel. 0115 986 5022**

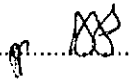
CONTRACT N° : S7/032
 CONTRACT : Brunswick Street & Reema Estate, Thurnscoe, Rotherham
 CLIENT : Barratt Sheffield
 DATE : Friday 12th October 2007
 CONDITIONS : Sunny with some clouds
 Atmospheric Pressure: 1021mb
 SPECIFICATIONS : Waste Management Paper No 27
 and BS 5930: 1999 'Code of Practice for Site Investigations'
 OPERATOR : D R Simpson
 EQUIPMENT : GA2000 - Infrared gas analyser

RESULTS

Borehole No./Ref.	LEL %	Methane (CH ₄) %	Carbon Dioxide (CO ₂) %	Oxygen (O ₂) %	Gas Flow Rate (l/hr)	H ₂ S ppm	CO ppm	Depth to Groundwater (mbgl) / Depth of wells
WS01	0	0.0	3.7	17.7	0.0	0	0	Dry/1.60
WS05	0	0.0	0.1	19.8	0.0	0	0	Dry/0.78
WS07	0	0.0	1.0	19.0	0.0	0	0	Dry/1.36
WS12	Unable to locate due to land being scraped at the time of visit							
WS15	Unable to locate due to overgrown scrub							
WS18	0	0.0	0.9	19.1	0.0	0	0	2.35/2.71
WS21	Borehole vandalized and was unable to monitor							

Notes

L.E.L = Lower Explosive Limit (100% L.E.L. = 5% Flammable Gas)
 % = By Volume
 # = Bag sample taken for laboratory analysis

Signed (Operator) 

Signed (Emma Mason)

MONITORING OF SOIL GASES & GROUNDWATER

abatech
consulting engineers

**Abatech International Ltd,
Consulting Engineers
Abatech House, Bull Close Road, Lenton,
Nottingham NG7 2UL
Tel. 0115 986 5022**

CONTRACT N° : S7/032
 CONTRACT : Brunswick Street & Reema Estate, Thurnscoe, Rotherham
 CLIENT : Barratt Sheffield
 DATE : Thursday 18th October 2007
 CONDITIONS : Sunny
 Atmospheric Pressure: 1024mb
 SPECIFICATIONS : Waste Management Paper No 27
 and BS 5930: 1999 'Code of Practice for Site Investigations'
 OPERATOR : D R Simpson
 EQUIPMENT : GA2000 - Infrared gas analyser

RESULTS

Borehole No./Ref.	LEL %	Methane (CH ₄) %	Carbon Dioxide (CO ₂) %	Oxygen (O ₂) %	Gas Flow Rate (l/hr)	H ₂ S ppm	CO ppm	Depth to Groundwater (mbgl) / Depth of wells
WS01	0	0.0	3.8	17.9	0.0	0	0	Dry/1.58
WS05	0	0.0	0.1	19.9	0.0	0	0	Dry/0.78
WS07	0	0.0	1.0	19.4	0.0	0	0	Dry/1.36
WS12	Unable to locate due to land being scraped at the time of visit							
WS15	Engineer unable to locate due to overgrown scrub							
WS18	0	0.0	0.7	19.8	0.0	0	0	2.42/2.71
WS21	Borehole vandalized and was unable to monitor							

Notes

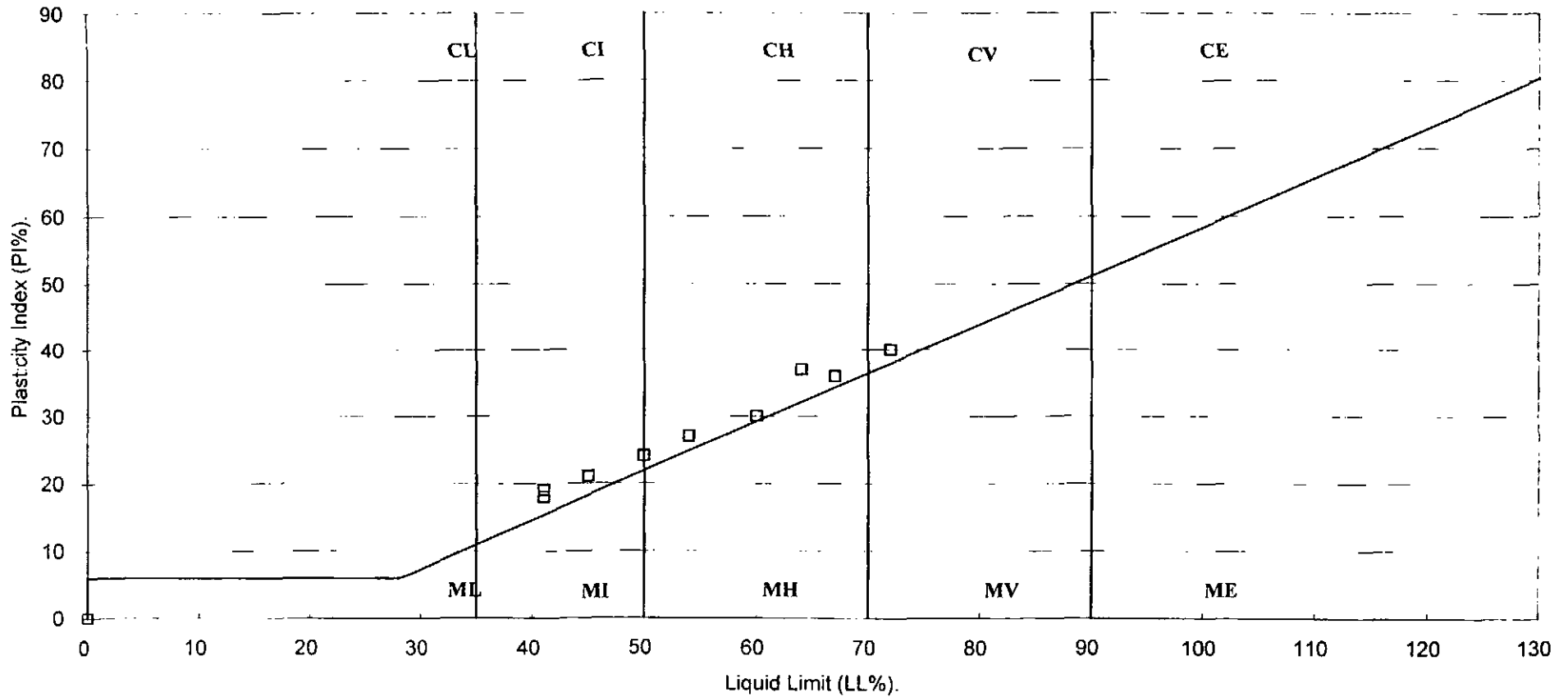
L.E.L = Lower Explosive Limit (100% L.E.L. = 5% Flammable Gas)
 % = By Volume
 # = Bag sample taken for laboratory analysis

Signed (Operator)..... *DR*

Signed (Emma Mason).....

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(B.S.5930 : 1999)



PSL
Professional Soils Laboratory

Compiled by	Date	Checked by	Date	Approved by	Date
<i>[Signature]</i>	26/10/07	<i>[Signature]</i>	26/10/07	<i>[Signature]</i>	26/10/07
REEMA ESTATE.					Contract No: PSL07/2345
					Client Ref: S7-032



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Job No:	S7-032		
Sheet No:	1 of 1		
Rev:	0		
By:	E Mason		
Checked By:	SMB		
Date:	24	10	07

Description:

Tier 2 Soil Guideline Values

Contaminant	Standard Land Use				Upper Bound Value (95% Confidence)
	Residential with plant uptake SGV (mg/kg)*	Allotments SGV (mg/kg)*	Residential without plant uptake SGV (mg/kg)*	Commercial / Industrial / SGV (mg/kg)*	
Arsenic	20	20	20	500	13.20
Lead (log)**	2.65	2.65	2.65	2.88	1.53
Nickel	50	50	75	5000	28.28
Cadmium**	2	2	30	1400	0.17
Mercury	8	8	15	480	0.11
Chromium^^	130	130	200	5000	5.00
Selenium	35	35	260	8000	0.48
Phenol	150	155	34,400	43,000	0.30
Toluene	7	73	8	350	-
Ethylbenzene	21	43	41	48,000	-

* SGVs are based on a sandy soil as defined in CLR10;

** Cadmium SGVs are pH dependant and are based on a pH of 7 (SGV = 1mg/kg for a soil pH 6; 8mg/kg for a soil pH 8);

^^ SGV assumes Chromium is present as Chromium(VI);

- Upper Bound Values for copper and zinc not calculated as they are not considered to typically present a risk to human health;

* The geometric mean, rather than the arithmetic mean, is used as the basis for the comparison of soil concentration data with the Soil Guideline Value (450mg/kg). All calculations are therefore transposed to log after SEGh (1993) Lead in Soil: Recommended Guidelines, Wixson, BG and Davies, BE (eds.) Society for Environmental Geochemistry and Health, Science Reviews.



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Job No:	S7-032		
Sheet No:	1 of 1		
Rev:	0		
By:	E Mason		
Checked By:	SMB		
Date:	24	10	07

Description:

CLEA Statistical Tests (Metals & Organics) ¹

Arsenic	
Upper Bound Value	
Mean	10.57
Number of samples	26.00
Standard Deviation	7.87
T Value	1.708
UBV (95%)	13.20
Maximum Value Test	
Mean	0.942
Maximum Value (log x = y)	1.602
Standard Deviation (S)	0.263
Outlier Critical Value (T)	2.51
10% Value (Tcrit)	2.38

Chromium (VI)	
Upper Bound Value	
Mean	5.00
Number of samples	26.00
Standard Deviation	0.00
T Value	1.708
UBV (95%)	5.00
Maximum Value Test	
Mean	0.70
Maximum Value (log x = y)	0.70
Standard Deviation (S)	0.00
Outlier Critical Value (T)	0.00
10% Value (Tcrit)	2.38

Cadmium	
Upper Bound Value	
Mean	0.15
Number of samples	26.00
Standard Deviation	0.07
T Value	1.708
UBV (95%)	0.17
Maximum Value Test	
Mean	-0.86
Maximum Value (log x = y)	-0.44
Standard Deviation (S)	0.17
Outlier Critical Value (T)	2.44
10% Value (Tcrit)	2.38

Nickel	
Upper Bound Value	
Mean	24.65
Number of samples	26.00
Standard Deviation	10.83
T Value	1.708
UBV (95%)	28.28
Maximum Value Test	
Mean	1.36
Maximum Value (log x = y)	1.79
Standard Deviation (S)	0.17
Outlier Critical Value (T)	2.59
10% Value (Tcrit)	2.38

Lead ²	
Upper Bound Value	
Mean	31.62
Number of samples	26.00
Standard Deviation	10.59
T Value	1.708
UBV (95%)	1.63
Maximum Value Test	
Mean	1.47
Maximum Value (log x = y)	1.70
Standard Deviation (S)	0.16
Outlier Critical Value (T)	1.38
10% Value (Tcrit)	2.38

Mercury	
Upper Bound Value	
Mean	0.10
Number of samples	26.00
Standard Deviation	0.01
T Value	1.708
UBV (95%)	0.11
Maximum Value Test	
Mean	-0.99
Maximum Value (log x = y)	-0.82
Standard Deviation (S)	0.04
Outlier Critical Value (T)	4.28
10% Value (Tcrit)	2.38

Selenium	
Upper Bound Value	
Mean	0.33
Number of samples	26.00
Standard Deviation	0.47
T Value	1.708
UBV (95%)	0.48
Maximum Value Test	
Mean	-0.66
Maximum Value (log x = y)	0.40
Standard Deviation (S)	0.33
Outlier Critical Value (T)	3.18
10% Value (Tcrit)	2.38

Phenol	
Upper Bound Value	
Mean	0.30
Number of samples	26.00
Standard Deviation	0.00
T Value	1.708
UBV (95%)	0.30
Maximum Value Test	
Mean	-0.52
Maximum Value (log x = y)	-0.52
Standard Deviation (S)	0.00
Outlier Critical Value (T)	0.00
10% Value (Tcrit)	2.38

¹ CLEA statistics derived from DEFRA/EA R&D Publication CLR7, Appendix A. Assessment of risks to Human Health from Land Contamination: An overview of the development of soil guideline values and related research, March (2002).

² For Lead, the statistics is based on the 'geometric' mean rather than the 'arithmetic' mean, which is used for other contaminants



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Job No:	S7-032		
Sheet No:	1 of 1		
Rev:	0		
By:	E Mason		
Checked By:	SMB		
Date:	24	10	07

Description:

Tier 2 Soil Screening Values - PAH

Contaminant	Standard Land Use			Upper Bound Value (95% Confidence)
	Residential with plant uptake ¹ (mg/kg)	Residential without plant uptake (mg/kg)	Commercial / industrial (mg/kg)	
Naphthalene	37	-	-	0.19
Acenaphthene	317	-	-	0.43
Fluorene	74	-	-	0.10
Anthracene	17	-	-	0.13
Fluoranthene	58	-	-	0.37
Pyrene	280	-	-	0.28
Benzo(a)anthracene	5.8	-	-	0.23
Chrysene	3.3	-	-	0.20
Benzo(b)fluoranthene	6.4	-	-	0.17
Benzo(k)fluoranthene	9.2	-	-	0.14
Benzo(a)pyrene ⁺	1.1	1.5	36	0.19
Dibenzo(a,h)anthracene	1.3	-	-	0.10
Indeno(1,2,3-cd)pyrene	10.4	-	-	0.10
Benzo(g,h,i)perylene	36	-	-	0.14

¹ Toxicological and Physico-chemical parameters for tentative non-validated PAH Soil Screening Values taken from available DEFRA and Environment Agency published documentation. Where no UK published physico-chemical or toxicological data was available, this has been obtained from review of other available toxicological data such as that given in USEPA, RIVM and TPH Criteria Working Group reports, as well as risk modelling databases such as RISC and RBCA.

⁺ Tentative non-validated SGV based on an assessment of TOX Report 2, Benzo(a)pyrene;

- Based on sandy soil with an SOM of 2.5% and pH7.



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Job No:	S7-032		
Sheet No:	1 of 2		
Rev:	0		
By:	E Mason		
Checked By:	SMB		
Date:	24	10	07

Description:

CLEA Statistical Tests (PAH)

Naphthalene	
Upper Bound Value	
Mean	0.15
Number of samples	26.00
Standard Deviation	0.13
T Value	1.708
UBV (95%)	0.19
Maximum Value Test	
Mean	-0.906
Maximum Value (log x = y)	-0.222
Standard Deviation (S)	0.230
Outlier Critical Value (T)	2.98
10% Value (Tcrit)	2.38

Fluorene	
Upper Bound Value	
Mean	0.10
Number of samples	26.00
Standard Deviation	0.00
T Value	1.708
UBV (95%)	0.10
Maximum Value Test	
Mean	-1.00
Maximum Value (log x = y)	-1.00
Standard Deviation (S)	0.00
Outlier Critical Value (T)	N/A
10% Value (Tcrit)	2.38

Acenaphthene	
Upper Bound Value	
Mean	0.23
Number of samples	26.00
Standard Deviation	0.61
T Value	1.708
UBV (95%)	0.43
Maximum Value Test	
Mean	-0.91
Maximum Value (log x = y)	0.51
Standard Deviation (S)	0.31
Outlier Critical Value (T)	4.59
10% Value (Tcrit)	2.38

Pyrene	
Upper Bound Value	
Mean	0.18
Number of samples	26.00
Standard Deviation	0.24
T Value	1.708
UBV (95%)	0.26
Maximum Value Test	
Mean	-0.88
Maximum Value (log x = y)	0.11
Standard Deviation (S)	0.26
Outlier Critical Value (T)	3.78
10% Value (Tcrit)	2.38

Anthracene	
Upper Bound Value	
Mean	0.11
Number of samples	26.00
Standard Deviation	0.06
T Value	1.708
UBV (95%)	0.13
Maximum Value Test	
Mean	-0.977
Maximum Value (log x = y)	-0.398
Standard Deviation (S)	0.118
Outlier Critical Value (T)	4.90
10% Value (Tcrit)	2.38

Fluoranthene	
Upper Bound Value	
Mean	0.25
Number of samples	26.00
Standard Deviation	0.37
T Value	1.708
UBV (95%)	0.37
Maximum Value Test	
Mean	-0.82
Maximum Value (log x = y)	0.23
Standard Deviation (S)	0.36
Outlier Critical Value (T)	2.88
10% Value (Tcrit)	2.38

Benzo(a)anthracene	
Upper Bound Value	
Mean	0.17
Number of samples	26.00
Standard Deviation	0.18
T Value	1.708
UBV (95%)	0.23
Maximum Value Test	
Mean	-0.88
Maximum Value (log x = y)	0.00
Standard Deviation (S)	0.25
Outlier Critical Value (T)	3.59
10% Value (Tcrit)	2.38

Indeno(1,2,3cd)pyrene	
Upper Bound Value	
Mean	0.10
Number of samples	26.00
Standard Deviation	0.00
T Value	1.708
UBV (95%)	0.10
Maximum Value Test	
Mean	-1.00
Maximum Value (log x = y)	-1.00
Standard Deviation (S)	0.00
Outlier Critical Value (T)	N/A
10% Value (Tcrit)	2.38

Chrysene	
Upper Bound Value	
Mean	0.14
Number of samples	26.00
Standard Deviation	0.16
T Value	1.708
UBV (95%)	0.20
Maximum Value Test	
Mean	-0.93
Maximum Value (log x = y)	-0.05
Standard Deviation (S)	0.20
Outlier Critical Value (T)	4.31
10% Value (Tcrit)	2.38

Contd...



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Job No:	S7-032		
Sheet No:	2 of 2		
Rev:	0		
By:	E Mason		
Checked By:	SMB		
Date:	24	10	07

Description:

CLEA Statistical Tests (PAH)

Dibenz(a,h)anthracene	
Upper Bound Value	
Mean	0.10
Number of samples	26.00
Standard Deviation	0.00
T Value	1.708
UBV (95%)	0.10
Maximum Value Test	
Mean	-1.000
Maximum Value (log x = y)	-1.000
Standard Deviation (S)	0.000
Outlier Critical Value (T)	N/A
10% Value (Tcrit)	2.38

Benzo(g,h,i)perylene	
Upper Bound Value	
Mean	0.12
Number of samples	26.00
Standard Deviation	0.08
T Value	1.708
UBV (95%)	0.14
Maximum Value Test	
Mean	-0.96
Maximum Value (log x = y)	-0.30
Standard Deviation (S)	0.16
Outlier Critical Value (T)	4.13
10% Value (Tcrit)	2.38

Benzo(k)fluoranthene	
Upper Bound Value	
Mean	0.12
Number of samples	26.00
Standard Deviation	0.08
T Value	1.708
UBV (95%)	0.14
Maximum Value Test	
Mean	-0.97
Maximum Value (log x = y)	-0.30
Standard Deviation (S)	0.14
Outlier Critical Value (T)	4.90
10% Value (Tcrit)	2.38

Benzo(b)fluoranthene	
Upper Bound Value	
Mean	0.13
Number of samples	26.00
Standard Deviation	0.12
T Value	1.708
UBV (95%)	0.17
Maximum Value Test	
Mean	-0.94
Maximum Value (log x = y)	-0.15
Standard Deviation (S)	0.18
Outlier Critical Value (T)	4.28
10% Value (Tcrit)	2.38

Benzo(a)pyrene	
Upper Bound Value	
Mean	0.15
Number of samples	26.00
Standard Deviation	0.13
T Value	1.708
UBV (95%)	0.19
Maximum Value Test	
Mean	-0.92
Maximum Value (log x = y)	-0.22
Standard Deviation (S)	0.23
Outlier Critical Value (T)	3.07
10% Value (Tcrit)	2.38

Oral Index Dose or TDSI Input Parameters (Polynuclear Aromatic Hydrocarbons and Petroleum Hydrocarbons)

Determinand	Threshold or Non-Threshold	ID or TDSI	UK Values		Other Sources of Available Information				UK Equivalent 10 ⁻⁵	Input Parameter (mg/kg BW ⁻¹ day ⁻¹)	Seed Value* mg/kg	Justification
			Oral TDSI or ID	RIVM ³ CR _{soil}	RIVM ³ TDI	TPH-CWG ⁴	TEF ⁵					
PAH												
Acenaphthene	1	TDSI		5.00E-01					5.00E-02	1.00E-02	2.9	TDSI _{soil} from RIVM (2001) using converted CR _{soil} value. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
Acenaphthylene	1	TDSI		5.00E-02					5.00E-03	1.00E-03	0.8	TDSI _{soil} from RIVM (2001) using converted CR _{soil} value. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
Anthracene	1	TDSI			4.00E-02					8.00E-03	5.7	RIVM (2001) published TDI value adopted for TDI _{soil} . TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
Benzo(a)anthracene	2	ID					2.00E-04			2.00E-04	11.2	ID _{soil} determined relative to UK Health Criteria Values for BaP using Toxic Equivalency Factors. Relative potency factor is 0.1.
Benzo(a)pyrene	2	ID	2.00E-05							2.00E-05	n/a	DEFRA and EA published values in Tox2.
Benzo(b)fluoranthene	2	ID					2.00E-04			2.00E-04	9.9	ID _{soil} determined relative to UK Health Criteria Values for BaP using Toxic Equivalency Factors. Relative potency factor is 0.1.
Benzo(g,h,i)perylene	1	TDSI		3.00E-02					3.00E-03	6.00E-04	4.7	TDSI _{soil} from RIVM (2001) using converted CR _{soil} value. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
Benzo(k)fluoranthene	2	ID								2.00E-04	3.6	ID _{soil} determined relative to UK Health Criteria Values for BaP using Toxic Equivalency Factors. Relative potency factor is 0.1.
Chrysene	2	ID								2.00E-04	9.8	ID _{soil} determined relative to UK Health Criteria Values for BaP using Toxic Equivalency Factors. Relative potency factor is 0.1.
Dibenzo(ah)anthracene	2	ID								2.00E-05	2.6	ID _{soil} determined relative to UK Health Criteria Values for BaP using Toxic Equivalency Factors. Relative potency factor is 0.1.
Fluoranthene	1	TDSI		5.00E-02					5.00E-03	1.00E-03	22.9	TDSI _{soil} from RIVM (2001) using converted CR _{soil} value. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
Fluorene	1	TDSI			4.00E-02					8.00E-03	2.7	RIVM (2001) published TDI value adopted for TDI _{soil} . TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
Indeno(1-2-3,cd)pyrene	2	ID								2.00E-04	4.9	ID _{soil} determined relative to UK Health Criteria Values for BaP using Toxic Equivalency Factors. Relative potency factor is 0.1.
Naphthalene	1	TDSI	2.00E-02							2.00E-02	n/a	DEFRA and EA published values in Tox20
Phenanthrene	1	TDSI			4.00E-02					8.00E-03	14.1	TDSI _{soil} from RIVM (2001) using converted CR _{soil} value. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
Pyrene	1	TDSI		5.00E-01					5.00E-02	1.00E-02	18.8	TDSI _{soil} from RIVM (2001) using converted CR _{soil} value. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
TPH												
EC5-EC6 Aliphatic	1	TDSI				5.00E+00				1.00E+00	0.3	Fraction specific oral Rfd. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
EC6-EC8 Aliphatic	1	TDSI				5.00E+00				1.00E+00	5.3	Fraction specific oral Rfd. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
EC8-EC10 Aliphatic	1	TDSI				1.00E-01				2.00E-02	9.2	Fraction specific oral Rfd. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
EC10-EC12 Aliphatic	1	TDSI				1.00E-01				2.00E-02	14.1	Fraction specific oral Rfd. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
EC12-EC16 Aliphatic	1	TDSI				1.00E-01				2.00E-02	144.5	Fraction specific oral Rfd. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
EC16-EC35 Aliphatic	1	TDSI				2.00E+00				4.00E-01	120.1	Fraction specific oral Rfd. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
EC21-EC35 Aliphatic	1	TDSI				2.00E+00				4.00E-01	134	Fraction specific oral Rfd. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
EC5-EC7 Aromatic*	1	TDSI				2.00E-01				4.00E-02	3.3	DEFRA and EA published values in Tox11. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
EC7-EC8 Aromatic**	1	TDSI				2.00E-01				4.00E-02	12	DEFRA and EA published values in Tox14. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
EC8-EC10 Aromatic	1	TDSI				4.00E-02				8.00E-03	30.3	Fraction specific oral Rfd. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
EC10-EC12 Aromatic	1	TDSI				4.00E-02				8.00E-03	20.7	Fraction specific oral Rfd. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
EC12-EC16 Aromatic	1	TDSI				4.00E-02				8.00E-03	85.9	Fraction specific oral Rfd. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
EC16-EC21 Aromatic	1	TDSI				3.00E-02				6.00E-03	278.1	Fraction specific oral Rfd. TDSI _{soil} assumed to be equal to 20% TDI _{soil} .
EC21-EC35 Aromatic	1	TDSI				3.00E-02				6.00E-03	532.6	Fraction specific oral Rfd. TDSI _{soil} assumed to be equal to 20% TDI _{soil} . Based on Pyrene C ₁₆ value.

¹ Threshold contaminant and therefore a **Tolerable Daily Soil Intake (TDSI)** should be used;
² Non threshold contaminant (i.e. carcinogenic) and therefore an **Index Dose (ID)** should be used (a dose that represents a minimal risk level). EA(2003) Principles for Evaluating the Human Health Risks from Petroleum Hydrocarbons in Soils: R&D Technical Report P5-080/TR1;
³ RIVM Report 711701 023, Technical Evaluation of the Intervention Values for Soil/Sediment and Groundwater, February 2001;
⁴ TPH Criteria Working Group, Development of Fraction Specific Reference Doses and Reference Concentrations for Total Petroleum Hydrocarbons, Volume 4 (Table 1);
⁵ USEPA 1993 Provisional Guidance for QRA of PAH, EPA/600/R-93/089;
⁶ Seed Value ('Background') calculated from review of site specific soil laboratory data for greenfield and brownfield sites investigated by Abatech International Ltd;
 * Benzene;
 ** Toluene.



Physico Chemical Input Parameters (Polynuclear Aromatic Hydrocarbons and Petroleum Hydrocarbons)

Determinand	Molecular Weight (g/mol)		Diffusion Coefficient In Air (cm ² /s)		Diffusion Coefficient In Water (cm ² /s)		Log of Organic Carbon Partition (g.cm ³ /g.cm ³)		Log of Octanol Water Partition Coefficient (cm ³ /g)		Henry's Law Constant (Dimensionless)		Vapour Pressure (25°C)		Boiling Point (K)		Solubility (mg/L)	
		Ref.		Ref.		Ref.		Ref.		Ref.		Ref.		Ref.		Ref.		Ref.
PAH																		
Acenaphthene	154.2	2,4	4.20E-06	2	7.00E-10	2	3.85E+00	2	3.92E+00	2	4.92E-03	2	1.52E+00	2	5.52E+02	2	3.80E+00	2
Acenaphthylene	152.2	2,4	5.40E-06	4	6.60E-10	4	3.40E+00	2	4.00E+00	2	3.40E-03	2	4.14E+00	2	5.43E+02	2	1.61E+01	2
Anthracene	178.2	2,4	3.20E-06	2	7.74E-10	2	4.47E+00	2	4.54E+00	2	1.60E-03	2	7.78E-02	2	6.13E+01	2	4.50E-02	2
Benzo(a)anthracene	228.0	2,4	5.10E-02	2	9.00E-10	2	4.00E+00	2	5.91E+00	2	2.35E-04	2	6.06E-04	2	7.08E+02	2	1.10E-02	2
Benzo(a)pyrene	252.3	2,4	4.30E-06	2	9.00E-10	2	6.01E+00	2	6.04E+00	2	1.86E-05	2	2.13E-05	2	7.68E+02	2	3.80E-03	2
Benzo(b)fluoranthene	252.3	2,4	2.60E-06	2	5.56E-10	2	5.74E+00	2	5.80E+00	2	1.75E-04	2	6.67E-05	2	7.54E+02	2	1.50E-03	2
Benzo(g,h,i)perylene	276.3	2,4	4.10E-06	4	4.90E-10	4	5.61E+00	2	6.50E+00	2	3.03E-05	2	2.25E-05	2	7.73E+02	2	2.60E-04	2
Benzo(k)fluoranthene	252.3	2,4	2.60E-06	2	5.56E-10	2	6.09E+00	2	6.00E+00	2	3.40E-05	1	4.12E-06	2	7.53E+02	2	8.00E-04	2
Chrysene	228.3	2,4	2.50E-06	2	6.21E-10	2	3.66E+00	2	5.70E+00	2	2.63E-05	2	1.07E-04	2	7.21E+02	2	1.60E-03	2
Dibenzo(ah)anthracene	278.4	2,4	2.00E-06	2	5.18E-10	2	6.58E+00	2	6.75E+00	2	6.03E-07	1,2	9.16E-08	2	7.97E+02	2	6.00E-04	2
Fluoranthene	202.3	2,4	3.00E-06	2	6.35E-10	2	5.03E+00	2	5.22E+00	2	4.20E-04	2	8.70E-03	2	6.48E+02	2	2.60E-01	2
Fluorene	166.2	2,4	3.60E-06	2	7.88E-10	2	4.14E+00	2	4.18E+00	2	3.18E-03	2	7.20E-01	2	5.68E+02	2	1.90E+00	2
Indeno(1-2-3,cd)pyrene	276.3	2,4	1.90E-06	2	5.66E-10	2	6.54E+00	2	6.65E+00	2	6.56E-05	1,2	1.30E-08	2	8.09E+02	2	2.20E-05	2
Naphthalene	128.17	2,4	5.90E-06	2	7.50E-10	2	3.11E+00	2	3.37E+00	2	1.74E-02	2	3.68E+01	2	4.91E+02	2	3.10E+01	2
Pyrene	202.3	2,4	2.70E-06	2	7.24E-10	2	5.02E+00	2	5.18E+00	2	3.72E-04	2	1.19E-02	2	6.33E+02	2	1.30E-01	2
TPH																		
EC5-EC6 Aliphatic	8.00E+01	3	1.00E-05	5	1.00E-09	5	2.80E+00	3	3.30E+00	4	3.40E-01	4	3.54E+04	5	3.24E+02	5	3.60E+01	5
EC6-EC8 Aliphatic	1.10E+02	3	1.00E-05	5	1.00E-09	5	3.50E+00	3	4.00E+00	4	5.10E+01	4	6.36E+03	5	3.69E+02	5	5.40E+00	5
EC8-EC10 Aliphatic	1.30E+02	3	1.00E-05	5	1.00E-09	5	4.50E+00	3	4.80E+00	4	8.20E+01	4	6.38E+02	5	4.23E+02	5	4.30E-01	5
EC10-EC12 Aliphatic	1.60E+02	3	1.00E-05	5	1.00E-09	5	5.50E+00	3	5.60E+00	4	1.30E+02	4	6.40E+01	5	4.73E+02	5	3.40E-02	5
EC12-EC16 Aliphatic	2.10E+02	3	1.00E-05	5	1.00E-09	5	6.70E+00	3	6.80E+00	4	5.40E+02	4	4.90E+00	5	5.33E+02	5	7.60E-04	5
EC16-EC35 Aliphatic	2.80E+02	3	1.00E-05	5	1.00E-09	5	8.60E+00	3	8.90E+00	4	6.40E+03	4	1.00E-01	5	5.93E+02	5	2.50E-06	5
EC5-EC7 Aromatic*	7.80E+01	3	8.80E-06	5	9.80E-10	5	1.90E+00	3	2.10E+00	4	2.30E-01	4	6.40E+03	5	3.53E+02	5	1.77E+03	5
EC7-EC8 Aromatic**	9.20E+01	3	8.70E-06	5	8.60E-10	5	2.40E+00	3	2.50E+00	4	2.70E-01	4	1.78E+03	5	3.83E+02	5	5.35E+02	5
EC8-EC10 Aromatic	1.20E+02	3	1.00E-05	5	1.00E-09	5	3.10E+00	3	3.10E+00	4	4.90E-01	4	6.38E+02	5	4.23E+02	5	6.50E+01	5
EC10-EC12 Aromatic	1.40E+02	3	1.00E-05	5	1.00E-09	5	3.50E+00	3	3.50E+00	4	1.40E-01	4	6.38E+01	5	4.73E+02	5	2.50E+01	5
EC12-EC16 Aromatic	1.50E+02	3	1.00E-05	5	1.00E-09	5	3.80E+00	3	3.90E+00	4	5.40E-02	4	4.90E+00	5	5.33E+02	5	5.80E+00	5
EC16-EC21 Aromatic	1.80E+02	3	1.00E-05	5	1.00E-09	5	4.20E+00	3	4.70E+00	4	1.30E-02	4	1.11E-01	5	5.93E+02	5	6.50E-01	5
EC21-EC35 Aromatic	2.50E+02	3	1.00E-05	5	1.00E-09	5	5.10E+00	3	6.10E+00	4	6.80E-04	4	4.46E-05	5	6.13E+02	5	6.60E-03	5

¹ USEPA Soil Screening Level Data (1996);

² Recommended values for CLEA published in EA Draft Technical Report P5-079/TR1 (Tables 2.4/2.7);

^{2a} Recommended values for CLEA published in EA Draft Technical Report P5-079/TR1 (Table 4.3);

³ TPH Criteria Working Group, Volume 3 (Table 7);

⁴ RISC User's Manual; Version 4.0. Table 11-1. Chemical Properties Database;

⁵ LQM CIEH, Generic Assessment Criteria for human health risk assessment, 2006, ISBN 0-9547474-3-7;

* Benzene;

** Toluene.

