APPENDIX SCR1 – LANDMARK ENVIROCHECK REPORT

APPENDIX SCR2 – INDICATIVE RAW MATERIALS

APPENDIX SCR3 – WASTES BY EWC CODE

APPENDICES

DRAWINGS

ARMTHORPE QUARRY CRBM – SITE CONDITION REPORT

Report: TA1041/03
Date: October 2018

SITE CONDITION REPORT

FOR AN ASPHALT WASTE RECYCLING FACILITY AT ARMTHORPE QUARRY HOLME WOOD LANE ARMTHORPE DONCASTER DN3 3EH

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Tarmac Limited

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Project Quality Assurance
Information Sheet

SITE CONDITION REPORT

Report Number	:	TA1041/03	***Report Status***	:	**Final**
Report Date	:	October 2018			
Prepared for	:	Tarmac Limited			
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AT ARMTHORPE QUARRY, HOLME WOOD LANE
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SITE CONDITION REPORT

CONTENTS

LIST OF DRAWINGS

Drawing No.	Title
TA1041/5/SCR01	Site Location
TA1041/5/SCR02	Areas covered by Site Condition Report
TA1041/5/SCR03	Indicative Operational Layout

LIST OF APPENDICES

Appendix	Title
Appendix SCR1	Landmark Envirocheck Report
Appendix SCR2	Indicative Raw Materials
Appendix SCR3	Wastes by EWC Code

LIST OF TABLES

Table No.	Title
Table 1	Natural Hazard Rating Summary
Table 2	Development History of the Site and Surrounding Area
Table 3	Summary of Pollution Incidents to Controlled Waters within 1km of the Site
Table 4	Summary of Prosecutions Relating to Authorised Processes within 1km of the Site
Table 5	Enforcement and Prohibition Notices within 1km of the Site
Table 6	Pollution Prevention Control within 1km of the Site
Table 7	Authorised Facilities within 1km of the Site
Table 8	Details of Industrial Sites within 1km of the Site
Table 9	Risk Assessment of Potentially Polluting Substances

1.0 INTRODUCTION

1.1 Scope

1.1.1 Sirius Environmental Limited (Sirius) has been commissioned by Tarmac Limited (Tarmac) to prepare and submit a Bespoke Environmental Permit Application for an Asphalt Waste Recycling Facility at Armthorpe Quarry, Armthorpe, Doncaster, South Yorkshire. The application is submitted in accordance with the Environmental Permitting (England and Wales) Regulations 2016 (As amended) (referred to hereafter as the EP Regulations).

1.1.2 This Site Condition Report assesses the baseline environment of the proposed recycling operation areas of the Armthorpe Quarry site that will be covered by this Environmental Permit. The 'site' as mentioned throughout this report consists of the aforementioned area. Other Permitted and Non-permitted areas associated with the operation of the wider quarry site, building and landscaping supplies and Yorkshire Aggregates quarrying, and recycling business are not covered by this Site Condition Report.

1.1.3 The Site Condition Report has been compiled in accordance with the EP Regulations and with Horizontal Guidance Note 5, Site Condition Reports - Guidance and Templates. Information has been gathered from a number of sources including existing environmental reports, photographs, and findings of site visits and observations made by Sirius.

1.1.4 The purpose of the initial Site Condition Report is to provide a factual statement of the condition of the site at the time of the Environmental Permit application. The Site Condition Report must describe the nature and distribution of potentially polluting substances in the ground and groundwater at the site at this specified time. The potentially polluting substances of interest are those which are to be handled at the site under the Permit, and include raw materials, waste materials and by-products that are generated by the process.

1.2 Site Location

1.2.1 The proposed site for the Asphalt Waste Recycling Facility is located on the north eastern side of the wider Armthorpe Quarry site, with access being gained off Holme Wood Lane which bounds the the northern boundary. Armthorpe Quarry contains a number of other complimentary operations run by Yorkshire Aggregates, including sand and gravel mineral extraction and inert waste recycling operations. The general location of Tarmac's Asphalt Waste Recycling Facility is shown in **Drawing Reference TA1041/5/SCR01**. The National Grid Reference for the approximate centre of the site is: NGR 465775, 405227.

1.2.2 The area covered by this Site Condition Report is illustrated on **Drawing Reference TA1041/5/SCR02**. This again is delineated against the wider activities that are operational on Armthorpe Quarry. The proposed environmentally Permitted recycling site is on the north eastern half of the overall Armthorpe Quarry facility. The site will consist of the production and storage of recycled road planings ready for reuse. Land to the immediate north is bound by Holme Wood Lane, whilst to the east, south and west consists of the wider Armthorpe Quarry complex.

1.2.3 All waste recycling operations will be undertaken upon a designated area of land access directly off the northern quarry boundary. Storage, Treatment/Recycling and transfer operations will be undertaken within this defined area. As mentioned above, access to and egress from the site will be undertaken from the main access road (Holme Wood Lane) which enters the site on the northern edge. Access to the waste storage and treatment areas is then gained after vehicles have been checked in through the main site

weighbridge. The indicative operational layout of the site is illustrated on **Drawing Reference TA1041/5/SCR03**.

1.2.4 The wider site is situated upon a broadly restored sand and gravel quarry to the south, east and west. The wider site includes mineral processing and sales, and a range of inert waste recycling uses, and infrastructure associated with each includes paved roadways, buildings, fixed and mobile plant, hardstanding areas, and waste materials and product stockpiles.

1.2.5 The wider site is bounded to the north by Holme Wood Lane, and to the south, east and west by agricultural fields. Diggin Dyke directly adjoins the southern boundary running south west to north east. Further distant to the north, east and south is the continuation of agricultural land, whereas to the west (over the M18 motorway which runs from the M1 in the south west to the M62 to the north east) is the urbanised area associated with Doncaster.

1.2.6 Due to its rural setting, residential properties are generally sparse. The closest existing residential properties to the proposed permitted site are on Holme Wood lane, circa 50 metres to the north east corner.

1.2.7 The predominant land use surrounding the wider area, as discussed above, is a rural setting. The operation of a quarry at the site (now restored) has been undertaken for a number of years having previously been worked by RMC prior to Yorkshire Aggregates.

1.2.8 Evidence available from the Envirocheck Report in terms of historical maps and waste licensing history has shown that post mineral extraction, the workings in certain areas to the east of the site boundary and on the northern half of the site were subject to landfilling operations. This was undertaken by Local Authorities in the region between the mid 1970's and early 1990's. It is likely that areas outside of this were backfilled with quarry overburden.

2.0 CONDITION OF LAND AT PERMIT ISSUE

2.1 Introduction

2.1.1 This Site Condition Report covers the proposed Asphalt Waste Recycling operational area of Armthorpe Quarry as will be covered by this Permit Application, as shown in **Drawing Reference TA1041/5/SCR02**. The baseline condition of the site has been determined from a review of available published information, including:-

- Landmark Envirocheck Report (Appendix SCR1);
- BGS 1:50,000 scale geology maps;
- Environment Agency web-based data.

2.2 Geology & Hydrogeology

Solid and Drift Geology

2.2.1 The local geology has been identified from the review of BGS 1:50,000 scale geology maps.

2.2.2 The BGS geological maps indicate that the site is underlain by (Quaternary Period) River Terrace Deposits (Undifferentiated). These materials are Sands and Gravels, locally with lenses of silt, clay or peat. These materials are identified as having been present in the whole area subject to this report and associated application. The wider Armthorpe Quarry is identified as having been underlain by the same, although Quaternary aged Peat deposits were prevalent to the south, although outside of the permitted area. Devensian Glaciolacustrine Deposits have also been identified previously to the south and west of the wider quarry site.

2.2.3 It is likely that the majority of these deposits will have been worked as part of the quarrying activities and subsequently backfilled with man-made materials based upon the available records of historic landfilling activities in the vicinity of the site.

2.2.4 Beneath the existing superficial deposits lies the Chester Formation. This Formation is part of the Triassic Sherwood Sandstone Group. The Chester Formation consists of a Pebbly (Gravelly) Sandstone. The formation shows a progressive change in lithology northwards, from a coarse-grained, typically well-cemented proximal facies, to a fine-grained, less well-cemented distal facies.

2.2.5 In Nottinghamshire, the formation comprises pinkish red or buff-grey, medium- to coarse-grained, pebbly, cross-bedded, friable sandstone. Northwards from Nottingham the pebbles gradually die out; the farthest north they have been seen consistently is around Doncaster, where the site is situated. The formation shows a wide range of thicknesses across the country. It is thinnest (less than 50 m), in Dorset, and up to 220 m in most other regions. In north Staffordshire it is up to 300 m thick; the thickest proven sequences (340-627 m) are in Cumbria.

Made Ground

2.2.6 The proposed Asphalt Waste Recycling facility at Armthorpe Quarry occupies an area of approximately 14.5 acres towards the north eastern end of the main quarry site. This part of the site has been previously restored to surrounding ground levels via the infilling of the void left by mineral extraction with waste materials.

2.2.7 The first record of infilling previous quarried areas was during the early 1960's. The historical mapping included within the Envirocheck report shows sand and gravel workings commencing in the south east corner at the very eastern end of the large Armthorpe Quarry site. Mineral workings then progressed in a south westerly direction

with a Sand and Gravel pit denoted directly beneath the site in 1980. The quarry workings then progressed in a south westerly direction during the 1990's and 2000's.

2.2.8 The first records of licensed waste disposal being inputted into the site was in 1959. The site was operated by the Local Authority and known as Doncaster Rural District Council Tip. Deposited waste was recorded as including commercial waste and liquid sludge. The next record shows a licence held by Barnsley MBC operated to the east (c.53m) during the 1970's which accepted a range of materials including Household, Commercial and Industrial waste. The site then seems to have been taken on by South Yorkshire County Council and operated until 1993.

2.2.9 Assuming the above records are accurate, there has been substantial deposits of made ground (waste) placed over a number of years in and around the area of the proposed permitted site.

Hydrogeology

2.2.10 As detailed in 2.2.2 the superficial geological unit at the site is comprised of River Terrace Deposits. The Superficial Deposit aquifer designation is given as a Secondary 'A' aquifer. Give that the superficial deposits are already removed via mineral extraction, the Bedrock Aquifer designation is extremely relevant.

2.2.11 As the surround area is underlain by the Sherwood Sandstone Group, more specifically the Chester Formation, the aquifer designation of the bedrock geological unit is classed as a Principal Aquifer. These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

2.2.12 In terms of hydrogeology, the site is designated as sitting within Zone III of a Source Protection Zone (total catchment). There are two points of abstraction to the south east and south of the site which are represented by Zone 1 and Zone 2 (Inner and Outer Source Protection Zones). These are located over 1.5km from the proposed recycling facility. There are no groundwater abstraction licences within 1km of the site.

2.3 Hydrology

2.3.1 The proposed operational Asphalt Waste Recycling activity subject to this Permit Application is located within the wider Armthorpe Quarry site. Armthorpe Quarry is located on a relatively flat moorland environment situated between Hatfield Moor and West Moor situation to the north of Armthorpe. The area surrounding the site has been worked for the superficial deposits including the river terrace sands and gravels, and peat deposits. As would be expected of an environment such as this, a series of artificial drainage channels (ditches) and water ways have been constructed and are therefore a common feature around the site. The Landmark Information Services results state that the nearest surface water is 2m to the South of the proposal site.

2.3.2 The nearest relatively continuous surface water feature is a ditch/drain structure named Diggin Dyke. This feature runs from the south west to the north east, passing just to the south of the application site by around 10-15m before joining West Moor Drain to the north east. Diggin Dyke is just part of a much wider network of ditches that drain the low-lying moorland, with flow predominantly towards the east and north east, towards the River Trent in the east with discharge into the River Humber to the west of Hull.

2.3.3 As summarised within the Envirocheck Report for year 2000 data, Diggin Dyke has been given a General Quality Assessment (GQA) Grade F (Bad) and has a reach of c.2.5km from Village Drain to Waterton Pump Station and a flow of less than 0.31cumecs.

2.3.4 From review of the Envirocheck Report, the nearest discharge consents are those associated with residential and commercial developments off site. The nearest is c.350m to the north and east and is associated with the travellers site on Holme Wood Lane, with the other being c.600m associated with the leisure development run by Blue Anchor Leisure Limited. Both discharges are for treated sewage and discharge into Diggin Dyke. The previous discharge consent associated with Armthorpe Quarry was issued to RMC in 2002 to dewater the mineral workings during large scale active mineral extraction. This has since been revoked.

2.3.5 There are records of numerous water abstractions within the vicinity of the Armthorpe Quarry site (c.2km). Of most relevance is the borehole abstraction operated by Yorkshire Aggregates (located on site) which is used for aggregate and mineral washing purposes. Off site water abstractions located within 1km of the site all relate to farming uses such as spray irrigation.

2.3.6 The site is located within Flood Zone 1 (as depicted by the Environment Agency) and therefore sits outside the Hydrological Flood Risk area. The flood risk on site is considered to be low and is considered unlikely to flood. other than in extreme conditions. The site has less than <0.1% chance of flooding each year (Annual Exceedance Probability) or 1 in 1000 or less.

2.3.7 With regards to Groundwater Flood Risk, the site is broadly split with the northern half considered to have a limited potential for flooding to occur, and the southern half being identified as having the potential for flooding to occur below the ground surface.

2.3.8 There are areas identified on the Envirocheck plans which illustrate the risk from Surface Water flooding, but these features are considered transient as they are associated with previous mineral working features. Notwithstanding the relatively low risk from flooding, the nature of materials being handled (road planings) at the proposed recycling site means that the pollution risk due to possible interaction with floodwater is negligible.

2.4 Natural Hazards

2.4.1 The Landmark Information Group Service was contacted to identify the potential natural hazards on the site. A summary of the ratings associated with each potential hazard is provided in **Table 1** below.

Table 1: Natural Hazard Rating Summary

Hazard Type	Hazard Rating
Instability due to Coal Mining	In an area which may have been affected by coal mining
Shrink Swell Clays	No Hazard
Landslides	Very Low
Ground Dissolution	No Hazard
Compressible Ground	No Hazard
Collapsible Rocks	Very Low
Running Sand	Very Low
Radon Potential	Radon Affected Area - The property is in a lower probability radon area (less than 1% of homes are estimated to be at or above the action level. No radon protective measures are considered necessary for the construction of new dwellings or extensions.

2.5 Site History

Development History

2.5.1 A review of historical maps for the proposed permitted site and surrounding areas (within 1km), included within the Landmark Envirocheck Report (**Appendix SCR1**), indicate that during the early 1890's the area was rural, with land utilised for farming purposes. Field structures are evident, along with associated boundaries. Regular drainage ditches are laid out to allow for drainage for farming purposes. A number of farms are scattered throughout the surrounding area, with a number of wooded features, the largest being Great Gate Wood to the south east of the site.

2.5.2 Within closer proximity to the proposed permitted site, Holme Wood Farm is situated immediately to the north and west. As stated above, a series of ditches or drains featured upon the maps, beyond the site boundary. A drain, namely the Diggin Dyke runs along the same course (south west to north east) as can be seen today.

2.5.3 Very little is observed to have changed either directly on the site or in the immediate surrounding area between the late 19th Century (c.1890's) and the mid-20th Century (1960's), with both on site and the surrounding area staying dominated by farming, agriculture and drainage features. During the 1960's (and potentially earlier (c.1950's) as there is a gap in the mapping), a sand pit appears to the east of the site. This is denoted as being disused, it is therefore suspected that appeared prior to the map date, therefore the 1950's would be an appropriate estimate. A linear feature labelled 'Refuse Tip' also appears within the vicinity of the mineral workings.

2.5.4 Available plans at 1:2,500 then become scarce until the late 1970's early 1980's. The 1:10,000 scale drawings however continued to provide coverage. The ordnance survey plan for 1967-68 illustrate the area of mineral workings first noted to the east of the site, and whilst not labelled as such, seem to have a disused status. Mineral workings then seem to have progressed in a south westerly direction, and the label of 'Active Workings' can be seen to occupy the centre of the study site.

2.5.5 As we progress in the latter half of the 20th Century, the sand and gravel pit continues to occupy the study site, with some change observed within the local area, although still remaining dominated by agriculture. A large reservoir feature is observed as having developed to the south. This feature has no doubt been developed to allow for the dewatering of the associated mineral workings. To the north of the site, a number of properties and associated land uses have developed, including a piggery and commercial scale greenhouses. Further to the north the M18 motorway is now shown to be present running from the south west to the north east.

2.5.6 Between the early 1990's and the change of the decade (c.2000's), Armthorpe Quarry develops with the workings traversing in a south westerly direction as far as the bend in Holme Wood Lane where this travels north to join the M18. Extraction is also shown to have commenced further to the south and west, namely to the south of Diggin Dyke. The development of a sand and gravel pit is also noted to the east north east of the site. The reservoir to the south is now shown as disused. To the north and west along Holme Wood Lane, the business have further developed, with the Piggeries now joined by a Boarding Kennels and the greenhouses being replaced by a Mink Farm.

2.5.7 The most recent map available (2018) illustrates the same general features described above, including the ongoing operation of the sand and gravel quarry at Armthorpe. Based upon the review of records, including the historical maps, the land to the east north east was backfilled with waste materials. The proposed site to be permitted is still labelled as a 'Sand and Gravel Pit'. The only other notable features off site is the development of leisure land uses to the north east and east north east, namely a

motorcross track and lake side holiday lodges respectively. These are both set at a distance of 750-1000m from the proposed permitted operation.

2.5.8 A review of the Envirocheck and generally available historical maps of scales at of approximately 1:10,000 and 1:2,500, dated between 1893 and 2018, disclose the previous uses of the site. The findings are presented in chronological order in **Table 2** below.

Table 2: Development History of the Site and Surrounding Area

Map Dates	On-Site Features	Off-Site Features *(only features within 500m that may affect the site are listed)*
1854-1892	Series of undeveloped fields. Bisected by a linear (hedge) feature	Diggin Dyke to the south of the site runs south west to north east in broadly the same alignment as it does presently. Holme Wood Lane to the north of the site runs along the same alignment as Diggin Dyke. Holme Wood Farm is shown as being present directly off site to the north and west. Broader surrounding area lain to agriculture, with numerous drainage ditches and scattered wooded areas.
1892-1948	No significant change.	No significant chance although some further development of rural scattered properties.
1961	No significant change.	Mineral workings are depicted to the east north east, immediately adjacent to the site. These workings seem to progressing from the south east corner working north and west, although now labelled disused. Reference to a Refuse Tip is given on the north edge of the eastern workings.
1967	Site now labelled as 'Active Workings'.	Workings to the east north east shown as disused. No other major changes off site.
1978-1984	Site labelled as 'Sand and Gravel Pit'.	Large reservoir illustrated to the South and West, no doubt utilised for the dewatering of mineral workings. A number of businesses have developed on the northern edge of Holme Wood Lane. M18 Motorway illustrated for first time.

Map Dates	On-Site Features	Off-Site Features *(only features within 500m that may affect the site are listed)*
2000-2006	Northern half of site shown as 'Workings (disused)' with the southern half still denoted as a Sand and Gravel Pit. Conveyors are shown to be present.	Workings at Armthorpe Quarry have now substantially progressed to the south and west from the proposed permitted site, including a remote site further to the south and west, south over Diggin Dyke. Large reservoir feature to the south now shown as disused. Businesses to the north of Holme Wood Lane continue to develop.
2018	Site labelled as Sand and Gravel Pit.	Further development of businesses off site to include a Motorcross track and Lakeside Lodges at a distance of c.750-1000m. Appearance of Mobile home park to the north east of the site.

2.5.9 In summary, the site has been noted to occupy a rural location for nearly 200 years. The site itself has developed from a green field to a sand and gravel pit to being subsequently disused and backfilled. The wider Armthorpe Quarry complex has continued to develop to the south and west. Off site has remained predominantly undeveloped rural fields, marshland, dykes and intermittent houses/cottages, although a number of the properties have been developed into commercial businesses. These have been mainly sited along Holme Wood Lane and further to the north and east. Access to the site was further facilitated by the development of the M18, Junction 4 of which runs circa 800m to the west of the site.

2.5.10 The surrounding area to the wider Armthorpe Quarry site undergoes generally limited changes in terms of surface water features, with the addition and removal of ponds/dykes throughout the site's history reflecting the development needs of the main quarry site. The main site and areas to the east and west have throughout the 20th Century been worked for sand and gravel. Some areas that have been worked out have been subject to backfill with the area to the east north east of the site and on the northern half operated as a landfill by the Local Authority from the mid 1970's to the early 1990's. The area to the west south west which was worked for minerals has likely been irregularly backfilled with overburden materials and has since become an inert recycling area for Yorkshire Aggregates Limited. Much of the wider site is therefore classified as Brownfield land having had an extensive history of minerals and waste operations.

2.5.11 In terms of Ecology, the nearest sites of importance are c. 2.7km to the east, namely the Humberhead Peatlands National Nature Reserve, Hatfield Moors Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI). It has been designated for the flora and fauna it supports in a lowland peat bod environment. Lowland peat bogs are a nationally rare habitat with none occurring in lowland England in completely unmodified form, most having been cut for peat.

Pollution Incidents

2.5.12 Landmark information Services were contracted to conduct a search of all records relating to pollution incidents to controlled waters which have occurred on or with 1km of the site. This identified 2 records (both unrelated to site operations), the details of which can be seen in Table 3 below;

Table 3: Summary of Pollution Incidents to Controlled Waters within 1km of site

Location	Details
Holme Wood Lane, Armthorpe, Doncaster Distance: 277m E NGR: 466250 405300	Property Type: Road (RTA) Pollutant: Miscellaneous (Inert Suspended Solids) Incident Date: 20th April 1999 Incident Reference: 2805920 Cause of Incident: Weather Incident Severity: Category 3 – Minor Incident
M18 North bound by Junction 4, Armthorpe, Doncaster Distance: 766m W NGR: 464900 405100	Property Type: Road (RTA) Pollutant: Oils – Diesel (Including Agricultural) Incident Date: 22nd September 1997 Incident Reference: 2803390 Incident Description: Accident involving HGV spilled contents of fuel tank 300 litres, no adverse effects Cause of Incident: Collision Incident Severity: Category 3 – Minor Incident

2.5.13 Details of prosecutions relating to authorised processes within 1km of the site are detailed in **Table 4** below.

Table 4: Summary of Prosecutions Relating to Authorised Processes within 1km of the Site

Location	Details
Seven Yards Farm, Doncaster, DN3 3EQ Distance: 993m SW NGR: 464750 404783	Prosecution Text: Operating a Waste Site Without a Permit Prosecution Act: EPR10 Hearing Date: 31st October 2011 Verdict: Guilty Fine: 0 Costs: 3000

2.5.14 There are no records of enforcement or prohibition notices being issued within 1km of the site.

Other Activities within the Vicinity of the Site

Landmark Information Services provided a list of Integrated Pollution Prevention and Control Permits as well as Local Authority Integrated Pollution Prevention and Control Permits, with the results of relevant authorisations contained within **Table 5** below.

Table 5: Pollution Prevention Control within 1km of the site

Location	Details
Local Authority Integrated Pollution Prevention and Control	
Holme Wood Lane, Armthorpe, Doncaster, DN3 3EH Distance: 50 W NGR: 465676 405268	Name: Cemex UK Materials Limited Permit Reference: LAPPC 111 Dated: 11th December 2006 Process Type: Local Authority Pollution Prevention and Control Description: PG3/1 Blending, packing, loading and use of Cement Status: Authorisation Revoked

2.5.15 Searches carried out by Landmark information services identified one permitted waste management facility and a few records relating to historic (now lapsed/surrendered) landfilling operations. A summary of each record is presented in **Table 6** below.

Table 6: Authorised Facilities within 1km of Site

Location	Details
Licenced Waste Management Facility (Historic)	
Holmewood Lane, Armthorpe, Doncaster Distance: 0m NGR: 465807 405235	Operator: South Yorkshire County Council Name: Armthorpe Landfill Site Licence Number: EAHLD04495 Specified Waste: Industrial, Commercial, Household Waste First Input Date: 17th November 1976 Last Input Date: 11th March 1993 Status: Lapsed/Surrendered/Cancelled
Holmewood Lane, Armthorpe, Doncaster Distance: 58m NE NGR: 465900 405400	Operator: Barnsley MBC Name: Unknown Licence Number: WD 2 D 1 Specified Waste: Industrial, Commercial, Household Waste First Input Date: 1st December 1976 Last Input Date: Unknown Status: Lapsed/Surrendered/Cancelled
Registered Waste Treatment or Disposal Sites	
Armthorpe Recycling Centre, Holme Wood Lane, Armthorpe, Doncaster, DN3 3EH Distance: 32m SW NGR: 465380 404980	Operator: Yorkshire Aggregates Limited Licence Ref: EPR/AB3706LN Site Cat.: Transfer with Treatment taking Non-Biodegradable Waste Authorised Waste: Inert Construction and Excavation Waste, soil, brick, stone, concrete, asphalt, tile. Licence Issued: 2nd September 1994 Last Modified: 19th January 2017

2.5.16 The landfill records given above are likely to be for the same overall site considering their complementary details.

2.5.17 There is an additional record for a waste transfer and treatment operation issued to Butterley Aggregates Limited. It has been determined via review that this is the same permit now held by Yorkshire Aggregates. This was transferred in full in 2013.

2.5.18 There are no fuel station entries within 1km of the site, although there is one active contemporary trade directory entry, three Points of Interest for Commercial Services, Manufacturing and Production and two Points of Interest for Public Infrastructure. Details of each record are summarised in **Table 7** below.

Table 7: Details of Industrial Sites within 1km of Site

Location	Details
Contemporary Trade Directory Entries	
Holme Wood Lane, Armthorpe, Doncaster, South Yorkshire, DN3 3EH Distance: 262m W NGR: 465402 405153	Name: The Stone and Garden Company Classification: Sand, Gravel and other aggregates Status: Active
Points of Interest	
Holme Wood Lane, Armthorpe, Doncaster, South Yorkshire, DN3 3EJ Distance: 48 W NGR: 465655 405296	Point of Interest: Commercial Services Name: Yorkshire Aggregates Limited Category: Recycling Services Class Code: Recycling, Reclamation and Disposal
Holme Wood Lane, Armthorpe, Doncaster, South Yorkshire, DN3 3EJ Distance: 103m NGR: 465586 405105	Point of Interest: Manufacturing and Production Name: Sand and Gravel Pit Category: Extractive Industries Class Code: Sand, Gravel and Clay Extraction and Merchants

Location	Details
Holme Wood Lane, Armthorpe, Doncaster, South Yorkshire Distance: 85m N NGR: 465737 405499	Point of Interest: Manufacturing and Production Name: Holmewood Piggeries Category: Farming Class Code: Livestock Farming
Holme Wood Lane, Armthorpe, Doncaster, South Yorkshire Distance: 140m SW NGR: 465648 404964	Point of Interest: Public Infrastructure Name: Weir Category: Water Class Code: Water, Sluices and Dams
Holme Wood Lane, Armthorpe, Doncaster, South Yorkshire Distance: 467m SW NGR: 465275 404914	Point of Interest: Public Infrastructure Name: Spoil Heap Category: Infrastructure and Facilities Class Code: Waste storage, Processing and Disposal

2.5.17 There are no Hazardous substances registered sites within the vicinity of the site (up to 1km).

2.6 Site Investigation & Assessment Reports

2.6.1 The Site Condition Report has been prepared on a desk study basis in order to characterise the baseline conditions at the site prior to the commencement of permitted operations. No relevant site investigation data or associated reports were available that would have enabled any further meaningful characterisation to take place.

2.7 Baseline Data

2.7.1 As discussed in 2.6.1 above, no site investigation baseline reference data specific to this proposals was made available for review at the application stage to determine the current ground conditions of the proposed permitted site.

2.7.2 In the absence of current site specific data, estimated soil chemistry results obtained from the Landmark Envirocheck report **(Appendix 1**) have been compared to Soil Guidance Values (SGV's) as well as other generally available guidelines. The results suggest that the soil chemistry beneath the site (superficial deposits) falls well within the recommended levels for Arsenic, Cadmium, Chromium, Lead and Nickel (estimated levels of other heavy metals were not provided). This is for assessment levels for residential, allotment and commercial land uses. Given this, it is unlikely that the made ground has influenced the soils at the site, and the soils are unlikely to consist of significantly elevated concentrations of contaminants.

3.0 PERMITTED FACILTY

3.1 Permitted Activities

3.1.1 An application has been made to the Environment Agency under the Environmental Permitting (England & Wales) Regulations 2016 (As amended) to operate an Asphalt Waste Recycling Facility on an area of restored land at Armthorpe Quarry. The site is situated towards the eastern end of the overall wider quarry site, as shown in **Drawing Reference TA1041/5/SCR3**.

3.1.2 The permitted facility operations will include the processing of up to 200,000tpa of asphalt wastes (road planings), some of which will include tar-bound material.

3.1.3 Treatment will include screening and crushing to produce a variety of grades of feedstock to be submitted to the cold coating process, ready for outloading and use in new road schemes. All asphalt wastes will be stored and treated on areas of engineered surfacing, with drainage falls to a sealed isolation tank.

3.2 Non-Permitted Activities

3.2.1 The waste facility will be located within the wider Armthorpe Quarry site where a number of complementary ongoing activities are ongoing. All operations undertaken at the site are supported by office accommodation, service roads, weighbridge, wash down area, sheeting areas and welfare facilities. Some of these supporting elements will not be subject to the requirements of the Environmental Permit.

3.3 Polluting Substances

3.3.1 A selection of raw materials, waste and by-products will be used, produced and stored onsite during the processing of waste materials. An inventory of materials is included in **Appendix 2** and are summarised in **Table 8** below. An assessment of their pollution potential has been made based upon their properties, toxicity, and volume stored, used or manufactured.

Table 8: Risk Assessment of Potentially Polluting Substances

Substance	Description	Quantity	Environmental behaviour and fate	Potential Environmental Impact	Storage arrangements	Assessment of Alternatives
Asphalt Waste	Various	200,000tpa	Potential Dust generated by dry materials post initial processing	Dust causing nuisance to site workers, visitors and neighbouring land users.	Water spray techniques to be implemented as necessary	None – waste material forms primary purpose of facility.
Cem 1	Portland Cement	Approx 900 tonnes pa	Potential Dust generated by dry materials during storage and/or use	Dust causing nuisance to site workers, visitors and neighbouring land users.	52 tonne Sealed Dry Powder Silo	None – additive essential as part of the reprocessing and recovery of waste materials.
PFA	Pulverised Fuel Ash	Approx 2800 tonnes pa	Potential Dust generated by dry materials during storage and/or use	Dust causing nuisance to site workers, visitors and neighbouring land users.	Materials will be stored within a specifically constructed 'Legioblock' bay and covered with a heavy duty tarpaulin to prevent the material becoming windblown and leading to off-site fugitive emissions.	None – additive essential as part of the reprocessing and recovery of waste materials.
Gas oil	Hydrocarbon with trace additives.	c.500tpa for mobile and semi mobile plant.	Dangerous for the environment. Toxic to most invertebrates. Slightly toxic to fish. Some soil mobility. Floats on water. Biodegradable. Lighter fractions volatile. Potential to bioaccumulate. Fate is 100% to air via the process.	Significant, but air impacts from emissions standards required by combustion processes within plant engines. Low sulphur gas oil is used. Leaks and spillages controlled by detailed operational procedures.	Double bunded above ground 15m^3 storage tank within site infrastructure area. Interceptor present for site surface water prior to discharge. Refuelling of mobile plant occurs within the infrastructure area and on site with suitable refuelling precaution measures	Gas oil is used as fuel to the mobile plant. No viable alternatives currently available.

Substance	Description	Quantity	Environmental behaviour and fate	Potential Environmental Impact	Storage arrangements	Assessment of Alternatives
Lubricating Oils /Greases	Hydrocarbons with trace additives.	Not known – likely to be <1000 litres / yr <500 litres	Insoluble and floats on water. Low biodegradation in soil. Fate is ultimately 100% to air – low volatility	Contamination of land and controlled waters and health risk to end users (i.e. humans, wildlife)	All containers to be stored in designated areas with impermeable surfacing and drip/spills trays. Spill kits to be located in strategic locations across the facility.	Essential for operation of various items at the facility. No readily available alternatives with equivalent properties exist.
Spill Granules	Various grades of absorbent material, chemically inert.	c.500kg	For use in emergency spill clean-up. Does not readily biodegrade. Fate is collected for appropriate disposal after deployment and use.	If not removed after use could result in general risk to humans and wider environment, although this is considered low as any contaminants should be 'locked in' to the product.	Covered pallet of 25kg sealed bags, located in store.	Alternatives exhibit similar properties, no advantage in considering another material as it offers no additional benefit.

3.4 Preventative Measures

3.4.1 The primary mitigation from the risk of pollution is the storage of potential polluting substances within appropriate engineered containment areas. In addition emergency procedures are in place to deal promptly with any spillage of dangerous substances onsite. Further details are included in Sections 4.0 and 5.0 of the Management Plan **Document Reference TA1041/04**.

4.0 STATEMENT OF SITE CONDITION

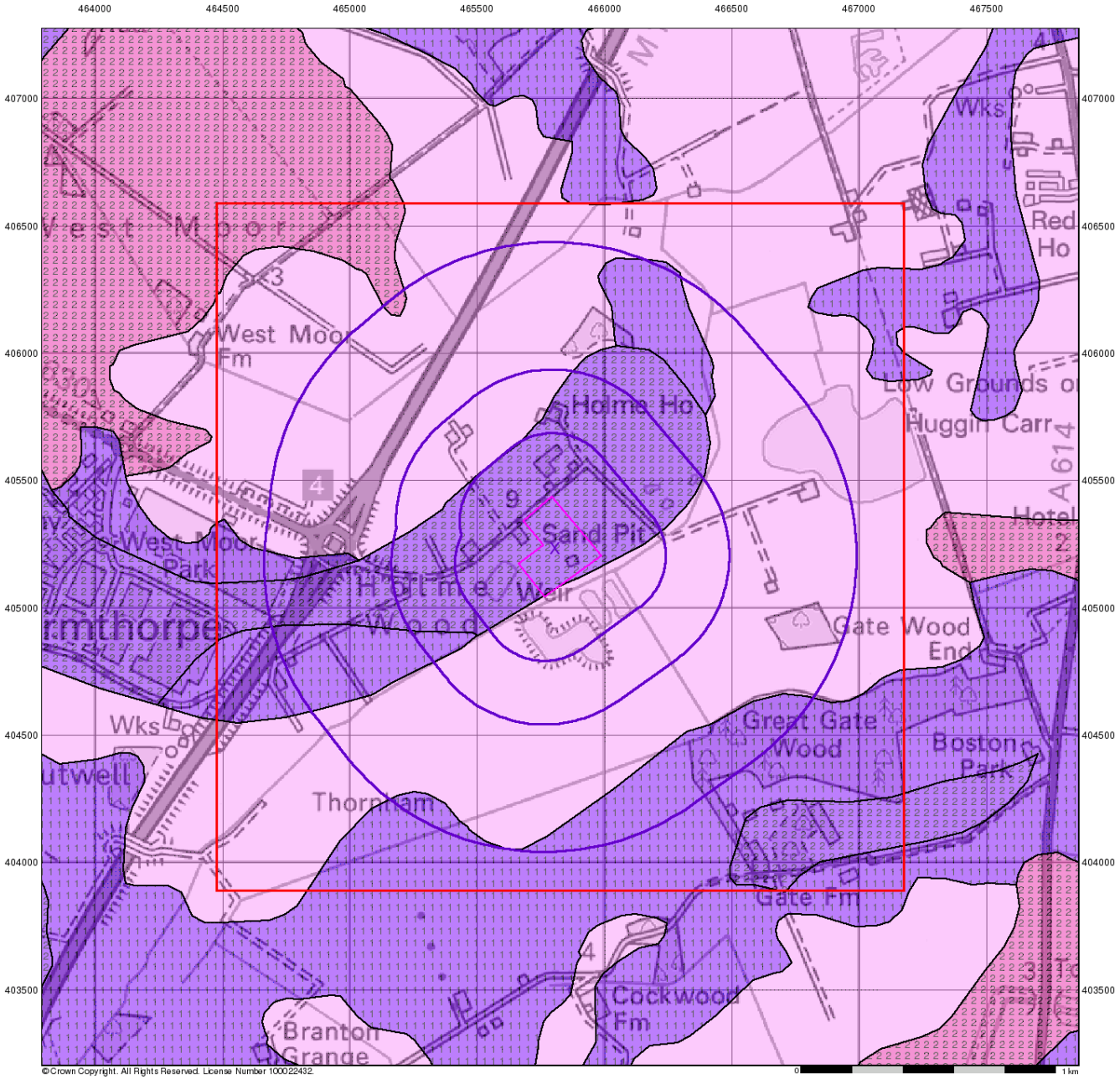
4.1.1 Given the industrial legacy of the site and surrounding area, the ground/soil would have already undergone modification in order to facilitate the previous development and operational activities. The site sits within an area occupied by the sand and gravel extraction at Armthorpe Quarry, which was subsequently backfilled via a combination of landfilling and replacement of the quarried overburden.

4.1.2 From the review of information that is contained within the Landmark Envirocheck Report, natural soil geochemistry in the vicinity of the site has been estimated and the results given for heavy metals analysis illustrate that these are all within SGV's for a range of end uses. Therefore, it is likely that any significant pollutant linkages between the made ground deposits and underlying solid geology and remaining superficials exist prior to the establishment of the Asphalt Waste Recycling Facility, which will be sited at the surface upon an area of engineered surfacing.

4.1.3 The storage and treatment of asphalt waste at the site presents an overall lower risk of contamination in comparison to previous operational activities at the site. Therefore, any baseline contaminant concentrations that may be present at the site are likely to be greater than could be released from the proposal.

4.1.4 Contaminative releases from the facility from the storage and treatment process are unlikely in any event considering the nature of the material (road planings), the treatment process (crushing, screening and cold coating) and the engineering measures in place (Cement Bound Granular Material – CBGM) and Isolation Tank.

4.1.5 Given the nature of the facility and its location, the collection of reference data is not considered a requirement at the permit application/issue phase of the facility. Notwithstanding this, it is recommended that further site specific baseline data is collected prior to the commencement of operations.



Groundwater Vulnerability

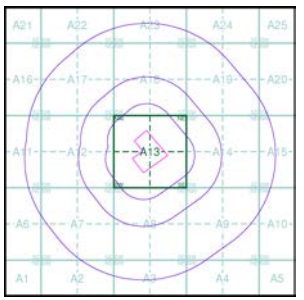
General

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

Agency and Hydrological

Geological Classes	Soil Classes
Major Aquifer (Highly Permeable)	High (H) 1, 2, 3, U
	Intermediate (I) 1, 2
	Low
Minor Aquifer (Variably Permeable)	High (H) 1, 2, 3, U
	Intermediate (I) 1, 2
	Low
Non Aquifer (Negligibly Permeable)	
Water or Sea	
Drift Deposit	

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	1000

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

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

Bedrock Aquifer Designation

General

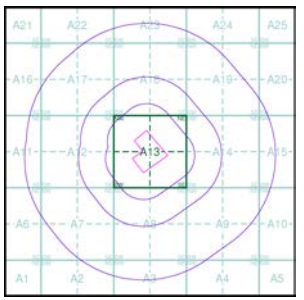
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



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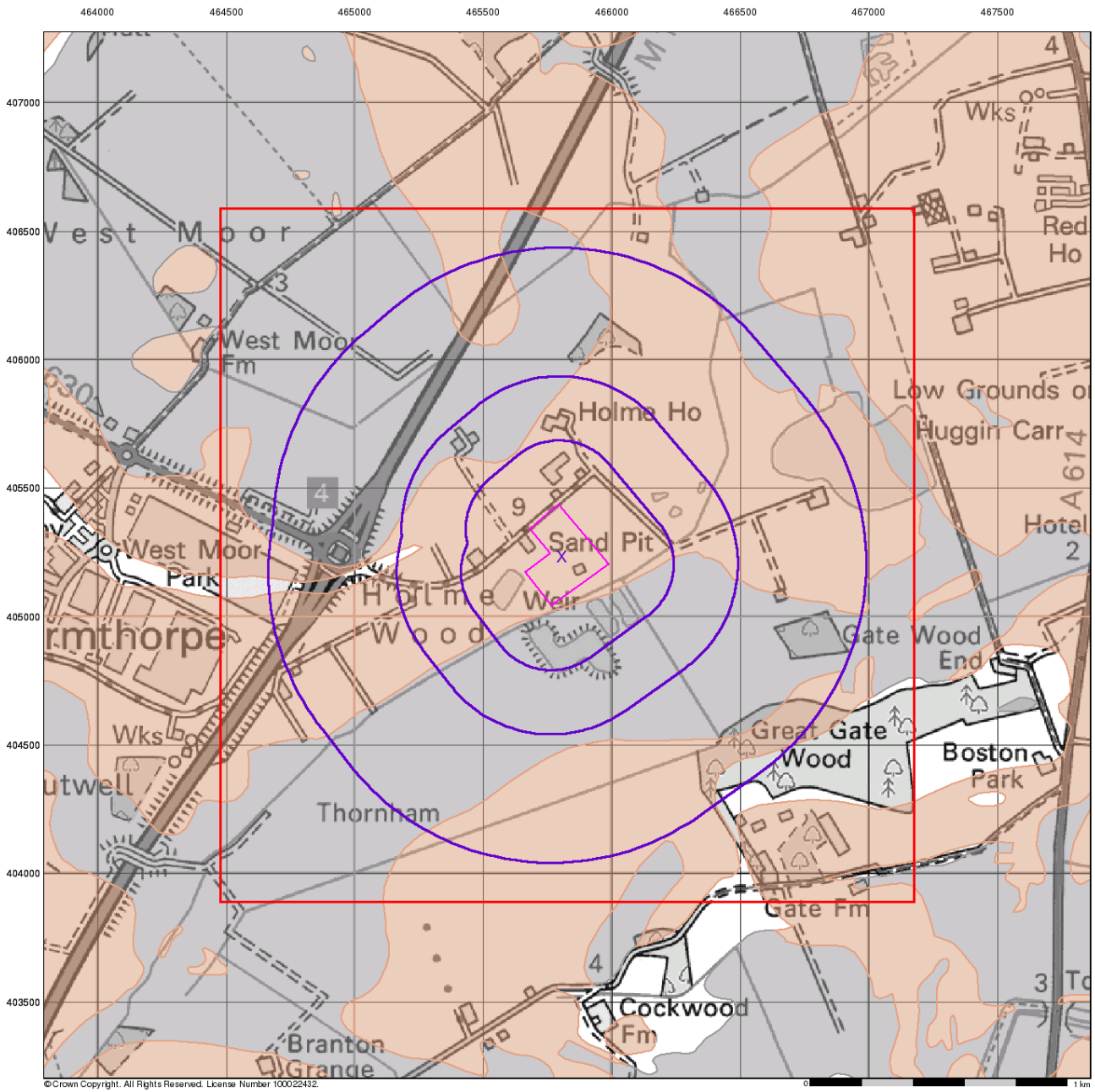


Superficial Aquifer Designation

General

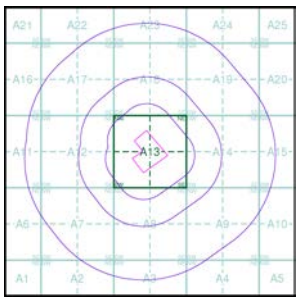
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

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Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	1000

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

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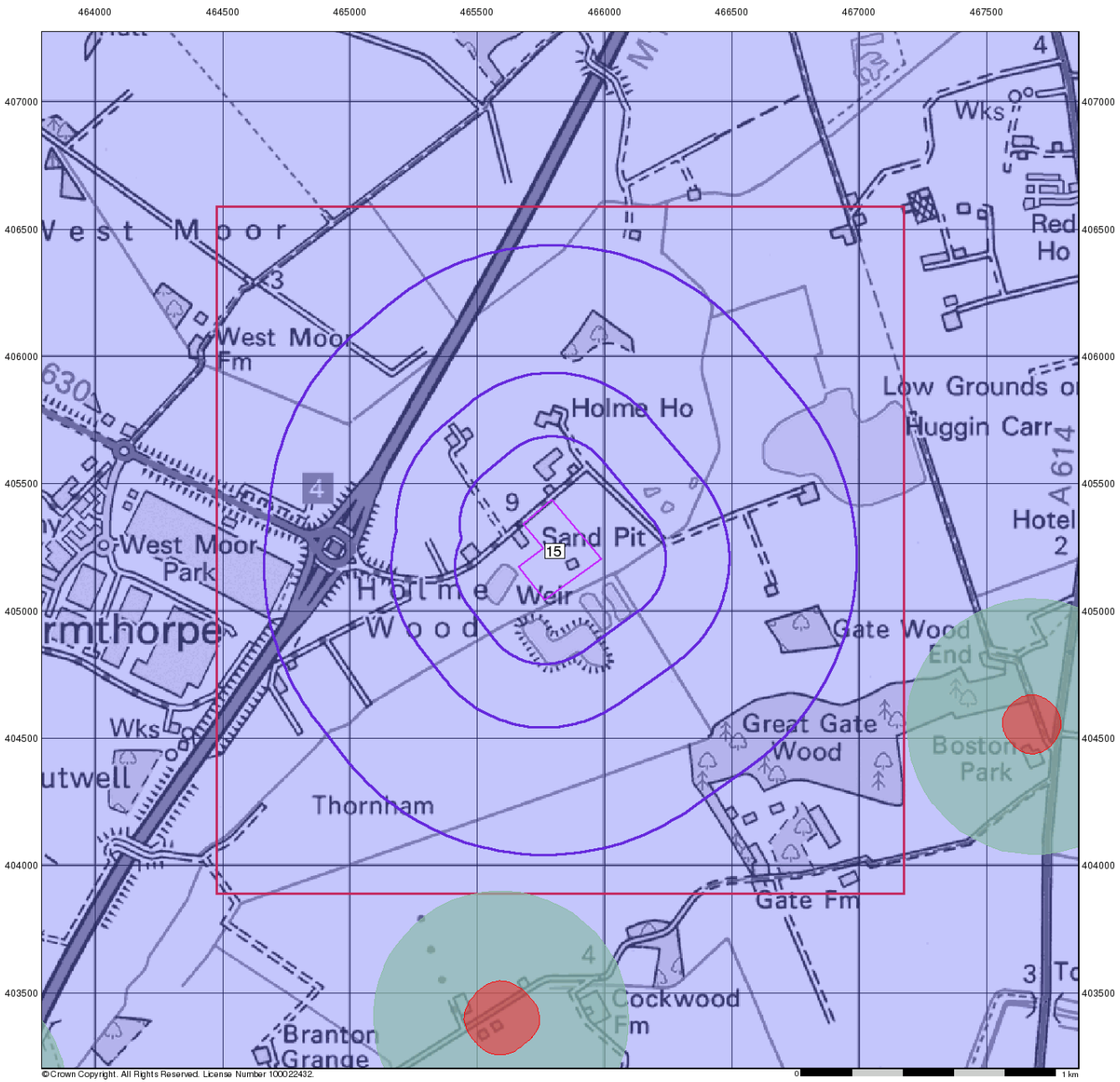
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Source Protection Zones

General

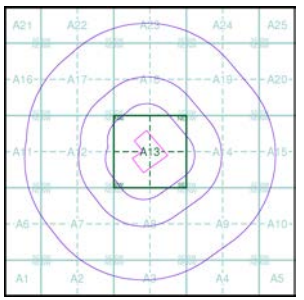
Specified Site | Specified Buffer(s) | Bearing Reference Point

Slice | Map ID

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A



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Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	1000

Site Details

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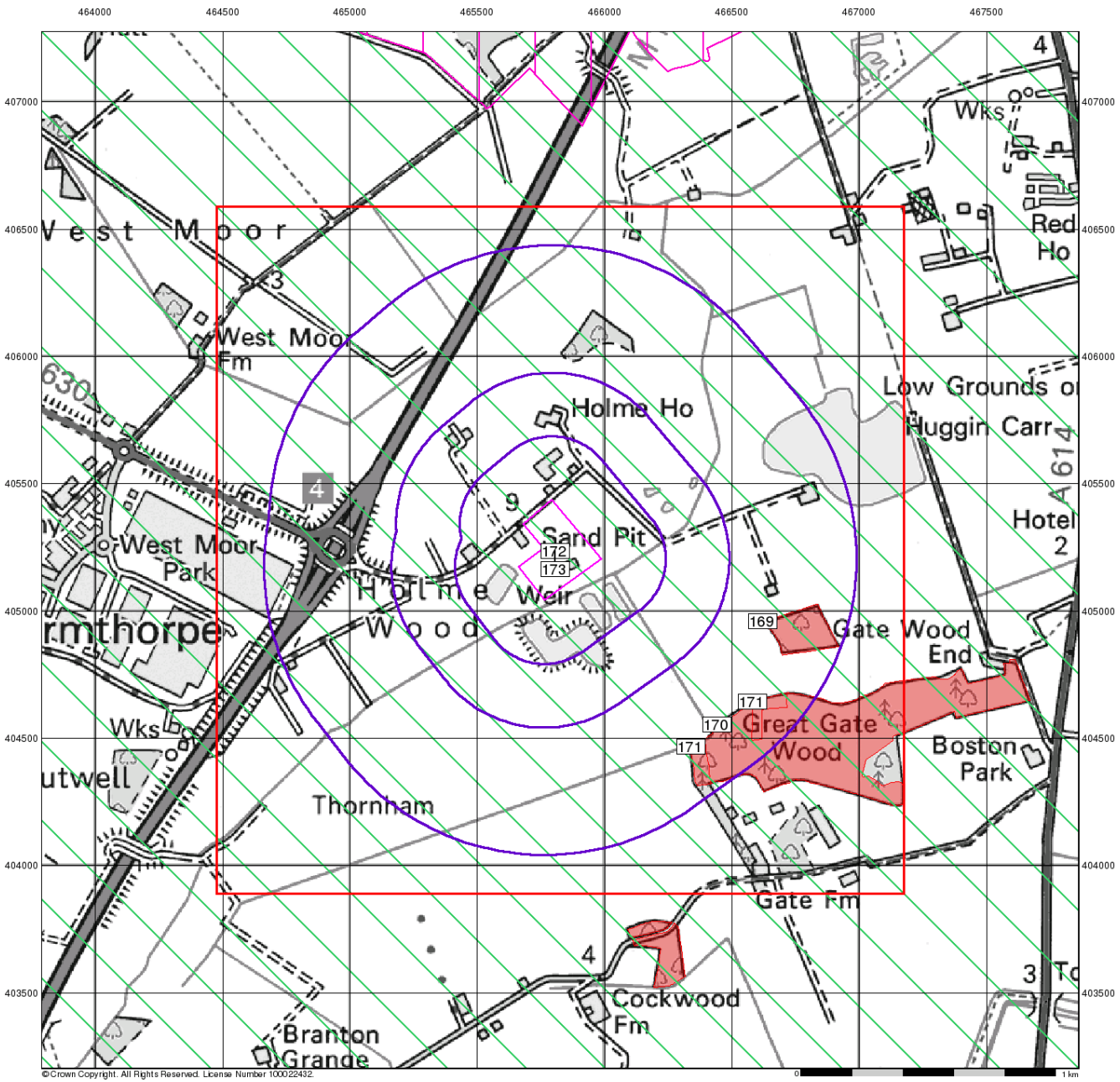


Sensitive Land Uses

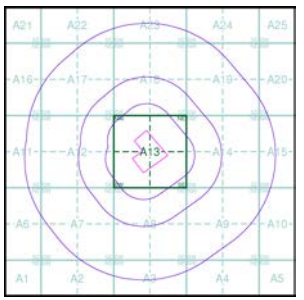
General

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

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	1000

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

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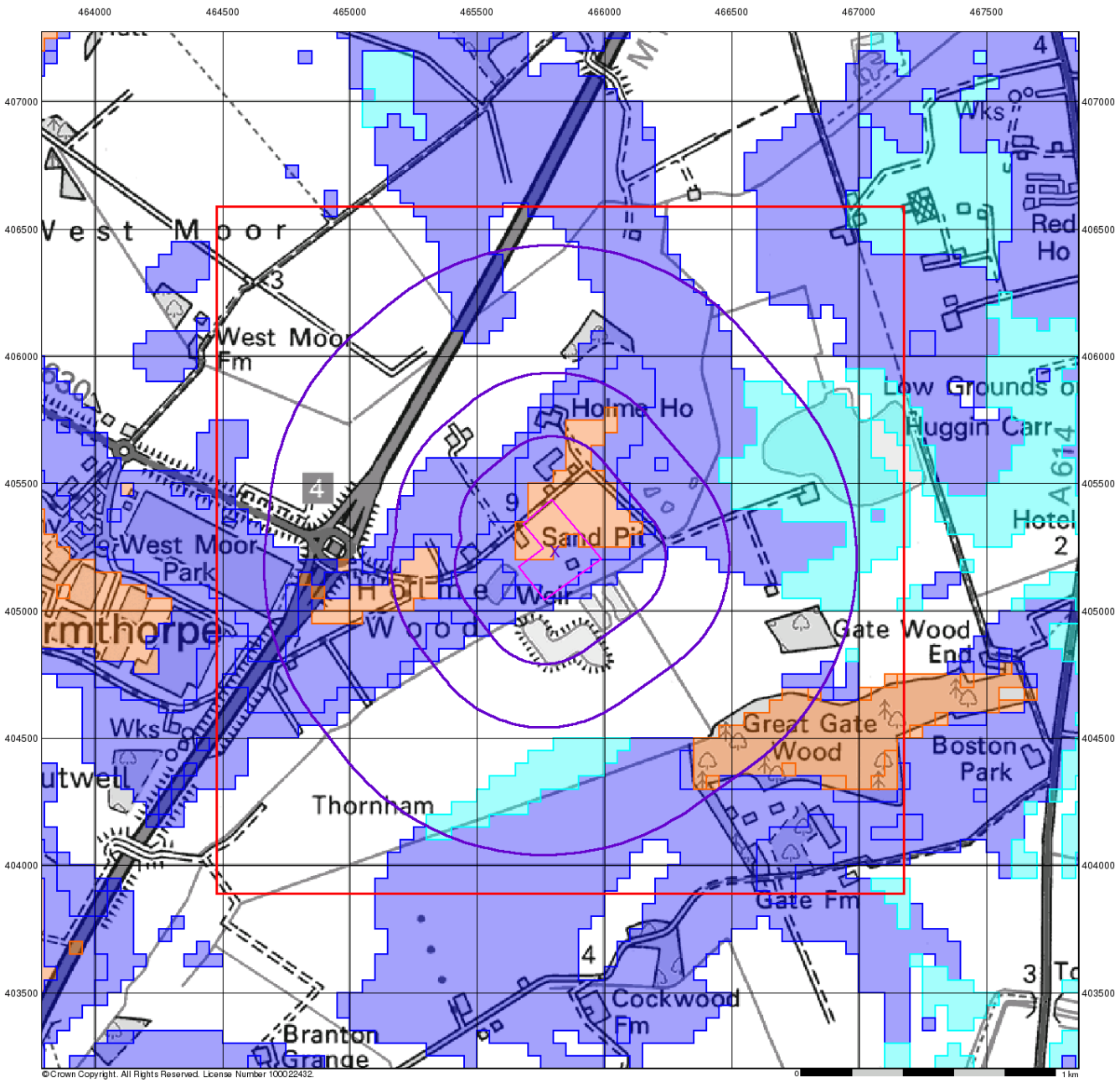


BGS Flood GFS Data

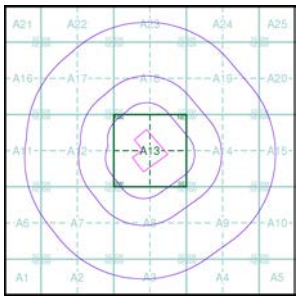
General

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

Agency and Hydrological (Flood)

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	1000

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
167671922_1_1

Customer Reference:
Yorkshire Aggregates Ltd

National Grid Reference:
465810, 405240

Slice:
A

Site Area (Ha):
6.54

Search Buffer (m):
1000

Site Details:

Yorkshire Aggregates Ltd, Holme Wood Lane
Armthorpe
DONCASTER
DN3 3EJ

Client Details:

S Howson
Sirius Geotechnical Ltd
4245 Park Approach
Thorpe Park
Leeds
LS15 8GB

Contents

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.
In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

Report Version v53.0

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 2		1	1	1
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 2		1		
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 2		Yes		
Pollution Incidents to Controlled Waters	pg 2			1	1
Prosecutions Relating to Authorised Processes	pg 3				1
Registered Radioactive Substances					
River Quality	pg 3		1		
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 3	4		1	6 (*14)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 9	Yes	n/a	n/a	n/a
Drift Deposits			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 9	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 9	Yes	n/a	n/a	n/a
Source Protection Zones	pg 10	1			
Extreme Flooding from Rivers or Sea without Defences	pg 10		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 10		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 10		29	31	64

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites	pg 25	1			
Historical Landfill Sites	pg 25	2			
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 25		1		
Local Authority Landfill Coverage	pg 25	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 25	1			
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)	pg 25			3	
Registered Landfill Sites	pg 26		1		
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites	pg 26			1	
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 27	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 27	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites	pg 29	1	1	2	1
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 30	Yes	n/a	n/a	n/a
Mining Instability	pg 30	Yes	n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 30	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 30		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 31	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 31	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 31		Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 32	1	2	1	
Fuel Station Entries					
Points of Interest - Commercial Services	pg 32		1		
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 32		4	2	1
Points of Interest - Public Infrastructure	pg 33		1	2	
Points of Interest - Recreational and Environmental					
Gas Pipelines					
Underground Electrical Cables					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 34				3
Areas of Adopted Green Belt					
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 34	2			
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (W)	0	1	465800 405235
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	0	1	465750 405100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (NE)	0	1	465807 405235
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	0	1	465900 405150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	0	1	465700 405350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	33	1	465650 405350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	55	1	465650 405100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	116	1	465650 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (E)	120	1	466100 405250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	173	1	466050 405400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (E)	178	1	466100 405350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (E)	187	1	466150 405300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	204	1	465500 405050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	235	1	465500 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SW (N)	268	1	465750 405700
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	313	1	465350 405235
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (SW)	358	1	465350 405000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SW (N)	364	1	465800 405800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (NE)	384	1	466200 405550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (W)	413	1	465250 405235

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Discharge Consents** Operator: Rmc Aggregates (Eastern) Limited Property Type: MINERAL/GRAVEL EXTRACTION/QUARRYING Location: Armthorpe Quarry Holmewood Lane, Armthorpe, Doncaster, South Yorkshire Authority: Environment Agency, Midlands Region Catchment Area: River Torne Catchment Reference: T/83/45603/T Permit Version: 1 Effective Date: 10th June 2002 Issued Date: 10th June 2002 Revocation Date: 9th September 2009 Discharge Type: Trade Discharge - Mineral Workings Discharge Environment: Freshwater Stream/River Receiving Water: Diggin 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	A13SE (E)	68	2	466030 405150
2	**Discharge Consents** Operator: Doncaster Metropolitan B C Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) Location: Gypsy Site, The Mink Farm, Holmewood Lane, Armthorpe, Dn3 3el Authority: Environment Agency, Midlands Region Catchment Area: River Torne Catchment Reference: T/83/22139/S Permit Version: 1 Effective Date: 28th January 1993 Issued Date: 28th January 1993 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: The Diggin Dyke **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A14NW (E)	350	2	466320 405320
3	**Discharge Consents** Operator: Blue Anchor Leisure Limited Property Type: SPORT, AMUSEMENT+RECREATION/GOLF CLUB/GYM/THEME PK/SPA Location: Huggin Lakes Homewood Lane, Armthorpe, Doncaster, England, Dn3 3el Authority: Environment Agency, Midlands Region Catchment Area: Not Supplied Reference: Eprqp3122xm Permit Version: 1 Effective Date: 13th June 2012 Issued Date: 13th June 2012 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Diggin Dyke **Status: New issued under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	609	2	466440 405614
4	**Local Authority Pollution Prevention and Controls** Name: Cemex Uk Materials Ltd Location: Holme Wood Lane, Armthorpe, Doncaster, Dn3 3eh Authority: Doncaster Metropolitan Borough Council, Environmental Services Permit Reference: LAPPC 111 Dated: 11th December 2006 Process Type: Local Authority Pollution Prevention and Control Description: PG3/1Blending, packing, loading and use of bulk cement **Status: Authorisation revokedRevoked** Positional Accuracy: Manually positioned to the address or location	A13NW (W)	50	3	465676 405268
	Nearest Surface Water Feature	A13SE (S)	2	-	465837 405073
5	**Pollution Incidents to Controlled Waters** Property Type: Road (Road Traffic Accident) Location: Holmewood Lane, ARMTHORPE Authority: Environment Agency, Midlands Region Pollutant: Miscellaneous - Inert Suspended Solids Note: Diggin Dyke; Sandy/orange Colour Incident Date: 20th April 1999 Incident Reference: 2805920 Catchment Area: Trent Catchment : River Torne Receiving Water: Watercourse Cause of Incident: Weather Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (E)	277	2	466250 405300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	**Pollution Incidents to Controlled Waters** Property Type: Road (Road Traffic Accident) Location: M18 North Bound By Junction 4 Authority: Environment Agency, Midlands Region Pollutant: Oils - Diesel (Including Agricultural) Note: Road Traffic Accident Heavy Goods Vehicle Spilled Contents Of Fuel Tank 300Litres; No Adverse Effects Incident Date: 22nd September 1997 Incident Reference: 2803390 Catchment Area: Trent Catchment : River Torne Receiving Water: Not Given Cause of Incident: Collision Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SW (W)	766	2	464900 405100
7	**Prosecutions Relating to Authorised Processes** Location: Seven Yards Farm, Doncaster, Dn3 3eq Prosecution Text: Operating a waste site without a permit Prosecution Act: Epr10 Hearing Date: 31st October 2011 Verdict: Guilty Fine: 0 Costs: 3000 Positional Accuracy: Manually positioned within the geographical locality	A6NE (SW)	993	2	464750 404783
	River Quality Name: Diggin Dyke GQA Grade: River Quality F Reach: Conf. Village Drain To Waterton Pump Stn Estimated Distance (km): 2.5 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A13SE (SE)	2	2	465876 405098
8	**Water Abstractions** Operator: Yorkshire Aggregates Limited Licence Number: 03/28/83/0030 Permit Version: 103 Location: Armthorpe Quarry - Borehole Authority: Environment Agency, Midlands Region Abstraction: Extractive: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Armthorpe Quarry - Borehole Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 3rd October 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A13SW (S)	0	2	465810 405100
8	**Water Abstractions** Operator: Yorkshire Aggregates Limited Licence Number: 03/28/83/0030 Permit Version: 102 Location: Armthorpe Quarry - Borehole Authority: Environment Agency, Midlands Region Abstraction: Extractive: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Armthorpe Quarry - Borehole Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 27th December 2012 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A13SW (S)	0	2	465810 405100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	**Water Abstractions** Operator: Cemex Uk Materials Limited Licence Number: 03/28/83/0030 Permit Version: 101 Location: Armthorpe Quarry - Borehole Authority: Environment Agency, Midlands Region Abstraction: Extractive: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Armthorpe Quarry - Borehole Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 22nd July 2005 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A13SW (S)	0	2	465810 405100
8	**Water Abstractions** Operator: Rmc Aggregates (Eastern) Limited Licence Number: 03/28/83/0030 Permit Version: 100 Location: Armthorpe Quarry - Borehole Authority: Environment Agency, Midlands Region Abstraction: Extractive: Mineral Washing Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Armthorpe Quarry - Borehole Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 4th September 1998 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A13SW (S)	0	2	465810 405100
9	**Water Abstractions** Operator: Marshall Bros (Farmers) Licence Number: 03/28/83/0145 Permit Version: 100 Location: Hatfield - Diggin Dyke (Point) Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Hatfield - Diggin Dyke & West Moor Drain Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 2nd September 1994 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	337	2	466310 405310
10	**Water Abstractions** Operator: Mr T D Reed Licence Number: 03/28/83/0009 Permit Version: 100 Location: Sparrington Farm - Borehole Authority: Environment Agency, Midlands Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Sparrington Farm - Borehole Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A14SE (E)	619	2	466600 405100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	**Water Abstractions** Operator: Marshall Bros (Farmers) Licence Number: 03/28/83/0145 Permit Version: 100 Location: Hatfield - Diggin Dyke (Reach) Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Hatfield - Diggin Dyke & West Moor Drain Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 2nd September 1994 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	619	2	466440 405630
12	**Water Abstractions** Operator: Parker Brothers Licence Number: 03/28/83/0160 Permit Version: 100 Location: Hatfield - West Moor Drain (Point C) Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Hatfield - Woodhouse Sewer Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 12th November 1997 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17SW (NW)	772	2	465150 405900
12	**Water Abstractions** Operator: Mr G G Haith Licence Number: 03/28/83/0216 Permit Version: 100 Location: West Moor - West Moor Drain (3) Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At West Moor - West Moor Drain Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 2nd September 1994 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	772	2	465160 405910
13	**Water Abstractions** Operator: Parker Brothers Licence Number: 03/28/83/0160 Permit Version: 100 Location: Hatfield - West Moor Drain (Reach) Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Hatfield - Woodhouse Sewer Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 12th November 1997 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18NW (N)	828	2	465560 406230

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	**Water Abstractions** Operator: Marshall Bros (Farmers) Licence Number: 03/28/83/0145 Permit Version: 100 Location: Hatfield - West Moor Drain (Reach) Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Hatfield - Diggin Dyke & West Moor Drain Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 2nd September 1994 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A23SW (N)	855	2	465660 406280
	Water Abstractions Operator: Mr G G Haith Licence Number: 03/28/83/0216 Permit Version: 100 Location: West Moor - West Moor Drain (2) Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At West Moor - West Moor Drain Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 2nd September 1994 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22SW (NW)	1407	2	464910 406530
	Water Abstractions Operator: Mr G G Haith Licence Number: 03/28/83/0216 Permit Version: 100 Location: West Moor - West Moor Drain (1) Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At West Moor - West Moor Drain Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 2nd September 1994 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21SE (NW)	1432	2	464610 406290
	Water Abstractions Operator: J P & C F Kelly Licence Number: 03/28/83/0021 Permit Version: 100 Location: West Moor Farm - Borehole 1 Authority: Environment Agency, Midlands Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: West Moor Farm - Boreholes Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A16NW (NW)	1490	2	464400 406100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: J P & C F Kelly Licence Number: 03/28/83/0021 Permit Version: 100 Location: West Moor Farm - Borehole 2 Authority: Environment Agency, Midlands Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: West Moor Farm - Boreholes Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16NW (NW)	1490	2	464400 406100
	Water Abstractions Operator: H S White & Sons Licence Number: 03/28/83/0241 Permit Version: 100 Location: Cantley - Diggin Dyke Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Cantley - Diggin Dyke Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 22nd September 1997 Permit End Date: Not Supplied Positional Accuracy: Unknown	A1NE (SW)	1611	2	464480 404070
	Water Abstractions Operator: Yorkshire Water Services Ltd Licence Number: 03/28/83/0012 Permit Version: 100 Location: Thornham Authority: Environment Agency, Midlands Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Thornham Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 17th September 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(S)	1651	2	465600 403400
	Water Abstractions Operator: Yorkshire Water Services Ltd Licence Number: 03/28/83/0105 Permit Version: 100 Location: Boston Park (3) Authority: Environment Agency, Midlands Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Boston Park Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 17th September 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1673	2	467550 404600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Parker Brothers Licence Number: 03/28/83/0160 Permit Version: 100 Location: Hatfield - West Moor Drain (Point D) Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Hatfield - Woodhouse Sewer Authorised Start: 01 April Authorised End: 30 September Permit Start Date: 12th November 1997 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1717	2	465700 407150
	Water Abstractions Operator: Yorkshire Water Services Ltd Licence Number: 03/28/83/0105 Permit Version: 100 Location: Boston Park (2) Authority: Environment Agency, Midlands Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Boston Park Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 17th September 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1757	2	467650 404630
	Water Abstractions Operator: Yorkshire Water Services Ltd Licence Number: 03/28/83/0105 Permit Version: 100 Location: Boston Park (1) Authority: Environment Agency, Midlands Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Boston Park Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 17th September 1993 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1813	2	467680 404550
	Water Abstractions Operator: Mr P R Wood Licence Number: 03/28/83/0004 Permit Version: 101 Location: Beech Tree Nurseries,Hatfield Woodhouse - Borehole Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: 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: Beech Tree Nurseries - Borehole Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A25NE (NE)	1825	2	467200 406600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr P R Wood Licence Number: 03/28/83/0004 Permit Version: 101 Location: Beech Tree Nurseries,Hatfield Woodhouse - Borehole Authority: Environment Agency, Midlands Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25NE (NE)	1825	2	467200 406600
	Water Abstractions Operator: G W & M A Borrows Licence Number: 03/28/83/01341 Permit Version: Not Supplied Location: River Torne, Baxter Farm, AUCKLEY Authority: Environment Agency, Midlands Region Abstraction: Spray Irrigation Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 820 Yearly Rate (m3): 18200 Details: River Torne Catchment Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Unknown	A1NW (SW)	1845	2	464300 403920
	Water Abstractions Operator: J D Chappell Licence Number: 03/28/83/0228 Permit Version: 100 Location: Boston Park Farm - North And Middle Ring Drain Authority: Environment Agency, Midlands Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): 1100 Yearly Rate (m3): 30000 Details: Boston Park Farm - 3 Drains Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 17th September 1996 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1890	2	467880 405200
	Groundwater Vulnerability 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 Map Sheet: Sheet 12 Vale of York Scale: 1:100,000	A13SE (SE)	0	2	465864 405101
	Groundwater Vulnerability Soil Classification: Soils of High Leaching Potential (H2) - Deep, permeable, coarse textured soils which readily transmit a wide range of pollutants because of their rapid drainage and low attenuation potential Map Sheet: Sheet 12 Vale of York Scale: 1:100,000	A13SW (NE)	0	2	465807 405235
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A13SW (NE)	0	1	465807 405235
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SW (NE)	0	1	465807 405235

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
15	**Source Protection Zones** Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	A13SW (NE)	0	2	465807 405235
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (S)	36	2	465879 405047
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (S)	56	2	465879 405047
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (NW)	232	2	465522 405509
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
16	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A13SE (S)	15	4	465837 405072
17	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A13SE (S)	19	4	465846 405076
18	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 43.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A13SE (SE)	21	4	465882 405095
19	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1365.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Diggin Dyke Catchment Name: Trent Primacy: 2	A13SE (SE)	22	4	465885 405073
20	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 48.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13SW (S)	85	4	465747 404959
21	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 13.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13SW (S)	99	4	465729 404950

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 178.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A13SE (SE)	102	4	466046 405120
23	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 2.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13SW (S)	107	4	465711 404950
24	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13SW (S)	108	4	465713 404948
25	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 110.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13SW (S)	111	4	465717 404942
26	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A13SW (SW)	136	4	465663 404952
27	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 80.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A13SE (SE)	172	4	465943 404960
28	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 146.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13SE (S)	182	4	465901 404916
29	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A14SW (E)	187	4	466174 405230
30	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A14SW (E)	190	4	466177 405232

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
31	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 25.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A8NW (S)	192	4	465778 404851
32	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 151.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A14SW (E)	193	4	466181 405234
33	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 717.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A14SW (E)	193	4	466181 405234
34	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A8NE (S)	195	4	465875 404882
35	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 23.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A8NE (S)	197	4	465865 404874
36	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 35.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A8NW (S)	201	4	465824 404850
37	**OS Water Network Lines** Watercourse Form: Reservoir Watercourse Length: 18.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A8NE (S)	201	4	465827 404851
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 484.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A14SW (E)	201	4	466190 405197
39	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 37.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NW (SW)	204	4	465627 404891

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 218.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NW (SW)	206	4	465630 404887
41	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A8NE (S)	208	4	465852 404854
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 24.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NW (SW)	225	4	465597 404893
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 0	A13SE (SE)	242	4	465998 404913
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NW (SW)	248	4	465576 404881
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 152.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A13SE (SE)	251	4	466006 404908
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 88.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NW (SW)	256	4	465568 404878
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 151.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A13SE (SE)	280	4	466145 404971
48	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 324.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NE (S)	308	4	465900 404764

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
49	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 26.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NW (S)	330	4	465761 404713
50	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1214.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A14NW (E)	334	4	466301 405326
51	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 17.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A14NW (E)	334	4	466301 405326
52	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A14NW (E)	337	4	466310 405311
53	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 427.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A14NW (E)	338	4	466312 405306
54	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NW (SW)	343	4	465495 404831
55	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NW (SW)	343	4	465495 404831
56	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 628.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NW (SW)	343	4	465498 404826
57	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NW (SW)	344	4	465493 404831

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
58	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NW (SW)	346	4	465491 404831
59	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 84.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A7NE (SW)	351	4	465486 404828
60	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NW (S)	352	4	465775 404690
61	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 394.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NW (S)	357	4	465778 404686
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 65.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A12SE (W)	360	4	465323 405054
63	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NE (SE)	384	4	466041 404769
64	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 348.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NE (S)	385	4	465964 404713
65	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 107.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NE (SE)	387	4	466053 404774
66	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 98.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NE (SE)	430	4	466152 404792

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
67	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 166.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A9NW (SE)	432	4	466229 404845
68	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A7NE (SW)	435	4	465414 404786
69	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NE (SE)	435	4	466153 404787
70	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 25.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A7NE (SW)	440	4	465408 404783
71	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NE (SE)	442	4	466157 404781
72	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 485.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A7NE (SW)	445	4	465388 404802
73	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 8.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A7NE (SW)	445	4	465388 404802
74	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 297.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8NE (SE)	448	4	466161 404776
75	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 593.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A7NE (SW)	450	4	465405 404771

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
76	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 84.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A12NE (NW)	510	4	465194 405492
77	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 953.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A17SE (NW)	569	4	465164 405580
78	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 227.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Waterton Drain Catchment Name: Trent Primacy: 2	A18NE (N)	572	4	465827 406007
79	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 591.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A7NE (SW)	574	4	465283 404727
80	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 469.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A14NE (E)	620	4	466608 405250
81	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 595.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A17SW (NW)	629	4	465135 405653
82	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A17SE (NW)	635	4	465192 405744
83	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 128.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A14SE (E)	635	4	466590 404996
84	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 337.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A17SE (NW)	636	4	465195 405750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
85	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 95.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A12SW (W)	645	4	465019 405142
86	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 36.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A17NE (NW)	704	4	465419 406031
87	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 130.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A12NW (W)	705	4	464983 405438
88	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 567.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A7NE (SW)	719	4	465166 404642
89	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 73.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A17NE (NW)	721	4	465438 406063
90	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 153.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8SE (S)	724	4	466117 404403
91	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 166.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8SE (S)	725	4	465991 404354
92	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 815.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8SE (S)	734	4	466133 404398
93	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 68.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8SE (S)	734	4	466134 404409

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
94	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 90.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A19SE (NE)	740	4	466572 405660
95	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 426.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A19SW (NE)	741	4	466412 405852
96	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 314.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: West Moor Drain Catchment Name: Trent Primacy: 2	A17NE (NW)	748	4	465255 405966
97	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 143.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8SE (S)	750	4	465834 404295
98	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 745.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: West Moor Drain Catchment Name: Trent Primacy: 2	A17NE (NW)	754	4	465232 405948
99	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A17NE (NW)	754	4	465232 405948
100	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 141.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A9SW (SE)	755	4	466200 404426
101	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 622.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Pilkington's Drain Catchment Name: Trent Primacy: 2	A17NE (NW)	765	4	465290 406011
102	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 19.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Waterton Drain Catchment Name: Trent Primacy: 2	A18NE (N)	768	4	465965 406185

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
103	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 190.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A19SE (NE)	772	4	466543 405745
104	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 939.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: West Moor Drain Catchment Name: Trent Primacy: 2	A18NW (N)	773	4	465496 406150
105	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 241.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A17NE (NW)	774	4	465162 405915
106	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 46.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A18NW (N)	777	4	465491 406152
107	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 351.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Waterton Drain Catchment Name: Trent Primacy: 2	A18NE (N)	787	4	465973 406203
108	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8SW (S)	793	4	465694 404253
109	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 382.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A18NW (N)	794	4	465505 406176
110	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 178.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A9SW (SE)	794	4	466444 404554
111	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8SW (S)	797	4	465697 404248

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
112	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 135.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A8SW (S)	801	4	465700 404244
113	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 126.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A9SW (SE)	804	4	466336 404463
114	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 476.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A9NE (SE)	809	4	466705 404826
115	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A9NE (SE)	817	4	466576 404635
116	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A9NE (SE)	817	4	466576 404635
117	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 154.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A9NE (SE)	819	4	466578 404634
118	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 310.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A12NW (W)	825	4	464878 405538
119	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 380.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A17NE (N)	830	4	465467 406198
120	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 405.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A17SW (W)	836	4	464885 405593

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
121	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 109.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A12NW (W)	839	4	464846 405426
122	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A12NW (W)	839	4	464846 405426
123	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 343.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A17NE (NW)	842	4	465379 406168
124	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 254.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A12NW (W)	843	4	464844 405434
125	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 203.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A12SW (W)	844	4	464820 405204
126	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A3NW (S)	855	4	465570 404210
127	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 286.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A11NE (W)	860	4	464814 405308
128	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 132.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A15SW (E)	884	4	466857 405035
129	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 561.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A7SW (SW)	909	4	464988 404561

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
130	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 79.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Diggin Dyke Catchment Name: Trent Primacy: 2	A7SW (SW)	909	4	464988 404561
131	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 89.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A15NW (E)	918	4	466880 405429
132	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 138.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A19SE (NE)	944	4	466727 405792
133	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 131.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A2NE (S)	958	4	465436 404143
134	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 420.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A11NE (W)	971	4	464700 405303
135	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 159.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A23SW (N)	973	4	465810 406408
136	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 82.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Old Sewage Drain Catchment Name: Trent Primacy: 2	A7SW (SW)	987	4	464916 404525
137	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 2	A7SW (SW)	987	4	464919 404524
138	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 77.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Fore's Drain Catchment Name: Trent Primacy: 2	A7SW (SW)	987	4	464919 404524

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
139	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 305.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Cockwood Drain Catchment Name: Trent Primacy: 2	A4NW (S)	990	4	466220 404163

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
140	**BGS Recorded Landfill Sites** Site Name: Doncaster RDC Tip Location: Holmewood Lane, ARMTHORPE, 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: Moderate	A13NW (NE)	0	-	465818 405244
141	**Historical Landfill Sites** Licence Holder: South Yorkshire County Council Location: Holmwood Lane, Armthorpe Name: Armthorpe Landfill Site Operator Location: Environment Department, Regent Street, Barnsley Boundary Accuracy: As Supplied Provider Reference: EAHLD04495 First Input Date: 17th November 1976 Last Input Date: 11th March 1993 Specified Waste Type: Deposited Waste included Industrial, Commercial and Household Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4400/0296 BGS Ref: Not Supplied Other Ref: 4400/D1	A13SW (NE)	0	2	465807 405235
142	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Holmewood Lane, Armthorpe, South Yorkshire Name: Doncaster Rural District Council Tip Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD31289 First Input Date: 1st July 1959 Last Input Date: Not Supplied Specified Waste Type: Deposited Waste included Commercial Waste and Liquid Sludge EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: Not Supplied BGS Ref: 1153 Other Ref: Not Supplied	A13NW (NE)	0	2	465819 405245
143	**Licensed Waste Management Facilities (Locations)** Licence Number: 43143 Location: Armthorpe Recycling Centre, Holme Wood Lane, Armthorpe, Doncaster, South Yorkshire, DN3 3EH Operator Name: Yorkshire Aggregates Limited Operator Location: Not Supplied Authority: Environment Agency - Midlands Region, East Area Site Category: Transfer Stations Taking Non-biodegradable Wastes **Licence Status: Modified** Issued: 2nd September 1994 Last Modified: 19th January 2017 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	32	2	465654 405323
	Local Authority Landfill Coverage Name: Doncaster Metropolitan Borough Council - Has supplied landfill data		0	3	465807 405235
144	**Local Authority Recorded Landfill Sites** Location: Holmewood Lane, Armthorpe Reference: 1 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	A13SW (NE)	0	3	465807 405235
145	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1854	A18SW (N)	375	-	465723 405804
146	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A18SW (N)	377	-	465749 405810

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
147	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1854	A18SW (N)	408	-	465695 405832
148	**Registered Landfill Sites** Licence Holder: Barnsley M.B.C. Licence Reference: WD 2 D 1 Site Location: Holmewood Lane, Armthorpe, Doncaster, South Yorkshire Licence Easting: 465900 Licence Northing: 405400 Operator Location: As Site Address Authority: Environment Agency - Midlands Region, Lower Trent Area Site Category: Landfill Max Input Rate: Undefined Waste Source Restrictions: No known restriction on source of waste Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st December 1976 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Com. + Ind. Waste Household Waste Prohibited Waste: Notifiable Wastes	A13NE (NE)	58	2	465900 405400
149	**Registered Waste Treatment or Disposal Sites** Licence Holder: Butterley Aggregates Ltd Licence Reference: WD20 D1073 MOD 3 Site Location: Armthorpe Quarry, Holmewood Lane, DONCASTER, South Yorkshire, DN3 3EH Operator Location: 17-12 West Parade, LINCOLN, Lincolnshire, LN1 1NP Authority: Environment Agency - Midlands Region, Lower Trent Area Site Category: Transfer - with treatment Max Input Rate: Large (Equal to or greater than 75,000 and less than 250,000 tonnes per year) Waste Source Restrictions: Waste produced/controlled by licence holder Licence Status: Operational as far as is knownOperational Dated: 2nd September 1994 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Asphalt Brick, Concrete, Stone, Tile Inert Constr'N/Excav . Waste Incl. Max.Waste Permitted By Licence Soil, Topsoil Prohibited Waste: Any Other Biodegradable Waste Asbestos Paper Plasterboard Timber/Wood Waste N.O.S.	A12SE (SW)	343	2	465380 404980

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Triassic Rocks (Undifferentiated)	A13SW (NE)	0	1	465807 405235
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A13SW (NE)	0	1	465807 405235
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (S)	22	1	465861 405048
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (SW)	71	1	465707 405000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: <20 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A13SE (S)	89	1	465849 404965
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SW (NW)	262	1	465588 405610
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 20 - 40 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A12NE (W)	411	1	465263 405269

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: <20 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A8NW (S)	431	1	465733 404613
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8SE (S)	558	1	465933 404509
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A8SE (S)	574	1	466000 404519
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: <20 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A14SE (E)	707	1	466664 404993
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A15SW (E)	880	1	466844 404992
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A19NE (NE)	899	1	466553 405931

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 20 - 40 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A9SW (SE)	912	1	466439 404403
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: <20 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A19SE (NE)	968	1	466727 405832
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: <20 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: <15 mg/kg	A17NW (NW)	970	1	464913 405933
150	**BGS Recorded Mineral Sites** Site Name: Armthorpe Sand And Gravel Pit Location: Not Supplied Source: British Geological Survey, National Geoscience Information Service Reference: 1478 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Quaternary Geology: River Terrace Deposits Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A13SW (SW)	0	1	465780 405195
151	**BGS Recorded Mineral Sites** Site Name: Holmewood Gravel Pit Location: Not Supplied Source: British Geological Survey, National Geoscience Information Service Reference: 12986 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Quaternary Geology: River Terrace Deposits Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A13NW (N)	92	1	465740 405510
152	**BGS Recorded Mineral Sites** Site Name: Armthorpe Sand And Gravel Pit Location: Not Supplied Source: British Geological Survey, National Geoscience Information Service Reference: 235999 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Quaternary Geology: River Terrace Deposits (Undifferentiated) Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	255	1	465455 405025

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
152	**BGS Recorded Mineral Sites** Site Name: Armthorpe Sand And Gravel Pit Location: Not Supplied Source: British Geological Survey, National Geoscience Information Service Reference: 236000 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Quaternary Geology: River Terrace Deposits (Undifferentiated) Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A12SE (SW)	255	1	465455 405025
153	**BGS Recorded Mineral Sites** Site Name: Huggin Carr Location: Not Supplied Source: British Geological Survey, National Geoscience Information Service Reference: 13622 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciolacustrine Deposits Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A14NE (E)	745	1	466644 405560
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	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.	A13SW (NE)	0	5	465807 405235
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13SW (NE)	0	-	465807 405235
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	465807 405235
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	43	1	465807 405000
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	89	1	465849 404965
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	143	1	465950 405000
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	465807 405235
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	22	1	465861 405048
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	43	1	465807 405000
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	71	1	465707 405000
	Potential for Compressible Ground Stability Hazards Hazard Potential: High Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	89	1	465849 404965

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Compressible Ground Stability Hazards Hazard Potential: High Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	143	1	465950 405000
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	222	1	466086 405000
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	465807 405235
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	43	1	465807 405000
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	465807 405235
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	43	1	465807 405000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	465807 405235
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	22	1	465861 405048
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	43	1	465807 405000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	71	1	465707 405000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	89	1	465849 404965
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	222	1	466086 405000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	465807 405235
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	22	1	465861 405048
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	43	1	465807 405000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	71	1	465707 405000
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	89	1	465849 404965
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	222	1	466086 405000
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	465807 405235
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SW (NE)	0	1	465807 405235

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
154	**Contemporary Trade Directory Entries** Name: Yorkshire Aggregates Location: Recycling Site, Holme Wood Lane, Doncaster, DN3 3EJ Classification: Reclaiming - Waste Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	0	-	465849 405164
155	**Contemporary Trade Directory Entries** Name: Yorkshire Aggregates Ltd Location: Holme Wood Lane, Armthorpe, Doncaster, South Yorkshire, DN3 3EJ Classification: Quarries **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	48	-	465655 405297
156	**Contemporary Trade Directory Entries** Name: R M C Aggregates (Eastern) Ltd Location: Armthorpe Quarry,Holme Wood La, Armthorpe, Doncaster, South Yorkshire, DN3 3EH Classification: Quarries **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12SE (W)	179	-	465484 405190
157	**Contemporary Trade Directory Entries** Name: The Stone & Garden Company Location: Holme Wood Lane, Armthorpe, Doncaster, South Yorkshire, DN3 3EH Classification: Sand, Gravel & Other Aggregates **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	262	-	465402 405153
158	**Points of Interest - Commercial Services** Name: Yorkshire Aggregates Ltd Location: Holme Wood Lane, Armthorpe, Doncaster, DN3 3EJ Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A13NW (W)	48	6	465655 405296
159	**Points of Interest - Manufacturing and Production** Name: Sand and Gravel Pit Location: DN3 Category: Extractive Industries Class Code: Sand, Gravel and Clay Extraction and Merchants Positional Accuracy: Positioned to an adjacent address or location	A13SE (E)	53	6	466042 405200
160	**Points of Interest - Manufacturing and Production** Name: Holmewood Piggeries Location: DN3 Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to an adjacent address or location	A13NW (N)	85	6	465737 405499
161	**Points of Interest - Manufacturing and Production** Name: Sand and Gravel Pit Location: DN3 Category: Extractive Industries Class Code: Sand, Gravel and Clay Extraction and Merchants Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	103	6	465586 405105
162	**Points of Interest - Manufacturing and Production** Name: Sand and Gravel Pit Location: DN3 Category: Extractive Industries Class Code: Sand, Gravel and Clay Extraction and Merchants Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	139	6	465635 404983
163	**Points of Interest - Manufacturing and Production** Name: Sand and Gravel Pit Location: DN3 Category: Extractive Industries Class Code: Sand, Gravel and Clay Extraction and Merchants Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	344	6	465408 404940
164	**Points of Interest - Manufacturing and Production** Name: Sand and Gravel Pit Location: DN3 Category: Extractive Industries Class Code: Sand, Gravel and Clay Extraction and Merchants Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	454	6	466391 405417
165	**Points of Interest - Manufacturing and Production** Name: Sand and Gravel Pit Location: DN3 Category: Extractive Industries Class Code: Sand, Gravel and Clay Extraction and Merchants Positional Accuracy: Positioned to an adjacent address or location	A7SW (SW)	818	6	465127 404530

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
166	**Points of Interest - Public Infrastructure** Name: Weir Location: DN3 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	140	6	465648 404964
167	**Points of Interest - Public Infrastructure** Name: Spoil Heap Location: DN3 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12SE (SW)	467	6	465275 404914
168	**Points of Interest - Public Infrastructure** Name: Spoil Heap Location: DN3 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	495	6	465196 405008

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
169	**Ancient Woodland** Name: Little Gate Wood Reference: 1103764 Area(m²): 35785.01 Type: Ancient and Semi-Natural Woodland	A14SE (E)	676	7	466620 404960
170	**Ancient Woodland** Name: Great Gate Wood Reference: 1103765 Area(m²): 305644.28 Type: Plantation on Ancient Woodland	A9SW (SE)	792	7	466442 404554
171	**Ancient Woodland** Name: Great Gate Wood Reference: 1103765 Area(m²): 20464.36 Type: Ancient and Semi-Natural Woodland	A9SW (SE)	804	7	466338 404465
172	**Nitrate Vulnerable Zones** Name: R Torne / Three Rivers From Mother Dr To R Trent Nvz Description: Surface Water Source: Environment Agency, Head Office	A13SW (NE)	0	8	465807 405235
173	**Nitrate Vulnerable Zones** Name: Nottinghamshire Description: Groundwater Source: Environment Agency, Head Office	A13SW (NE)	0	8	465807 405235

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Doncaster Metropolitan Borough Council - Environmental Services	April 2014	Annual Rolling Update
North Lincolnshire Council - Environmental Protection Team	February 2013	Annual Rolling Update
Discharge Consents		
Environment Agency - Midlands Region	April 2018	Quarterly
Environment Agency - North East Region	April 2018	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Anglian Region	March 2013	As notified
Environment Agency - North East Region	March 2013	As notified
Integrated Pollution Controls		
Environment Agency - Anglian Region	October 2008	Variable
Environment Agency - North East Region	October 2008	Variable
Integrated Pollution Prevention And Control		
Environment Agency - Anglian Region	April 2018	Quarterly
Environment Agency - North East Region	April 2018	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Doncaster Metropolitan Borough Council - Environmental Services	June 2014	Variable
North Lincolnshire Council - Environmental Protection Team	March 2015	Variable
Local Authority Pollution Prevention and Controls		
Doncaster Metropolitan Borough Council - Environmental Services	June 2014	Annual Rolling Update
North Lincolnshire Council - Environmental Protection Team	March 2015	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Doncaster Metropolitan Borough Council - Environmental Services	June 2014	Variable
North Lincolnshire Council - Environmental Protection Team	March 2015	Variable
Nearest Surface Water Feature		
Ordnance Survey	September 2017	
Pollution Incidents to Controlled Waters		
Environment Agency - North East Region	December 1998	Not Applicable
Environment Agency - Midlands Region	December 1999	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - Midlands Region	July 2015	As notified
Environment Agency - Anglian Region	March 2013	As notified
Environment Agency - North East Region	March 2013	As notified
Prosecutions Relating to Controlled Waters		
Environment Agency - Anglian Region	March 2013	As notified
Environment Agency - North East Region	March 2013	As notified
Registered Radioactive Substances		
Environment Agency - Anglian Region	January 2015	
Environment Agency - North East Region	January 2015	
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register		
Environment Agency - Anglian Region - Northern Area	April 2018	Quarterly
Environment Agency - North East Region - Ridings Area	April 2018	Quarterly
Environment Agency - North East Region - Yorkshire Area	April 2018	Quarterly
Water Abstractions		
Environment Agency - Midlands Region	April 2018	Quarterly
Environment Agency - North East Region	April 2018	Quarterly

Agency & Hydrological	Version	Update Cycle
Water Industry Act Referrals		
Environment Agency - Anglian Region	October 2017	Quarterly
Environment Agency - North East Region	October 2017	Quarterly
Groundwater Vulnerability		
Environment Agency - Head Office	April 2015	Not Applicable
Drift Deposits		
Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations		
British Geological Survey - National Geoscience Information Service	August 2015	As notified
Superficial Aquifer Designations		
British Geological Survey - National Geoscience Information Service	August 2015	As notified
Source Protection Zones		
Environment Agency - Head Office	January 2018	Quarterly
Extreme Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	February 2018	Quarterly
Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	February 2018	Quarterly
Areas Benefiting from Flood Defences		
Environment Agency - Head Office	February 2018	Quarterly
Flood Water Storage Areas		
Environment Agency - Head Office	February 2018	Quarterly
Flood Defences		
Environment Agency - Head Office	February 2018	Quarterly
OS Water Network Lines		
Ordnance Survey	January 2018	Quarterly
Surface Water 1 in 30 year Flood Extent		
Environment Agency - Head Office	October 2013	As notified
Surface Water 1 in 100 year Flood Extent		
Environment Agency - Head Office	October 2013	As notified
Surface Water 1 in 1000 year Flood Extent		
Environment Agency - Head Office	October 2013	As notified
Surface Water Suitability		
Environment Agency - Head Office	October 2013	As notified
BGS Groundwater Flooding Susceptibility		
British Geological Survey - National Geoscience Information Service	May 2013	As notified

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	April 2018	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Anglian Region	October 2008	Not Applicable
Environment Agency - North East Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - Anglian Region - Northern Area	April 2018	Quarterly
Environment Agency - North East Region - Ridings Area	April 2018	Quarterly
Environment Agency - North East Region - Yorkshire Area	April 2018	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - Anglian Region - Northern Area	April 2018	Quarterly
Environment Agency - Midlands Region - East Area	April 2018	Quarterly
Environment Agency - North East Region - Ridings Area	April 2018	Quarterly
Environment Agency - North East Region - Yorkshire Area	April 2018	Quarterly
Local Authority Landfill Coverage		
Doncaster Metropolitan Borough Council - Environmental Services	May 2000	Not Applicable
North Lincolnshire Council - Environmental Protection Team	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
Doncaster Metropolitan Borough Council - Environmental Services	May 2000	Not Applicable
North Lincolnshire Council - Environmental Protection Team	May 2000	Not Applicable
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites		
Environment Agency - Anglian Region - Northern Area	March 2003	Not Applicable
Environment Agency - Midlands Region - Lower Trent Area	March 2003	Not Applicable
Environment Agency - North East Region - Ridings Area	March 2003	Not Applicable
Environment Agency - North East Region - Yorkshire Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Anglian Region - Northern Area	March 2003	Not Applicable
Environment Agency - North East Region - Ridings Area	March 2003	Not Applicable
Environment Agency - North East Region - Yorkshire Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - Anglian Region - Northern Area	March 2003	Not Applicable
Environment Agency - Midlands Region - Lower Trent Area	March 2003	Not Applicable
Environment Agency - North East Region - Ridings Area	March 2003	Not Applicable
Environment Agency - North East Region - Yorkshire Area	March 2003	Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	September 2017	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Variable
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
Doncaster Metropolitan Borough Council	October 2015	Variable
North Lincolnshire Council - Planning Department	October 2015	Variable
Planning Hazardous Substance Consents		
Doncaster Metropolitan Borough Council	October 2015	Variable
North Lincolnshire Council - Planning Department	October 2015	Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology		
British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry		
British Geological Survey - National Geoscience Information Service	October 2015	As notified
BGS Recorded Mineral Sites		
British Geological Survey - National Geoscience Information Service	May 2018	Bi-Annually
CBSCB Compensation District		
Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas		
The Coal Authority - Property Searches	March 2014	As notified
Mining Instability		
Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain		
British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Compressible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Ground Dissolution Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Landslide Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Running Sand Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	June 2015	As notified
Radon Potential - Radon Affected Areas		
British Geological Survey - National Geoscience Information Service	July 2011	As notified
Radon Potential - Radon Protection Measures		
British Geological Survey - National Geoscience Information Service	July 2011	As notified

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	February 2018	Quarterly
Fuel Station Entries Catalist Ltd - Experian	April 2018	Quarterly
Gas Pipelines National Grid	July 2014	Quarterly
Points of Interest - Commercial Services PointX	March 2018	Quarterly
Points of Interest - Education and Health PointX	March 2018	Quarterly
Points of Interest - Manufacturing and Production PointX	March 2018	Quarterly
Points of Interest - Public Infrastructure PointX	March 2018	Quarterly
Points of Interest - Recreational and Environmental PointX	March 2018	Quarterly
Underground Electrical Cables National Grid	December 2015	Bi-Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural England	October 2017	Bi-Annually
Areas of Adopted Green Belt Doncaster Metropolitan Borough Council	February 2018	As notified
Areas of Unadopted Green Belt Doncaster Metropolitan Borough Council	February 2018	As notified
Areas of Outstanding Natural Beauty Natural England	February 2018	Bi-Annually
Environmentally Sensitive Areas Natural England	January 2017	
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	February 2018	Bi-Annually
Marine Nature Reserves Natural England	January 2018	Bi-Annually
National Nature Reserves Natural England	February 2018	Bi-Annually
National Parks Natural England	April 2017	Bi-Annually
Nitrate Sensitive Areas Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones Environment Agency - Head Office Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	December 2017 October 2015	Bi-Annually
Ramsar Sites Natural England	February 2018	Bi-Annually
Sites of Special Scientific Interest Natural England	February 2018	Bi-Annually
Special Areas of Conservation Natural England	January 2018	Bi-Annually
Special Protection Areas Natural England	February 2018	Bi-Annually

Data Suppliers

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	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	**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	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
5	**The Coal Authority - Property Searches** 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
6	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
7	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
8	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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

Geology 1:50,000 Maps Legends

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	BREI	Breighton Sand Formation	Sand, Silty	Not Supplied - Devensian
	HEM	Hemingbrough Glaciolacustrine Formation	Clay, Silty	Not Supplied - Devensian
	SUTN	Sutton Sand Formation	Sand	Not Supplied - Devensian
	RTDU	River Terrace Deposits (Undifferentiated)	Sand and Gravel	Not Supplied - Quaternary
	PEAT	Peat	Peat	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	CHES	Chester Formation	Sandstone, Pebbly (Gravelly)	Not Supplied - Olenekian
		Faults		

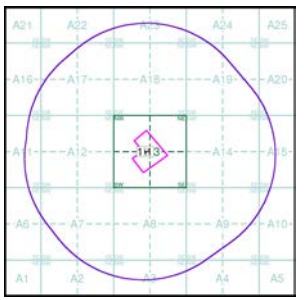
Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.
The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	**1**
Map Sheet No:	**088**
Map Name:	**Doncaster**
Map Date:	**1969**
Bedrock Geology:	**Available**
Superficial Geology:	**Available**
Artificial Geology:	**Not Available**
Faults:	**Not Supplied**
Landslip:	**Not Available**
Rock Segments:	**Not Supplied**

Geology 1:50,000 Maps - Slice A



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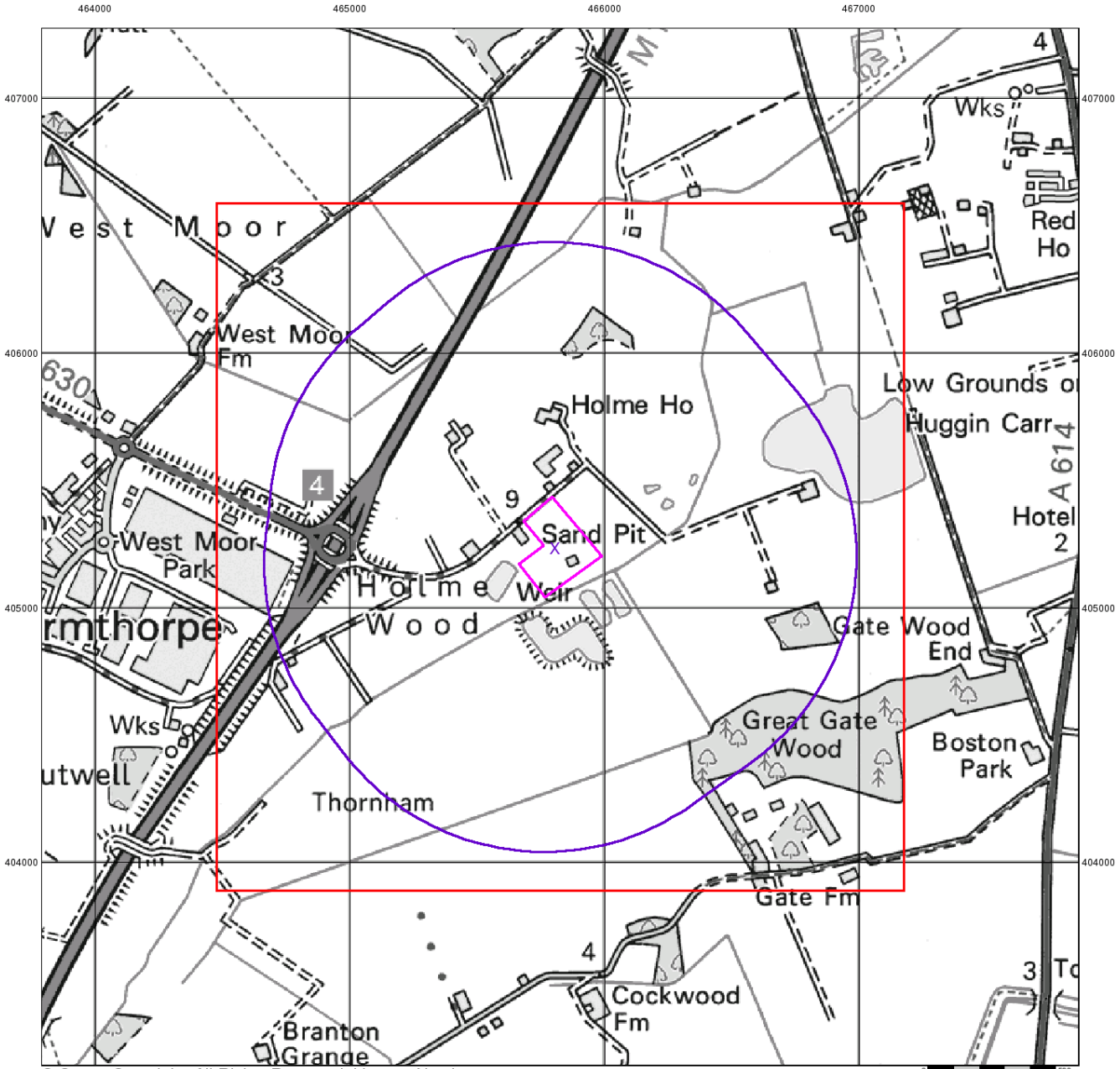
Search Buffer (m):	1000

Site Details:

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ



Artificial Ground and Landslip

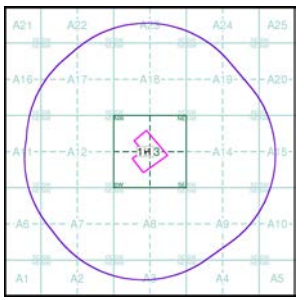
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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

Artificial ground includes:

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

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

Artificial Ground and Landslip Map - Slice A



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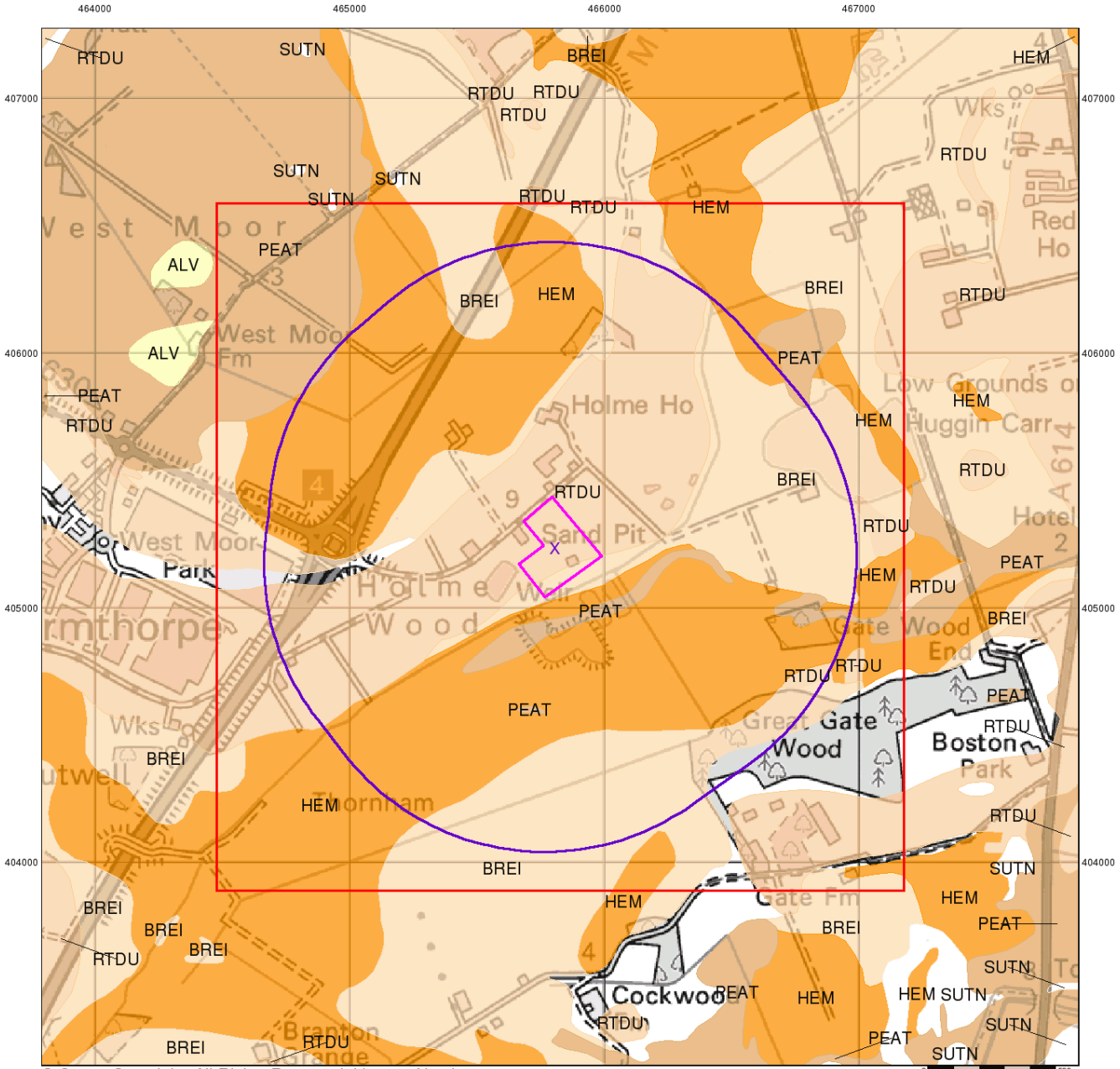
Web: www.envirocheck.co.uk



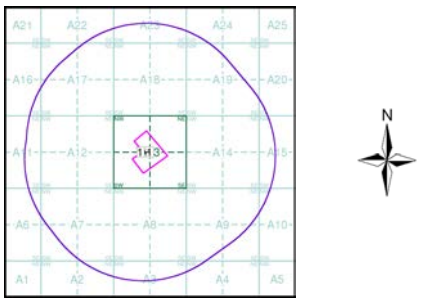
Superficial Geology

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

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

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

Superficial Geology Map - Slice A



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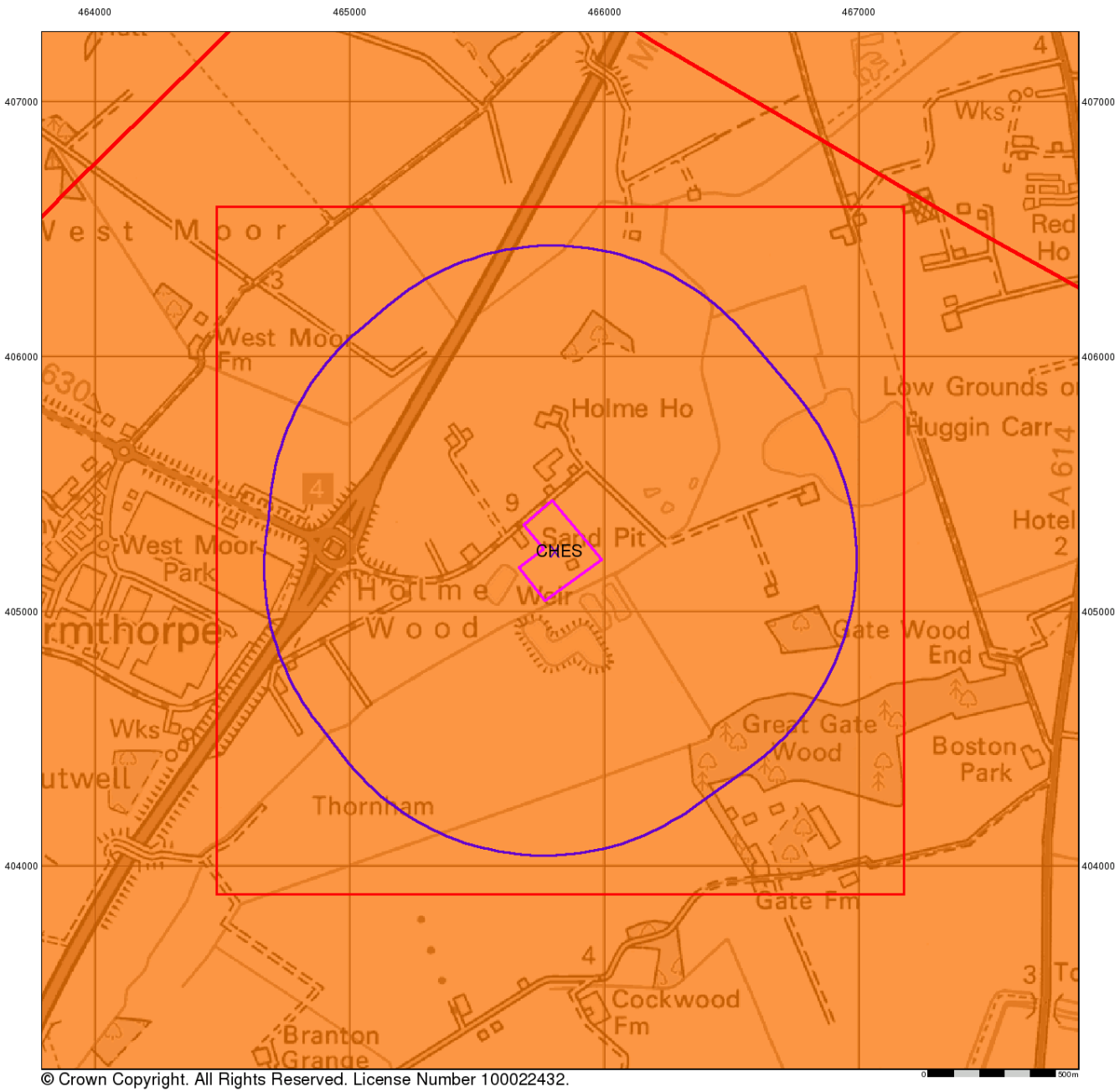


Bedrock and Faults

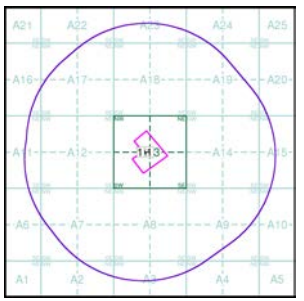
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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

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

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

Bedrock and Faults Map - Slice A



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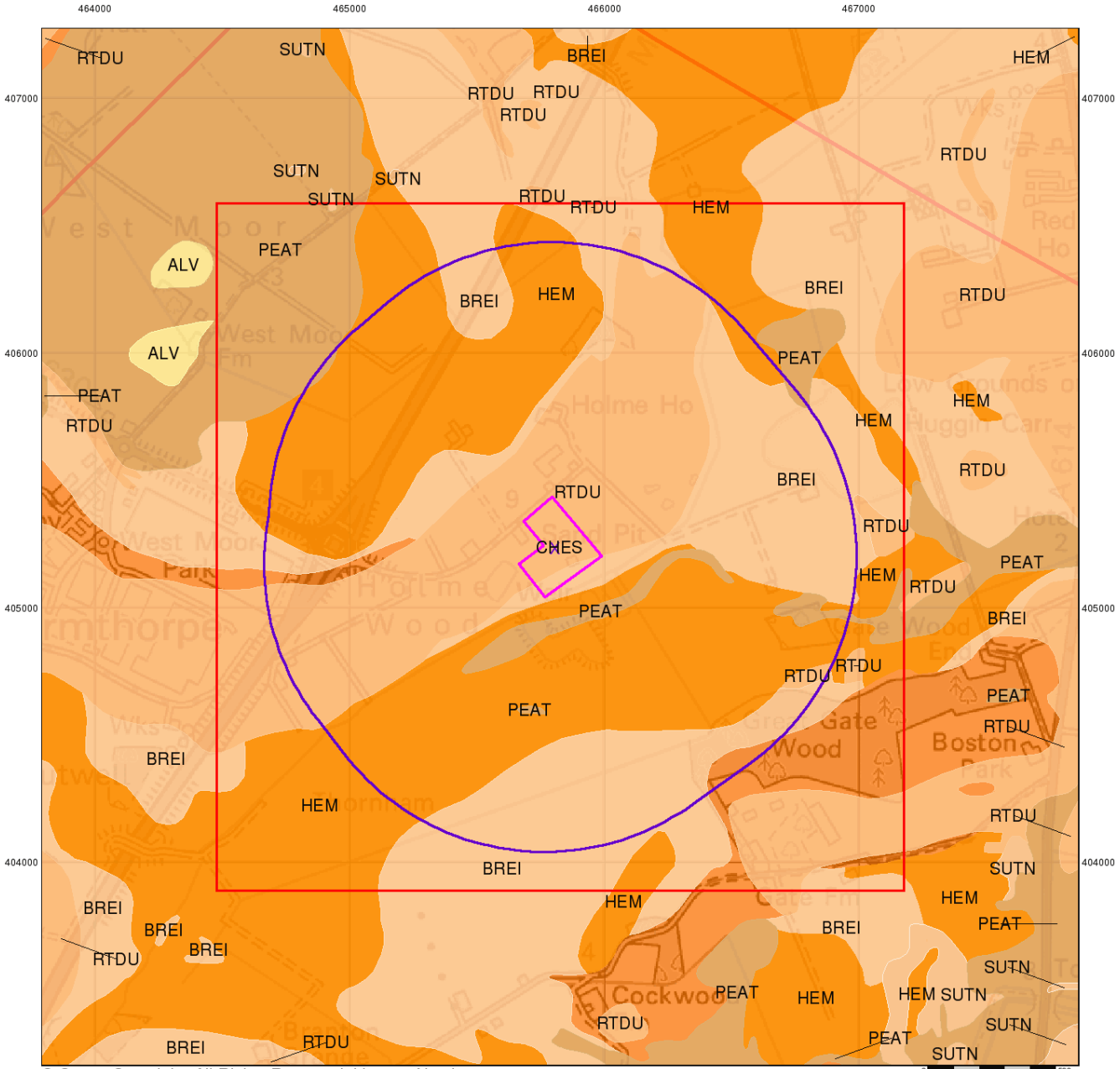


Combined Surface Geology

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

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

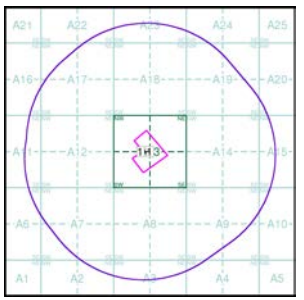
Additional Information

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

Contact

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

Combined Geology Map - Slice A



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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Deciduous
Brushwood
Fir
Furze
Rough Pasture
Arrow denotes flow of water
Trigonometrical Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
·285 Surface Level
Sketched Contour
Instrumental Contour
Main Roads
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
Sunken Road
Raised Road
Road over Railway
Railway over River
Railway over Road
Level Crossing
Road over River or Canal
Road over Stream
Road over Stream
County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. 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
Shingle
Sand
Glasshouse
Pylon
Electricity Transmission Line
Pole
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
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

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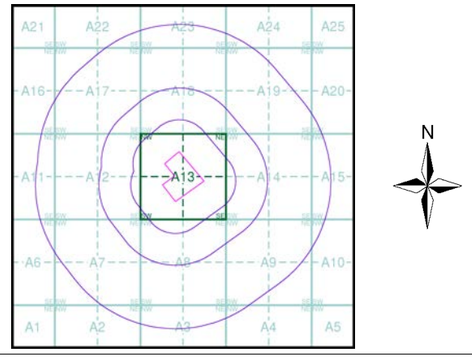
Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:10,560	1854 - 1855	2
Yorkshire	1:10,560	1893	3
Yorkshire	1:10,560	1893	4
Yorkshire	1:10,560	1907	5
Yorkshire	1:10,560	1931	6
Yorkshire	1:10,560	1931	7
Yorkshire	1:10,560	1948	8
Ordnance Survey Plan	1:10,000	1955 - 1956	9
Ordnance Survey Plan	1:10,000	1967 - 1968	10
Ordnance Survey Plan	1:10,000	1981 - 1983	11
Ordnance Survey Plan	1:10,000	1982	12
Ordnance Survey Plan	1:10,000	1992 - 1993	13
10K Raster Mapping	1:10,000	2000	14
10K Raster Mapping	1:10,000	2006	15
VectorMap Local	1:10,000	2018	16

Historical Map - Slice A



Order Details

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Site Details

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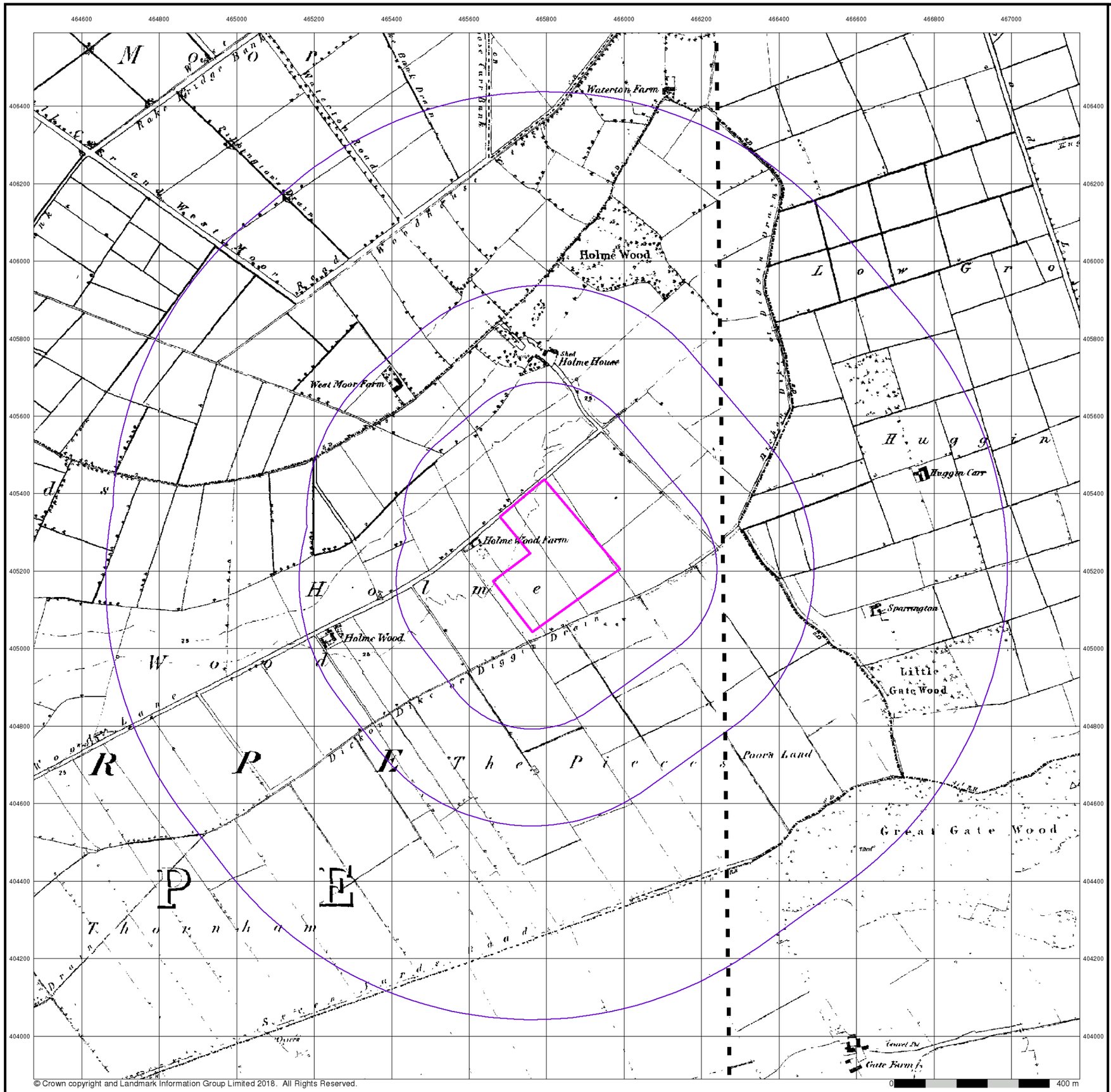

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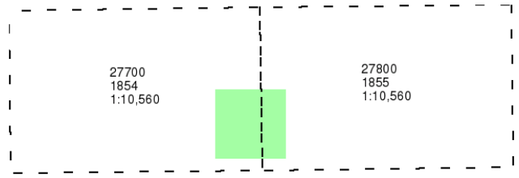
Yorkshire

Published 1854 - 1855

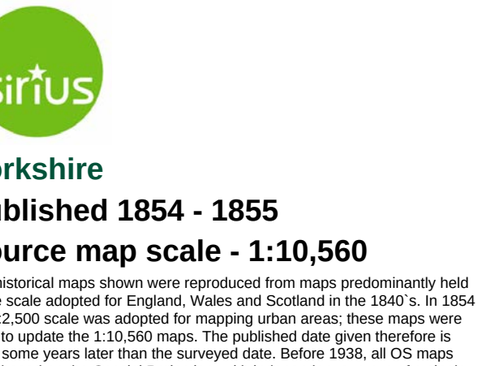
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



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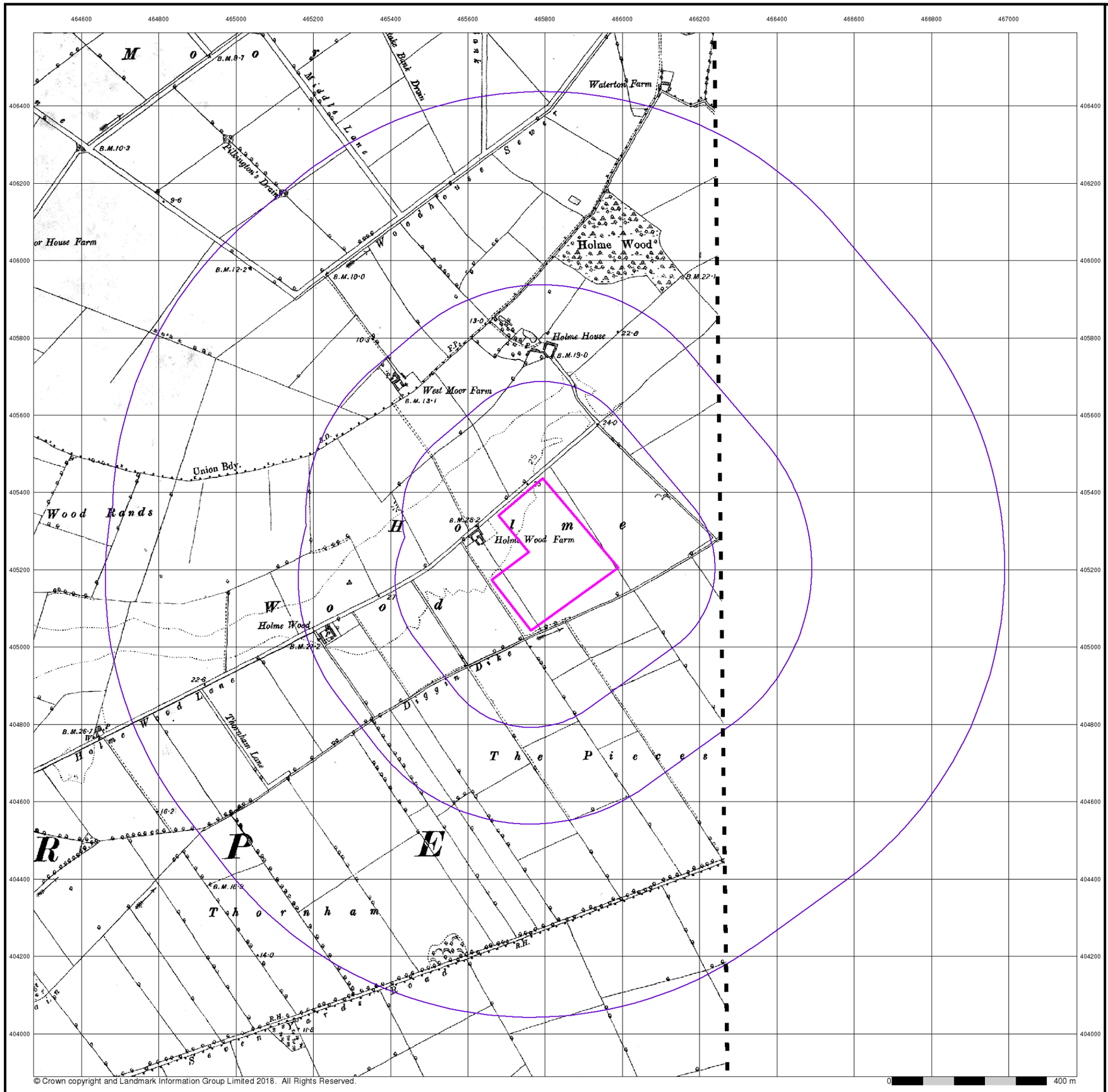

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Yorkshire

Published 1893

Source map scale - 1:10,560

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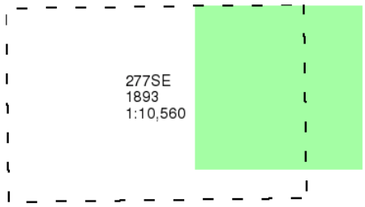
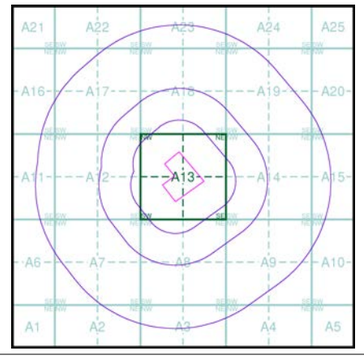


Historical Map - Slice A



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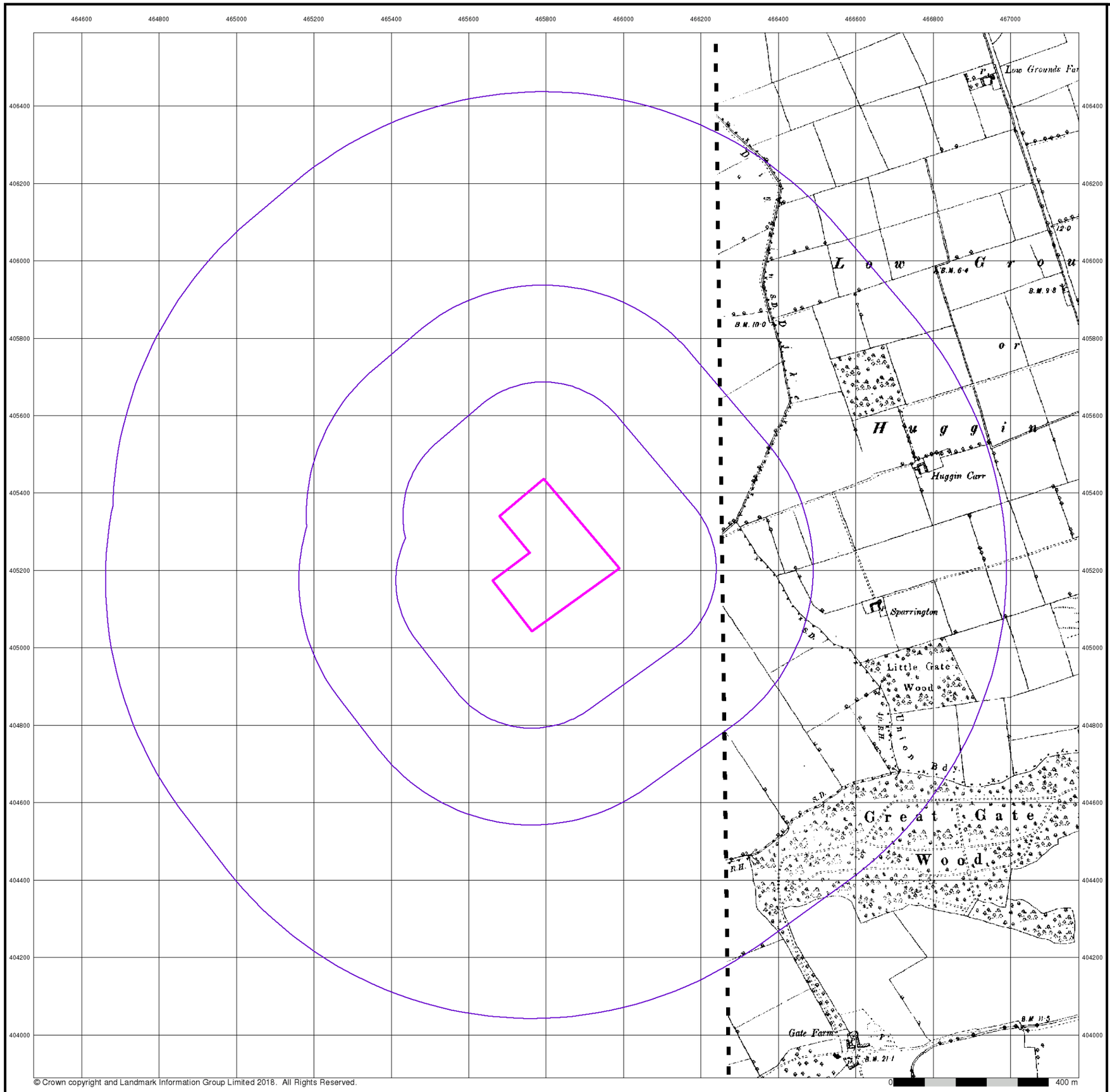

Yorkshire

Published 1893

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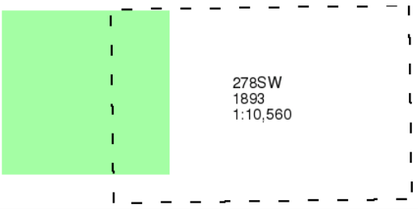

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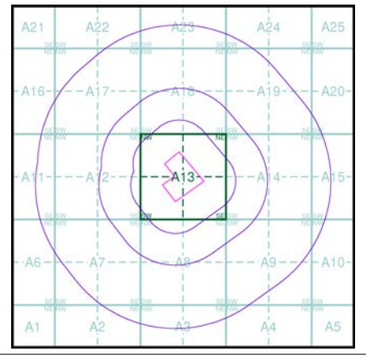

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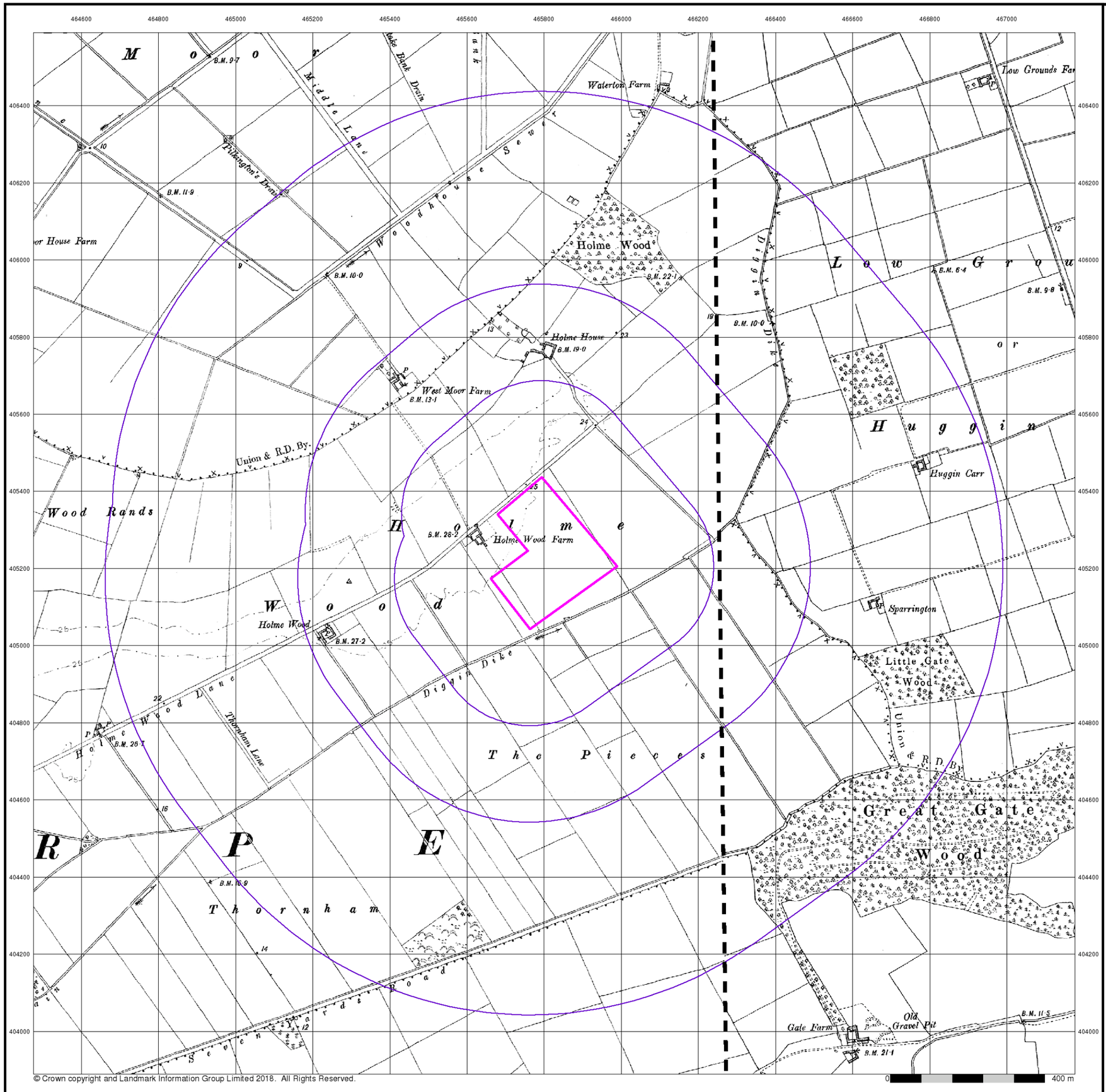


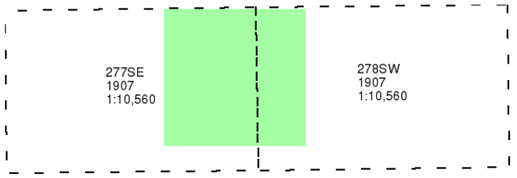
Yorkshire

Published 1907

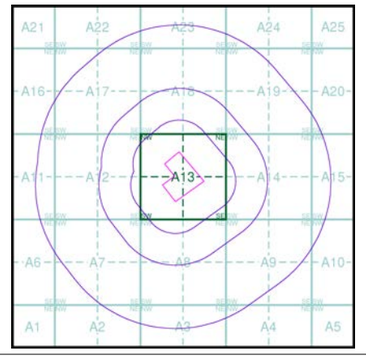
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	1000

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

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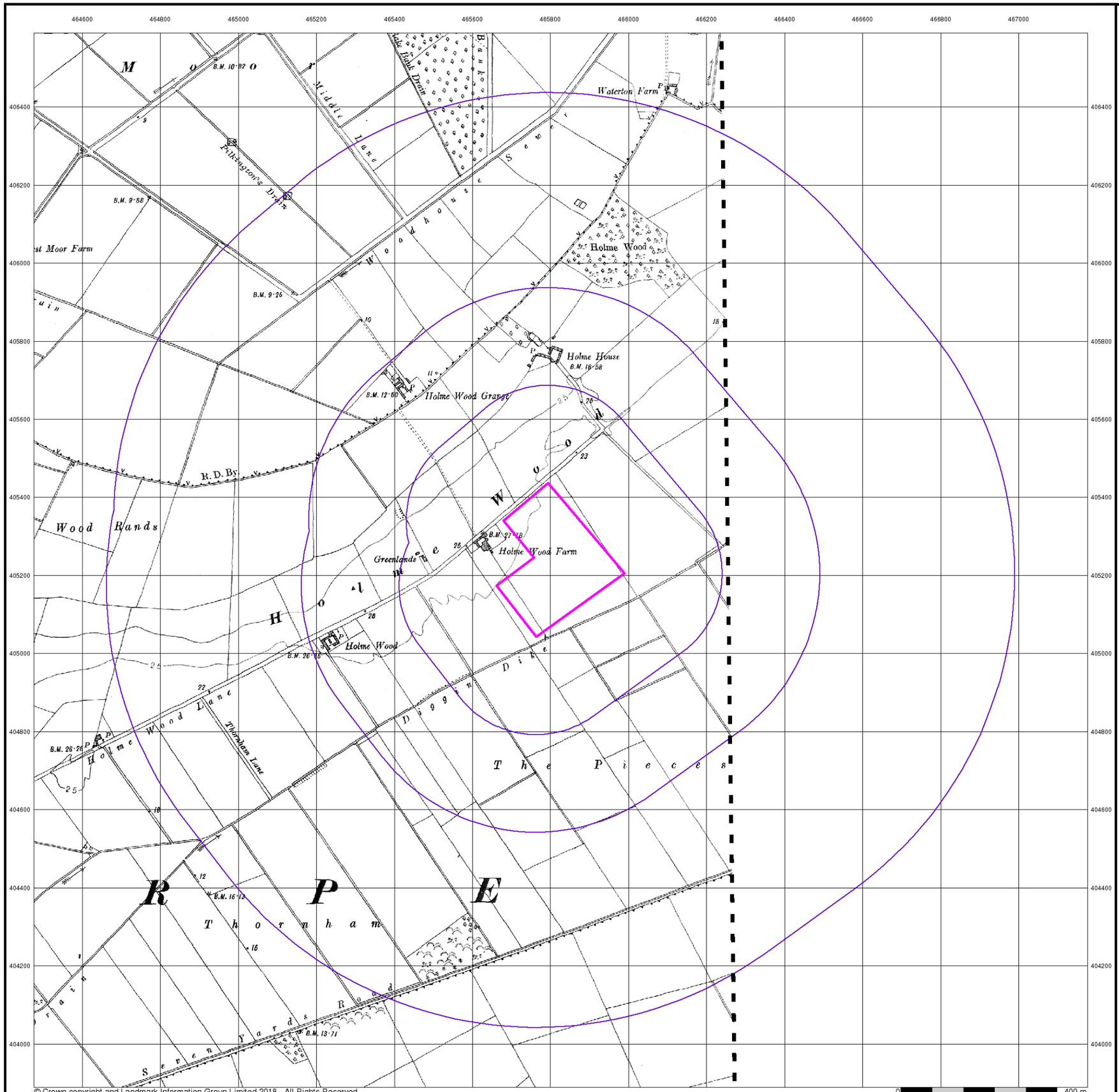

sirius

Yorkshire

Published 1931

Source map scale - 1:10,560

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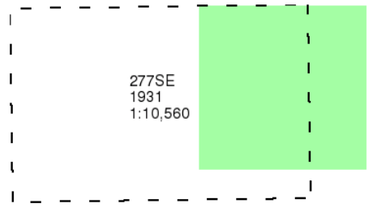
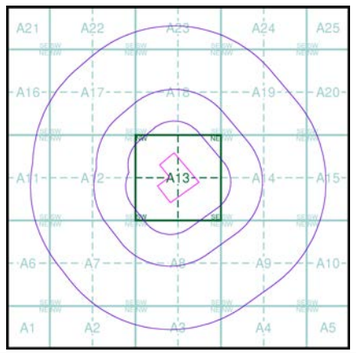
Map Name(s) and Date(s)



Historical Map - Slice A



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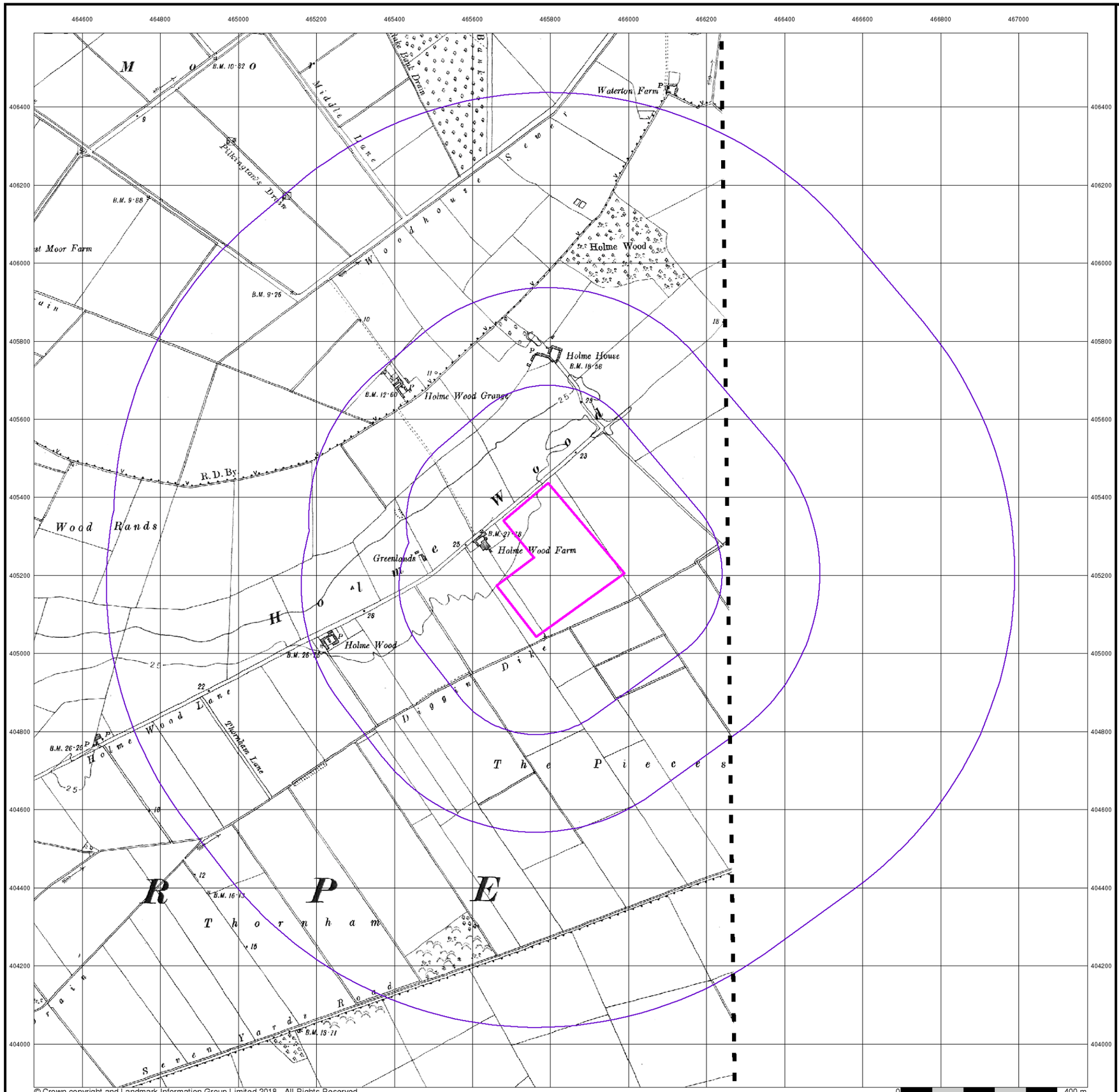


sirius

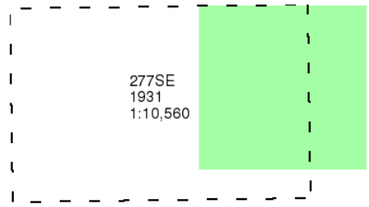
Yorkshire

Published 1931

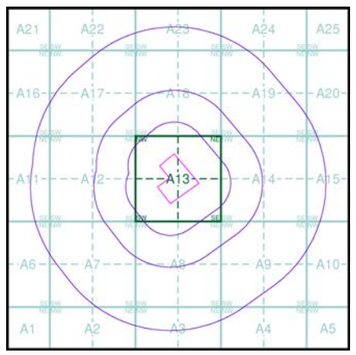
Source map scale - 1:10,560

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



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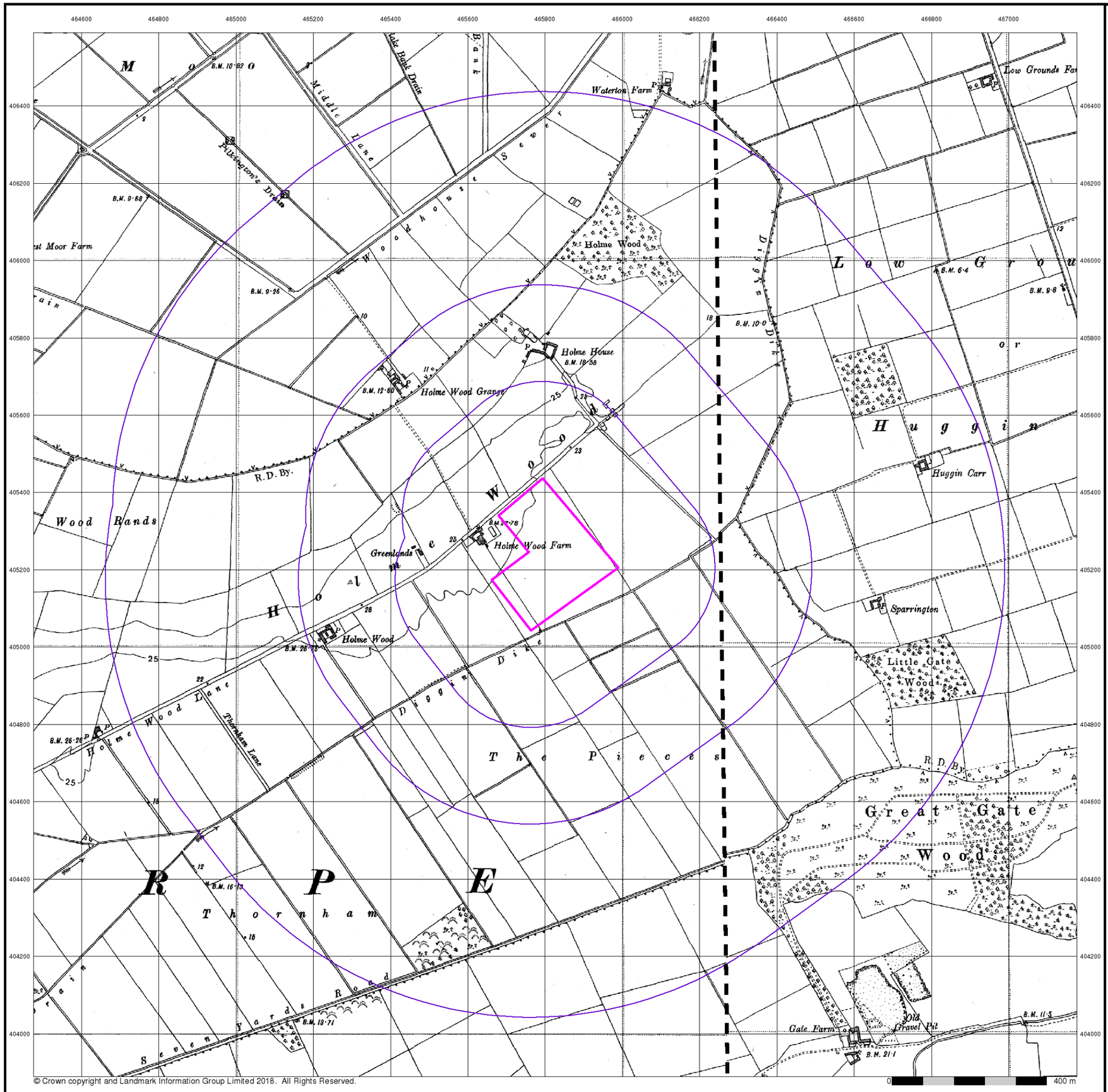

Yorkshire

Published 1948

Source map scale - 1:10,560

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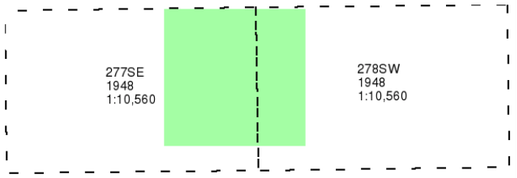
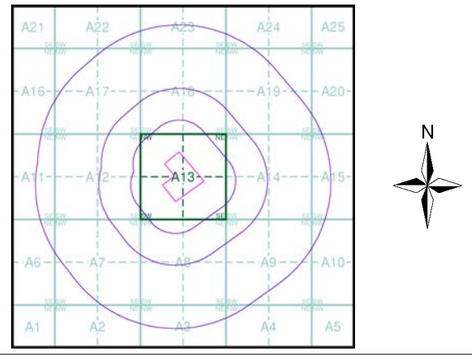
Map Name(s) and Date(s)



Historical Map - Slice A



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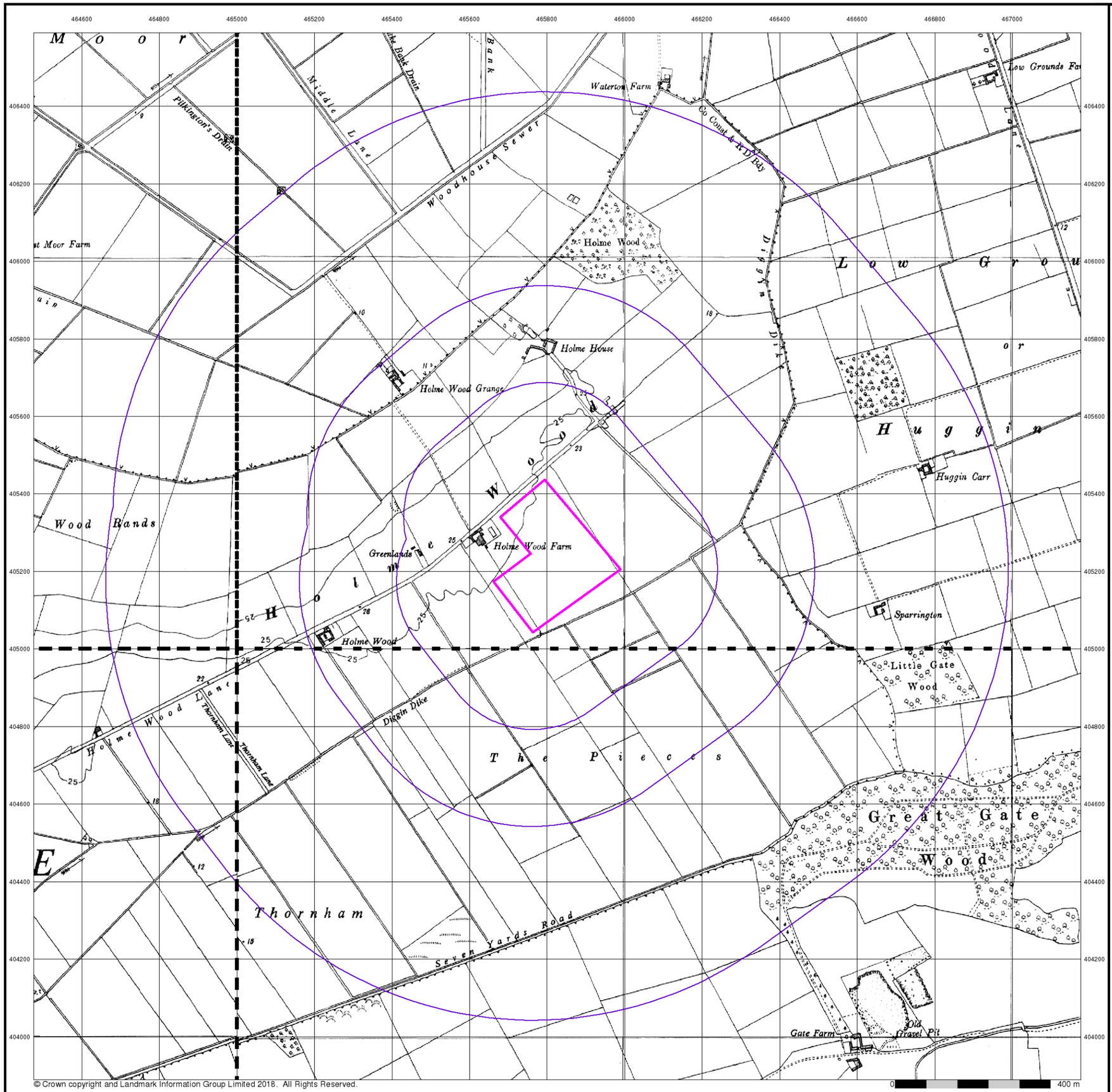

Ordnance Survey Plan

Published 1955 - 1956

Source map scale - 1:10,000

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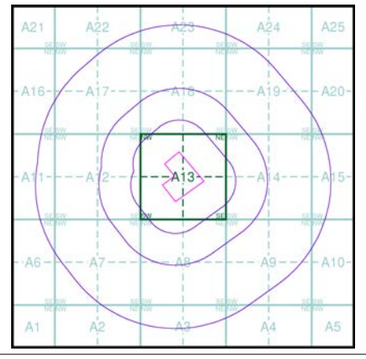
Map Name(s) and Date(s)

SE60NW 1956 1:10,560	SE60NE 1956 1:10,560
SE60SW 1955 1:10,560	SE60SE 1956 1:10,560

Historical Map - Slice A



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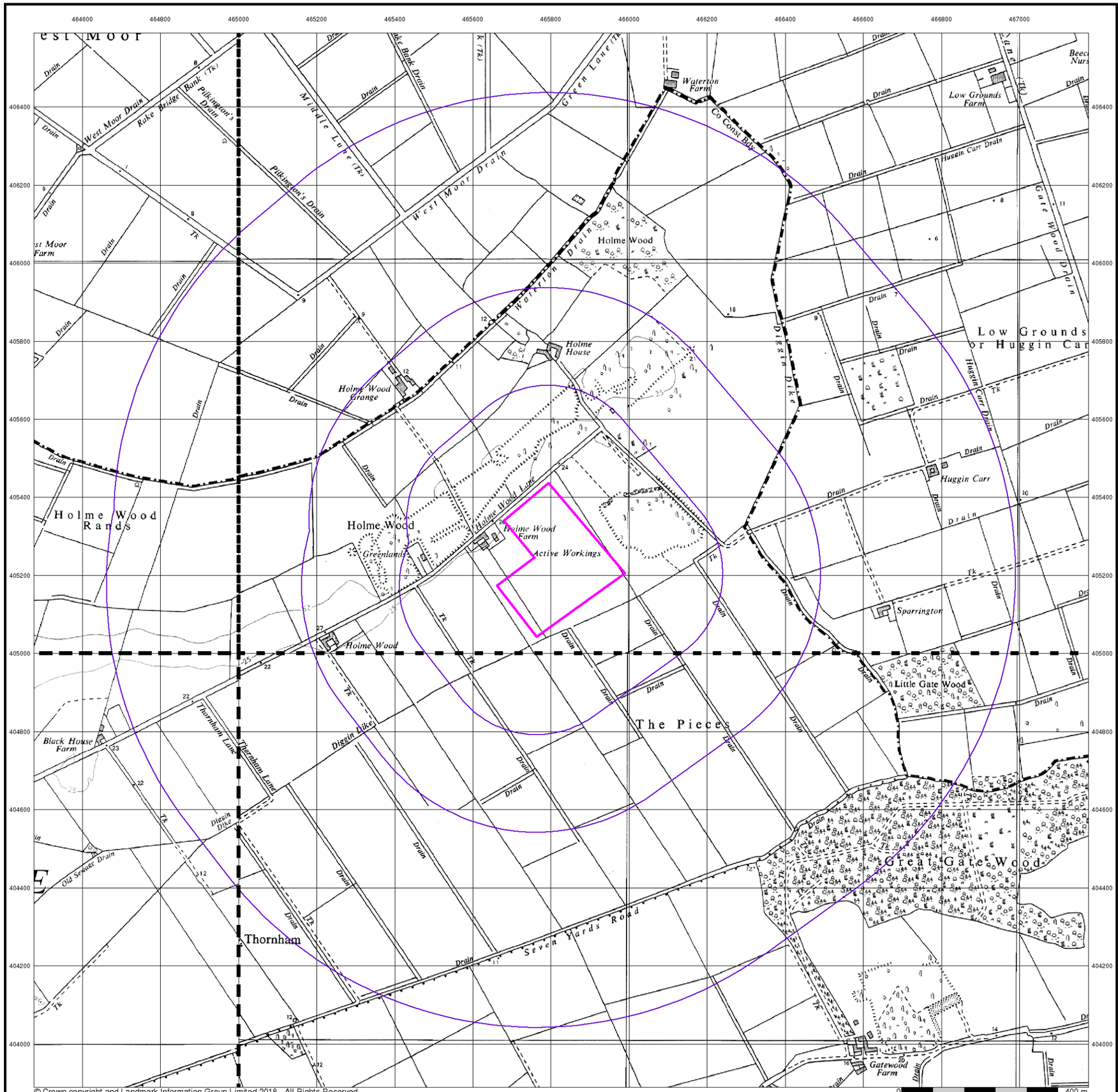


Ordnance Survey Plan

Published 1967 - 1968

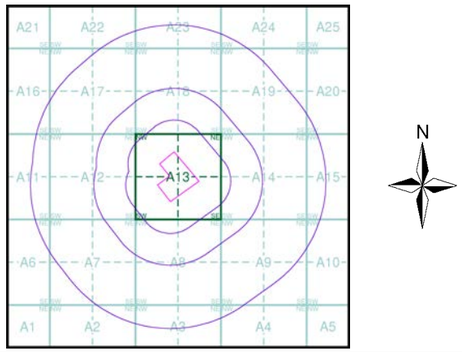
Source map scale - 1:10,000

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)

SE60NW 1967 1:10,560	SE60NE 1968 1:10,560
SE60SW 1968 1:10,560	SE60SE 1967 1:10,560

Historical Map - Slice A



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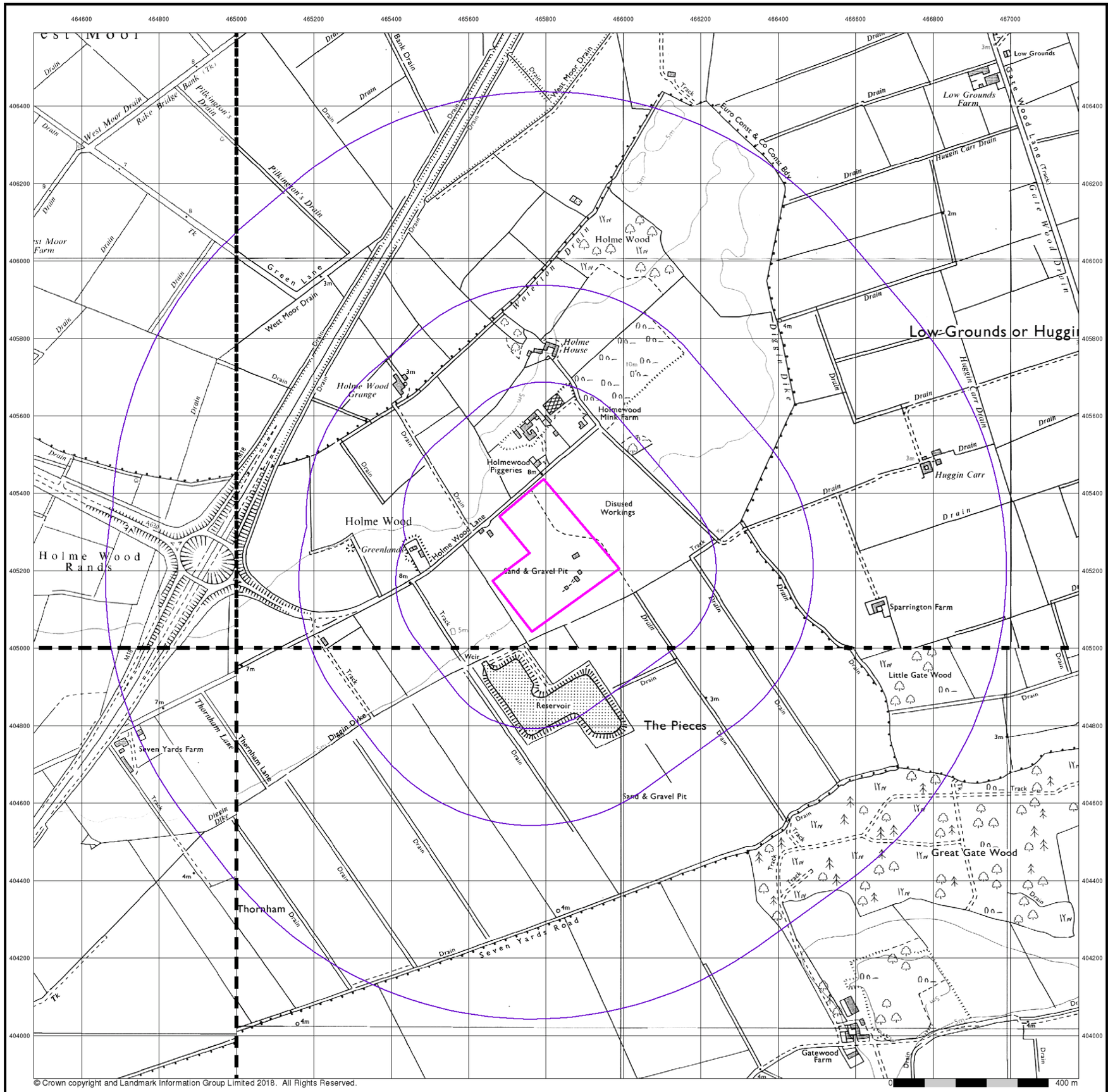

Ordnance Survey Plan

Published 1981 - 1983

Source map scale - 1:10,000

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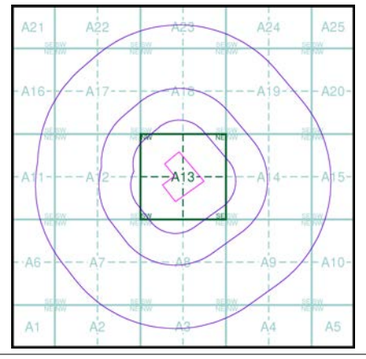
Map Name(s) and Date(s)

SE60NW 1981 1:10,560	SE60NE 1982 1:10,000
SE60SW 1982 1:10,000	SE60SE 1983 1:10,000

Historical Map - Slice A



Order Details

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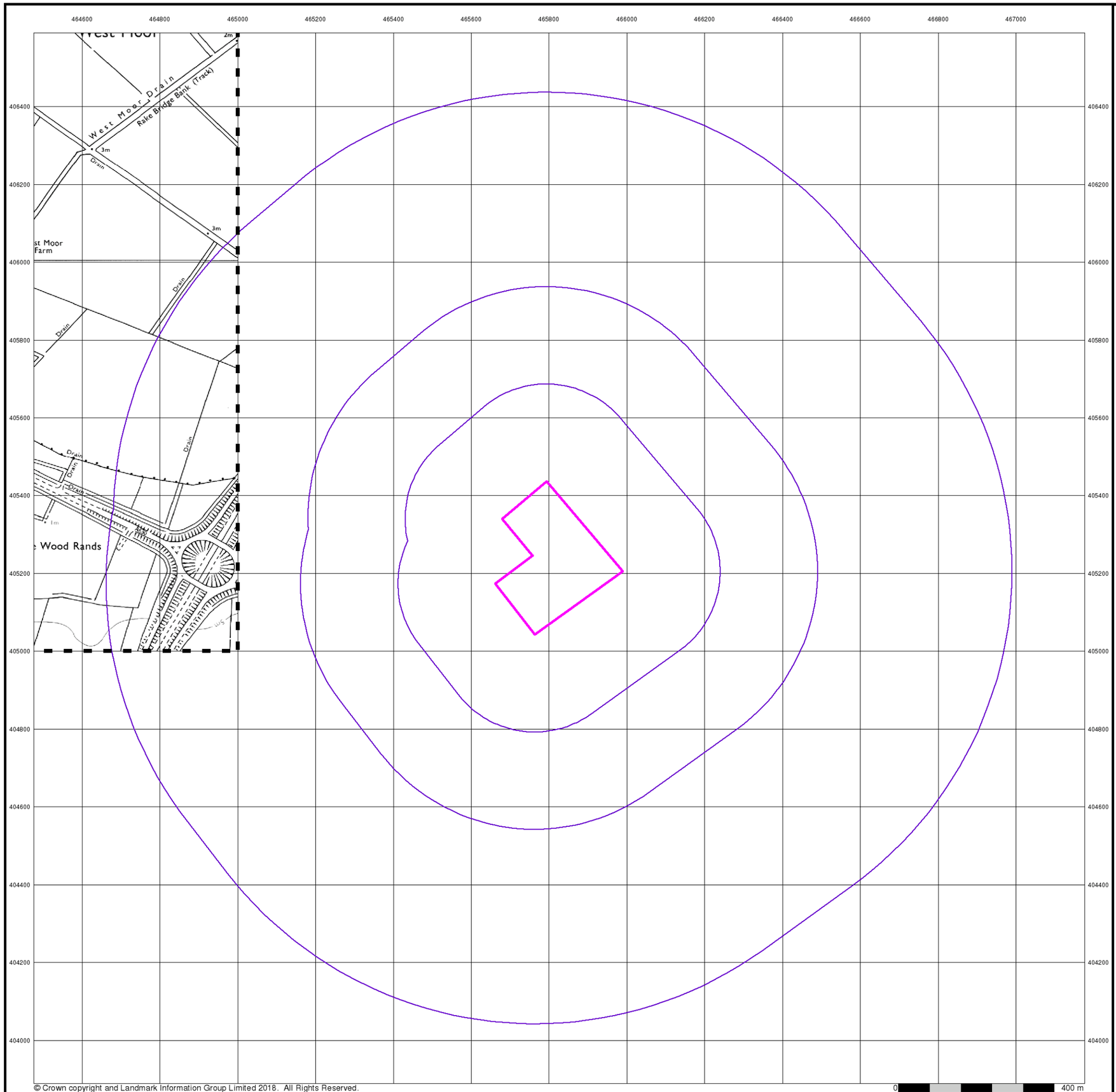

Ordnance Survey Plan

Published 1982

Source map scale - 1:10,000

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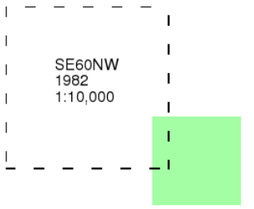
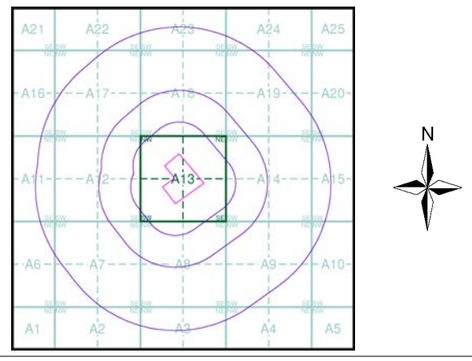
Map Name(s) and Date(s)



Historical Map - Slice A



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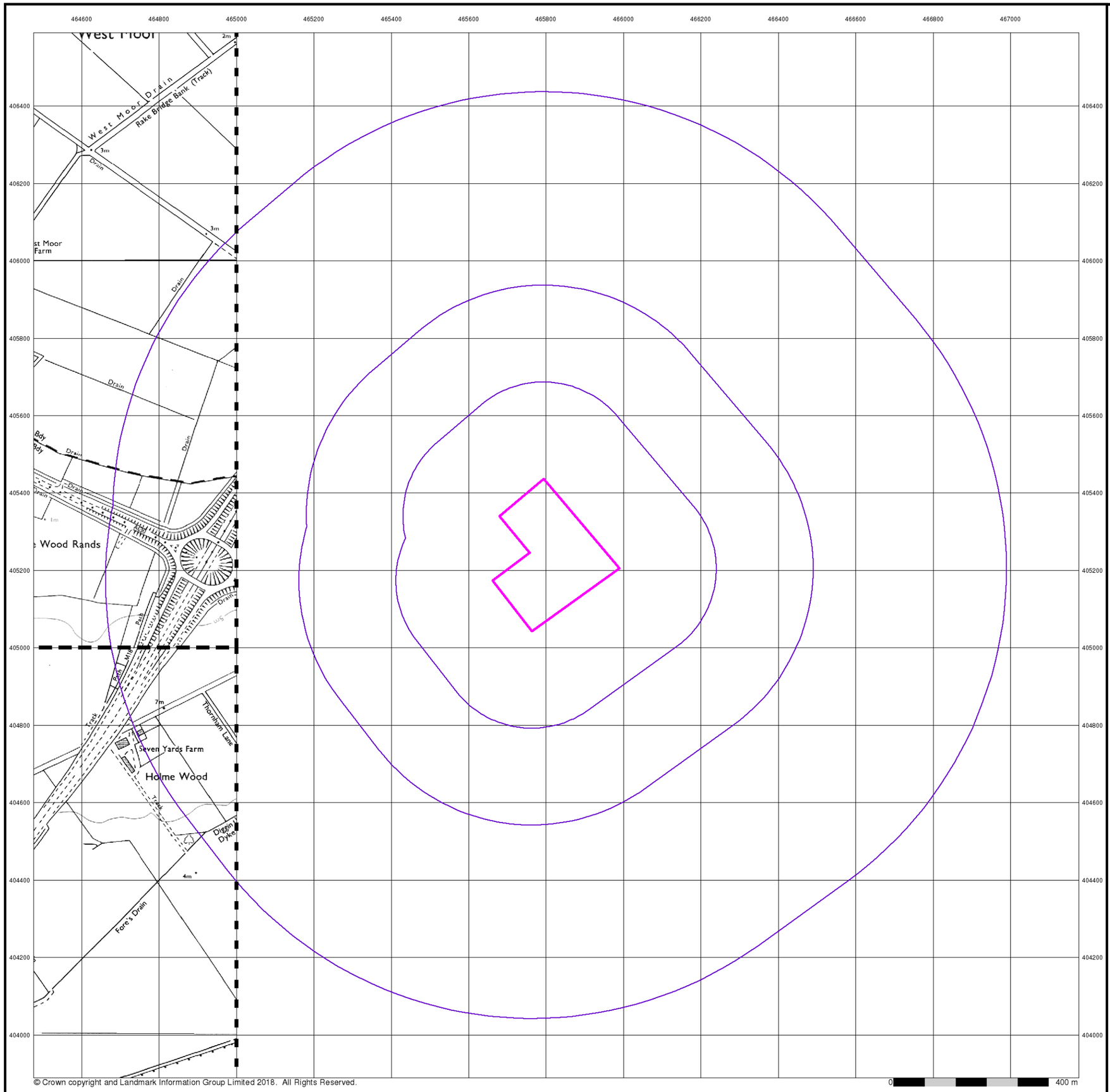

Ordnance Survey Plan

Published 1992 - 1993

Source map scale - 1:10,000

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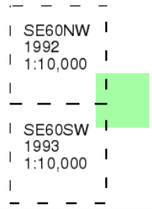
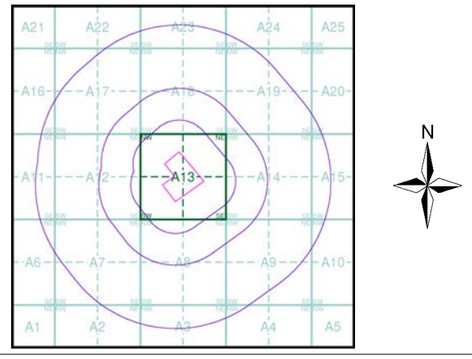
Map Name(s) and Date(s)



Historical Map - Slice A



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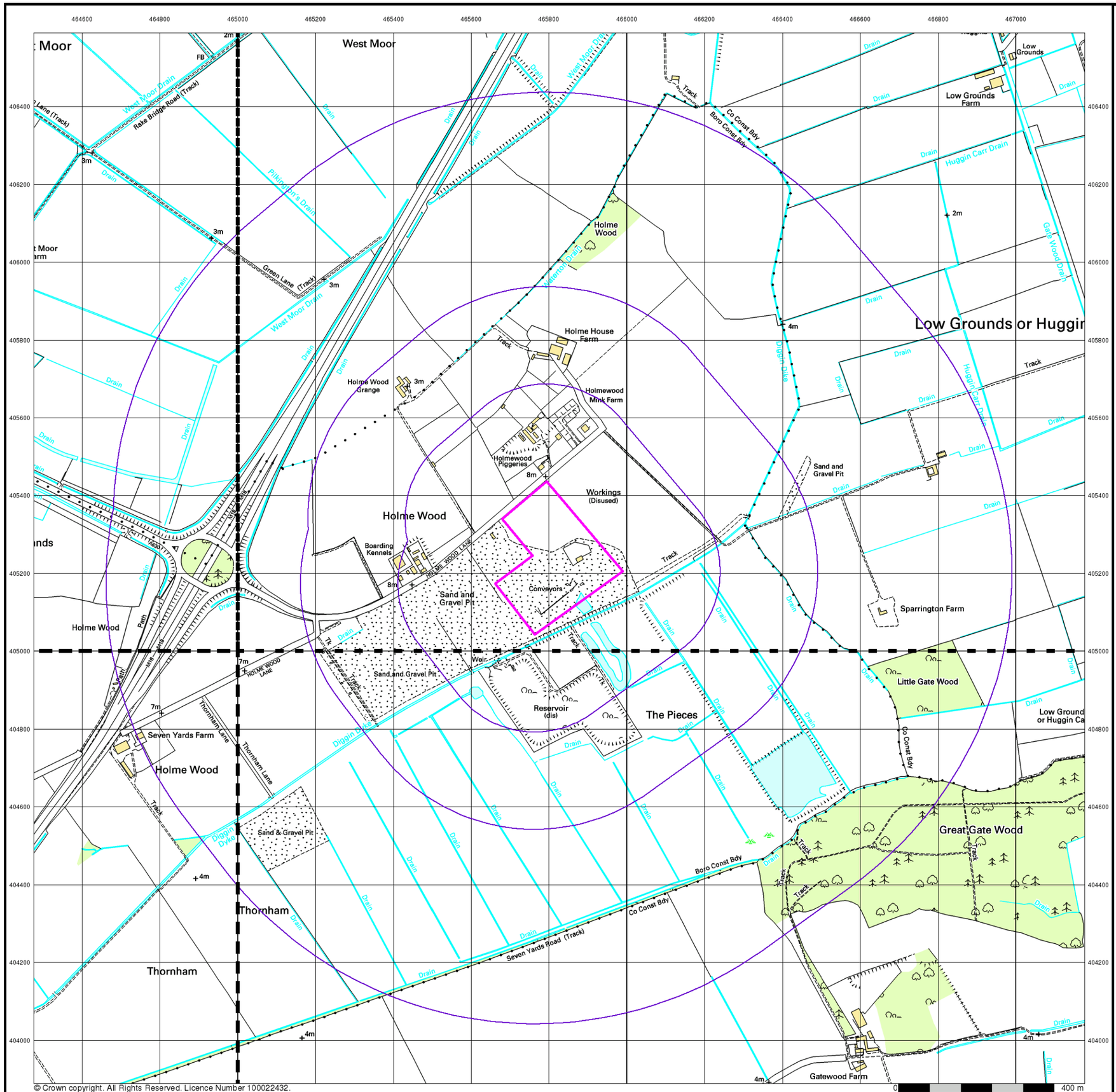


10k Raster Mapping

Published 2000

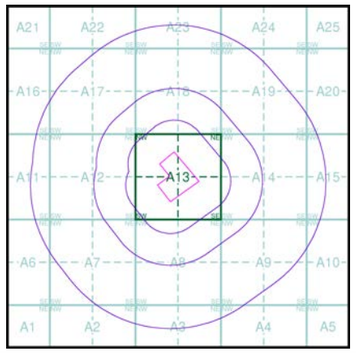
Source map scale - 1:10,000

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)

SE60NW 2000 1:10,000	SE60NE 2000 1:10,000
SE60SW 2000 1:10,000	SE60SE 2000 1:10,000

Historical Map - Slice A



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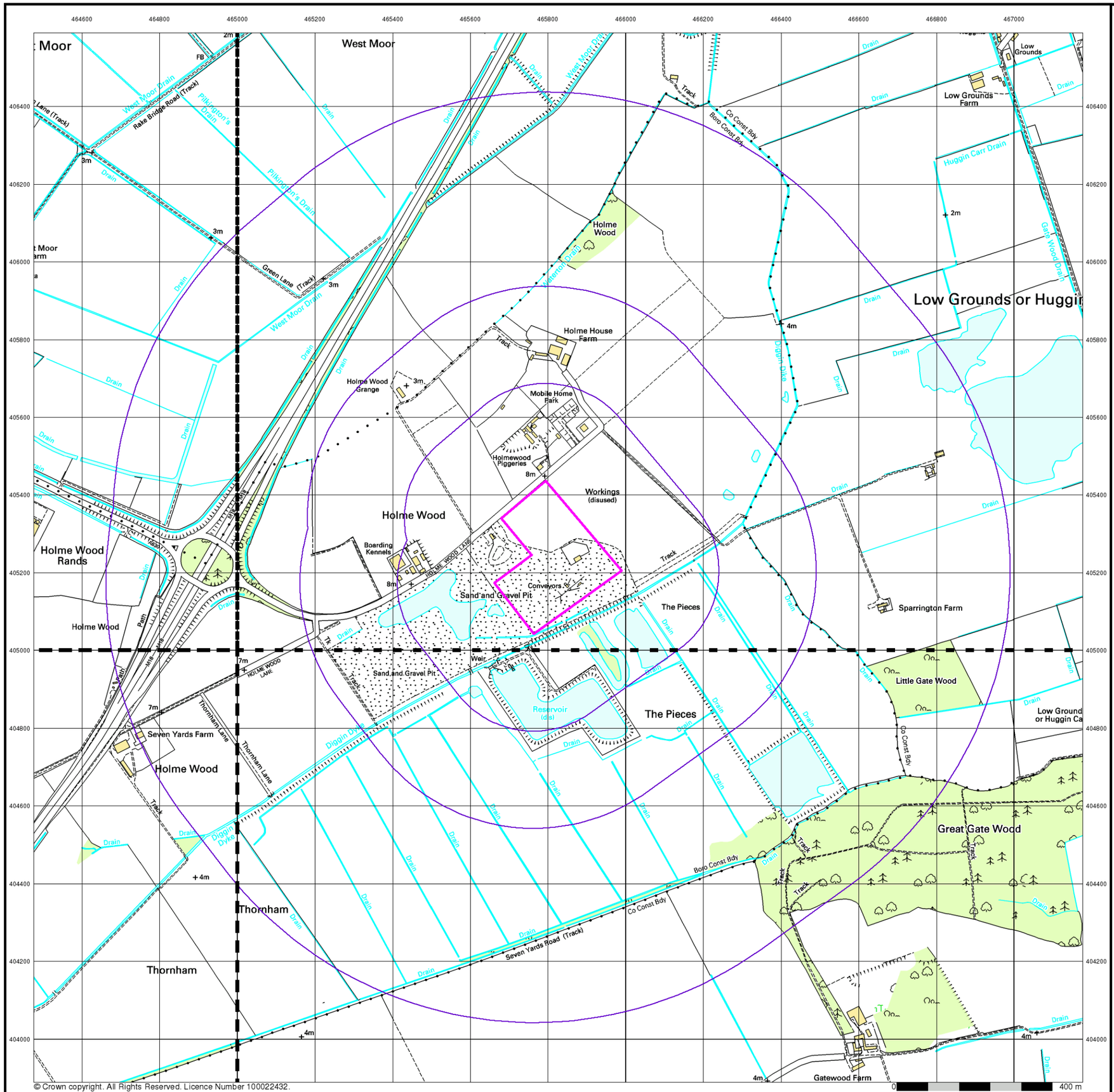

10k Raster Mapping

Published 2006

Source map scale - 1:10,000

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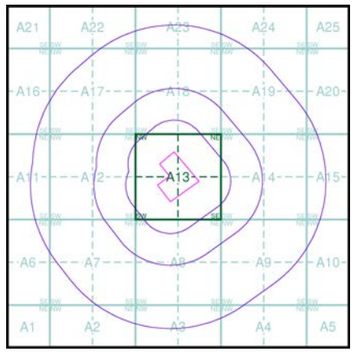
Map Name(s) and Date(s)

SE60NW 2006 1:10,000	SE60NE 2006 1:10,000
SE60SW 2006 1:10,000	SE60SE 2006 1:10,000

Historical Map - Slice A



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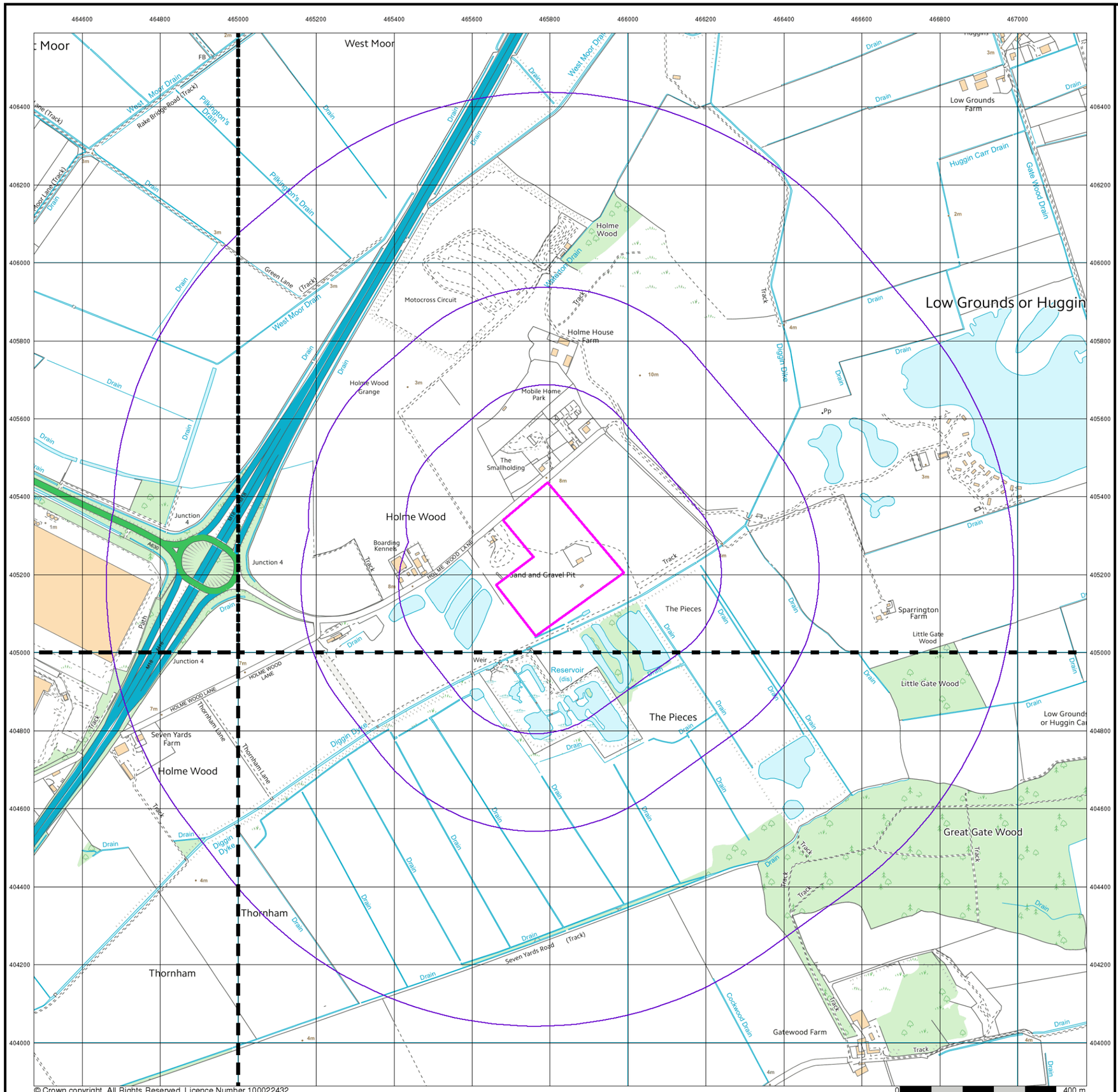


VectorMap Local

Published 2018

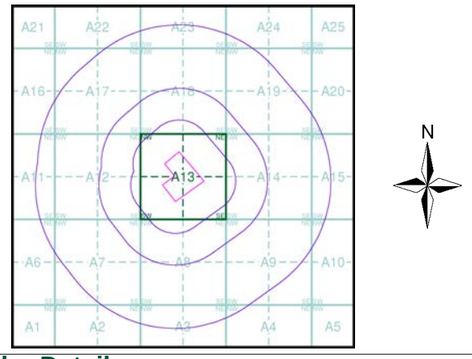
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities),1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

SE60NW 2018 Variable	SE60NE 2018 Variable
SE60SW 2018 Variable	SE60SE 2018 Variable

Historical Map - Slice A



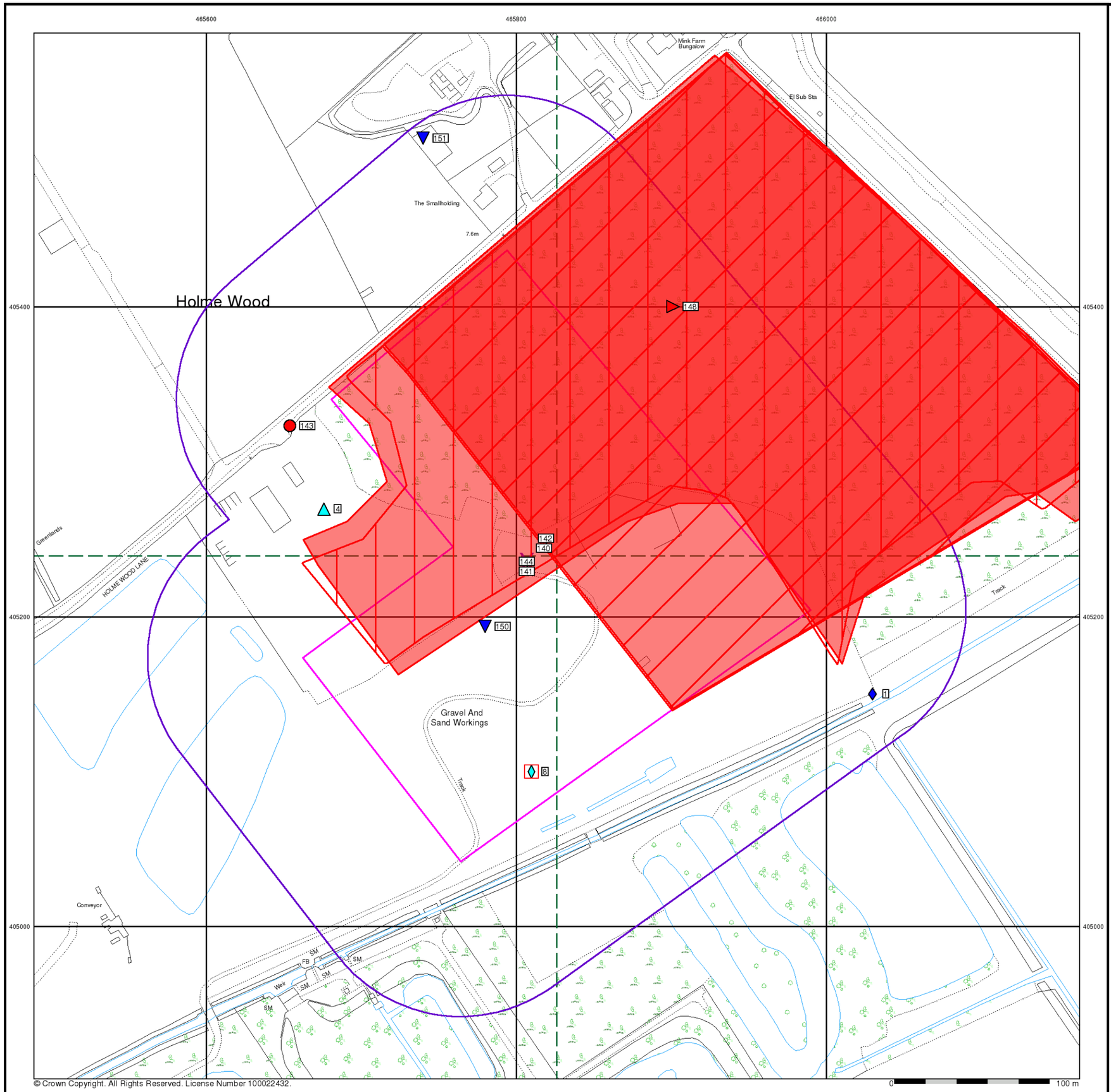
Order Details

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	1000

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

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



General

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

Agency and Hydrological

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

Hazardous Substances

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

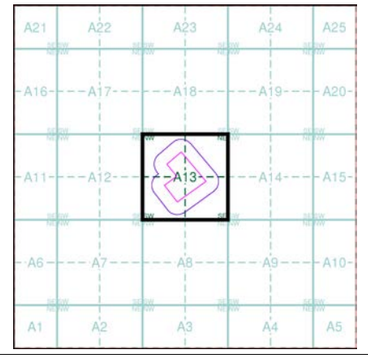
Geological

- BGS Recorded Mineral Site

Waste

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

Site Sensitivity Map - Segment A13



Order Details

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Plot Buffer (m):	100

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

Landmark INFORMATION GROUP
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General

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

Agency and Hydrological

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

Waste

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

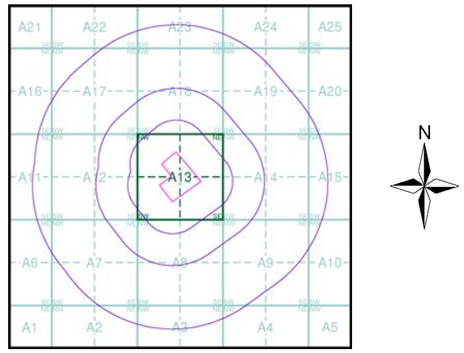
Hazardous Substances

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

Geological

- BGS Recorded Mineral Site

Site Sensitivity Map - Slice A



Order Details

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National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	1000

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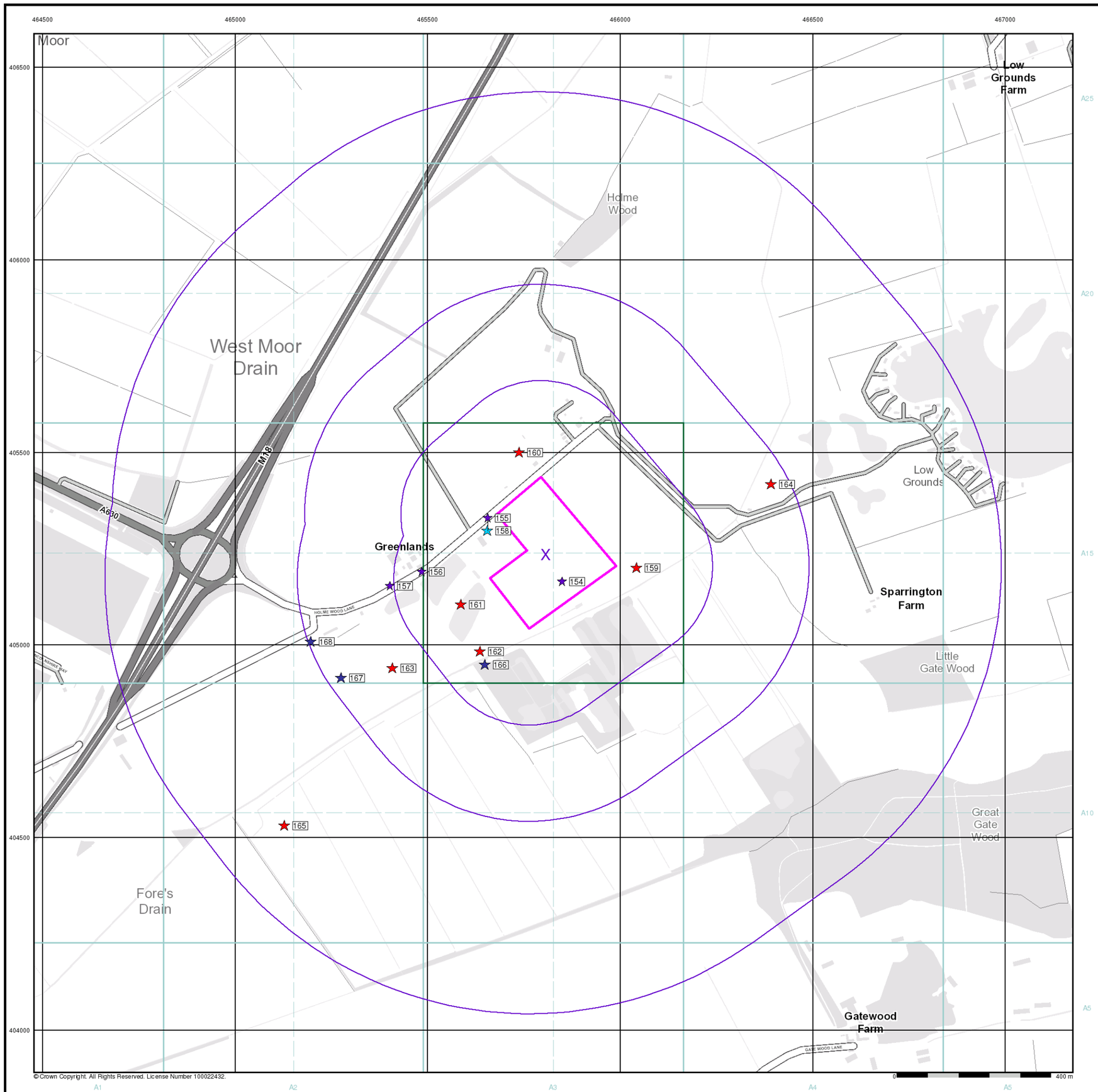


Industrial Land Use Map

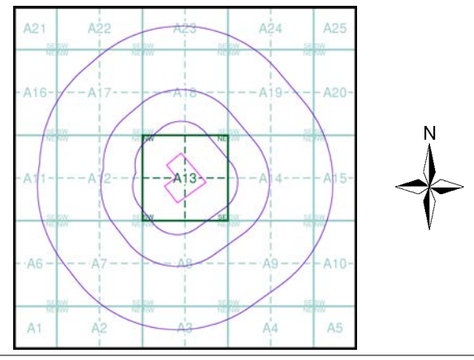
General

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

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

Industrial Land Use Map - Slice A



Order Details

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National Grid Reference:	465810, 405240
Slice:	A
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Site Details

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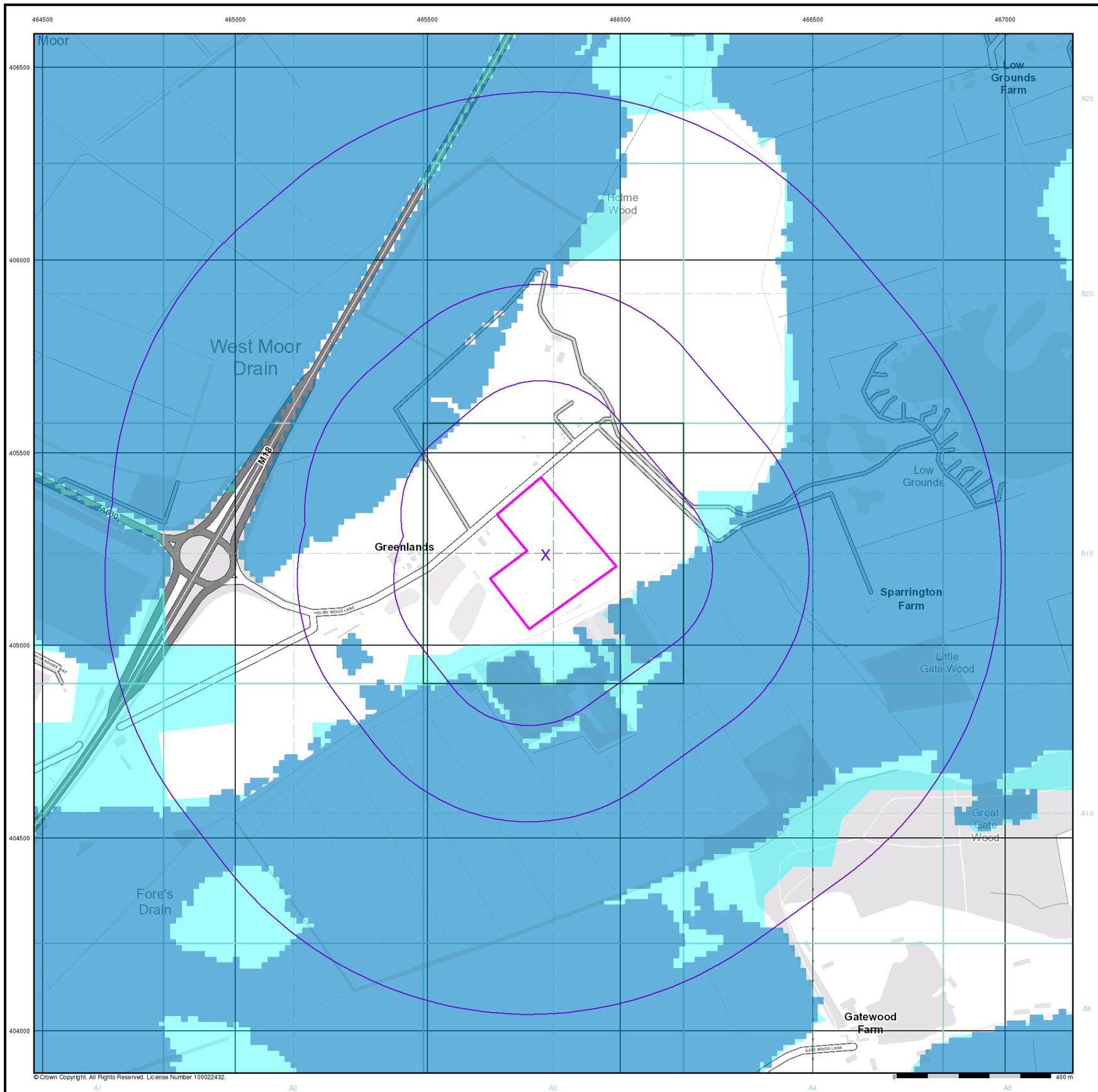


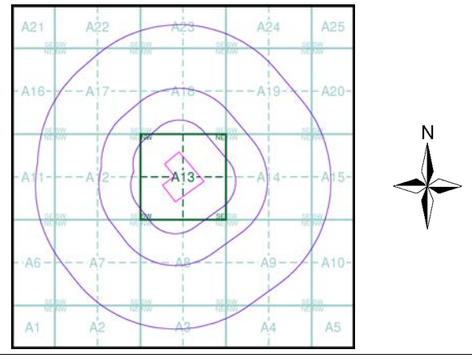
General

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

Agency and Hydrological (Flood)

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

Flood Map - Slice A



Order Details

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	1000

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

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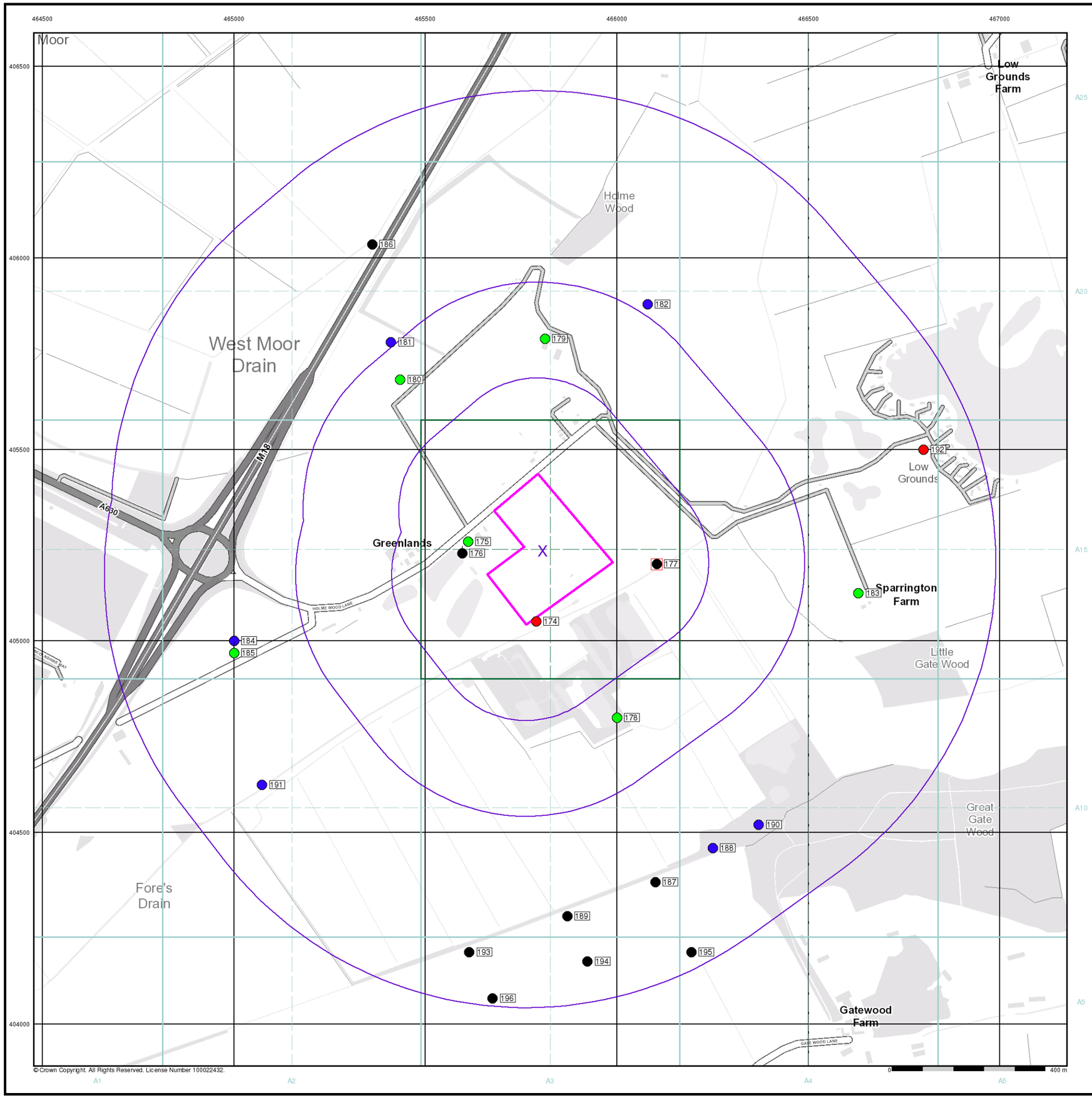


General

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

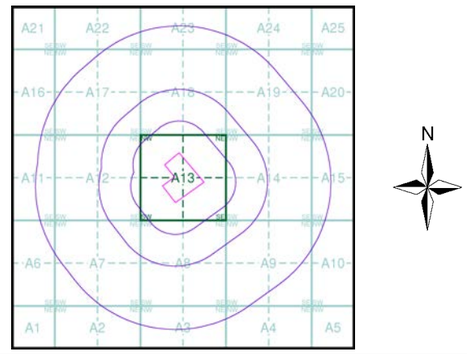
Agency and Hydrological (Boreholes)

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

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

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

Borehole Map - Slice A



Order Details

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	1000

Site Details

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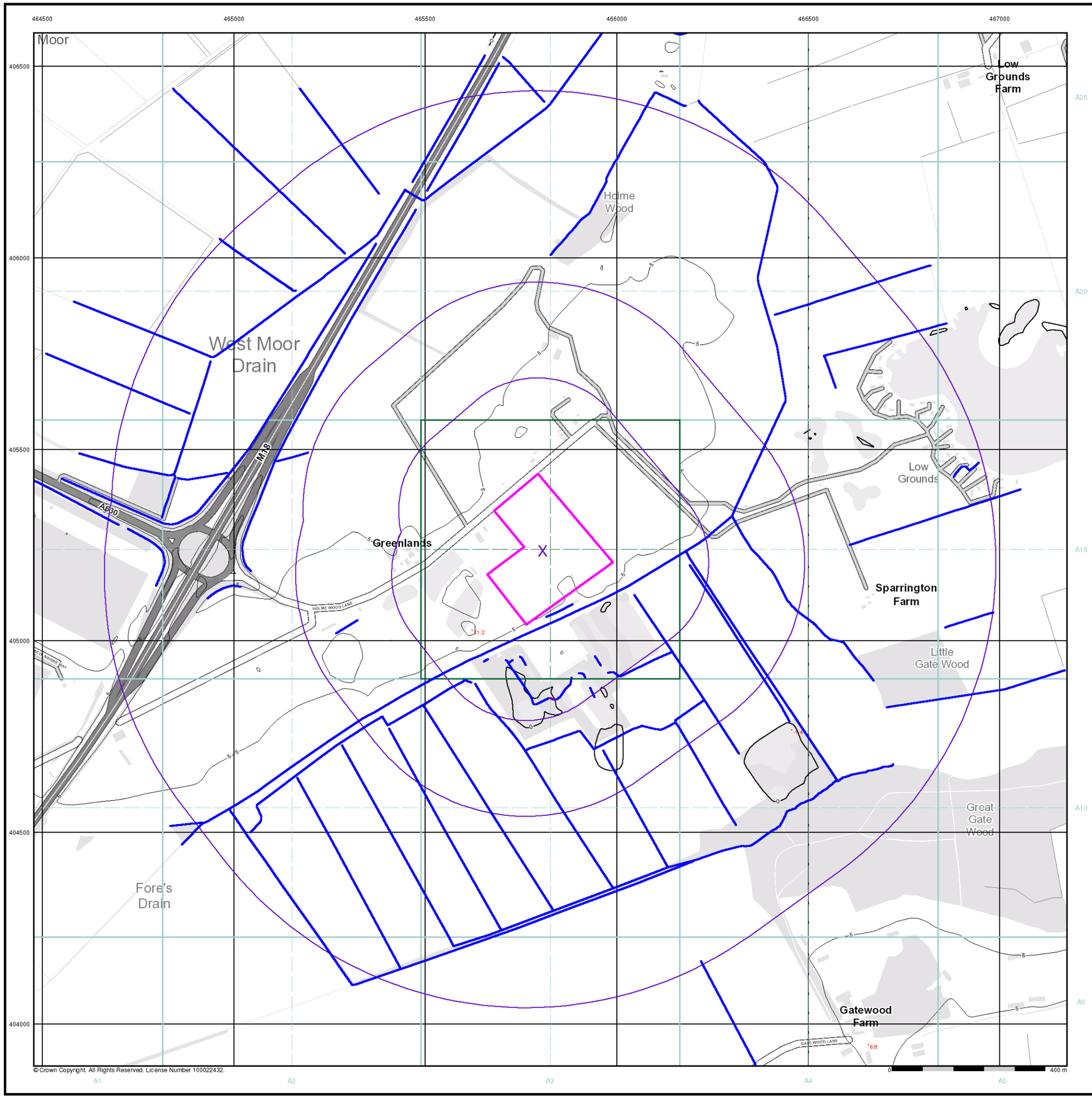


sirius

General

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

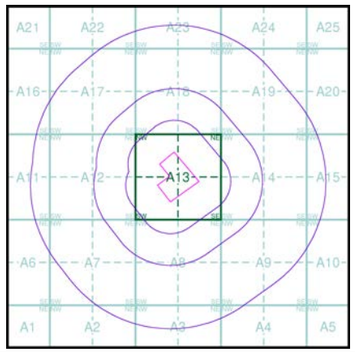
OS Water Network Data

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

Contours (height in meters)

- Standard Contour (105, 100, 95)
- Master Contour
- Spot Height 167.3
- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



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Site Details

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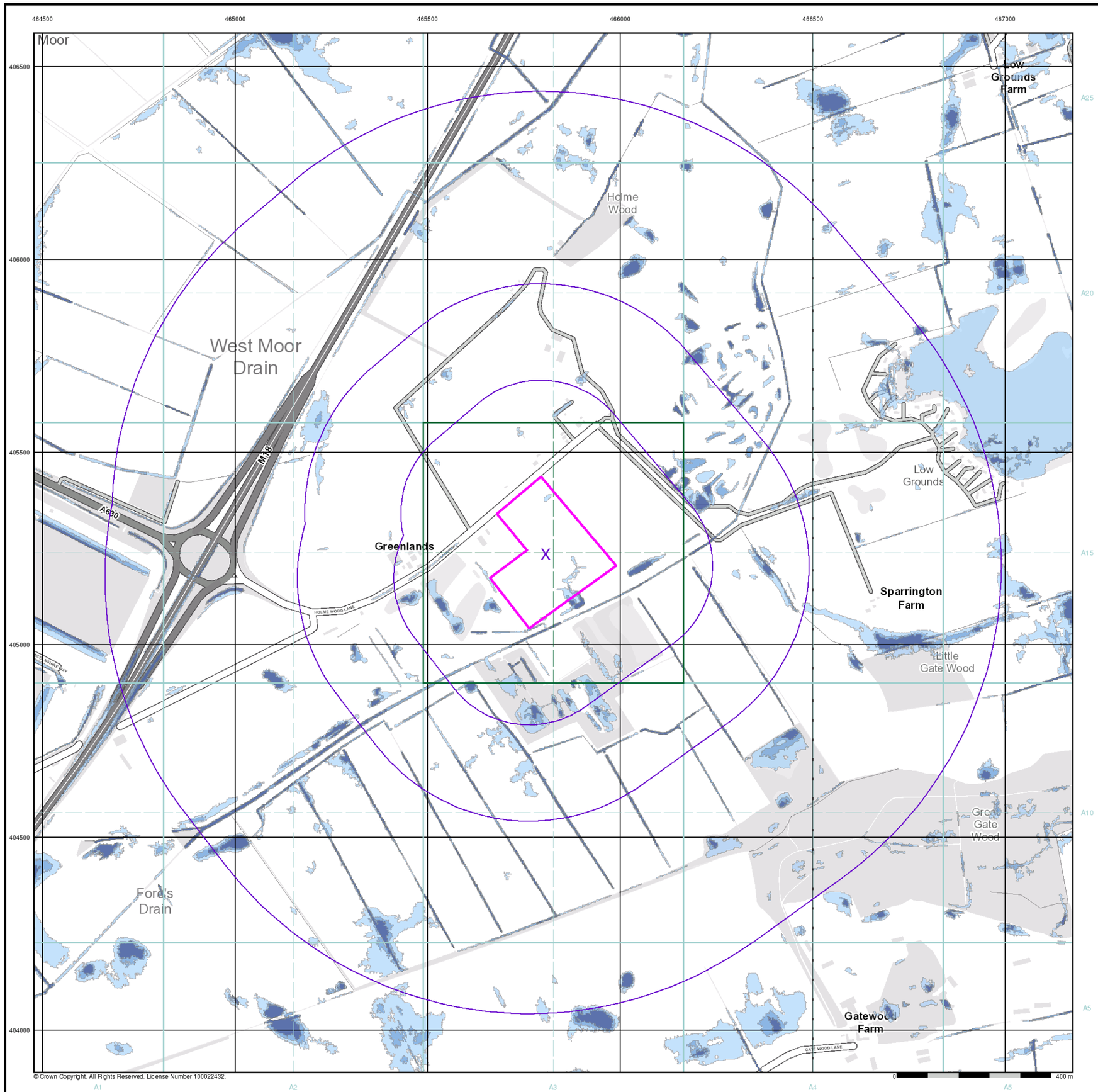


General

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

Risk of Flooding from Surface Water

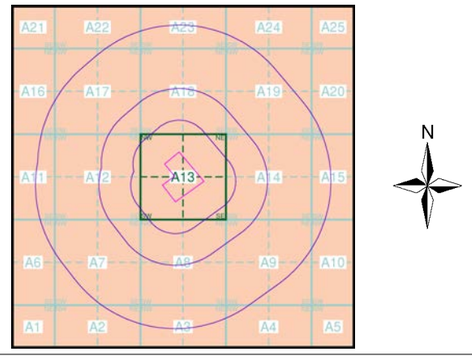
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

EA/NRW Suitability Map - Slice A



Order Details

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Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
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Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

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

General

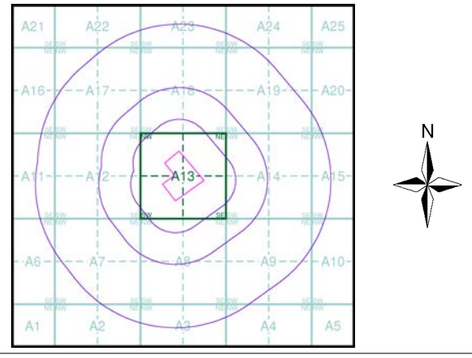
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

- < 15
- 15 - 25
- 25 - 35
- 35 - 45
- 45 - 60
- 60 - 120
- > 120

Estimated Soil Chemistry Arsenic - Slice A



Order Details

Order Details:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
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Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

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

General

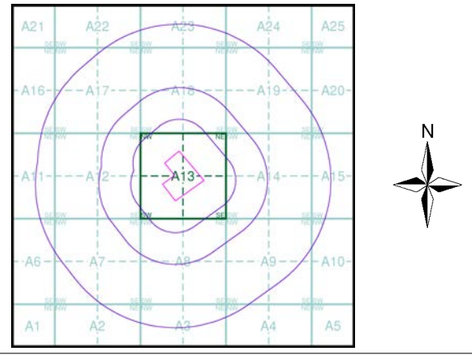
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg

- < 1.8
- 1.8 - 2.2
- 2.2 - 3.0
- > 3.0

Estimated Soil Chemistry Cadmium - Slice A



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National Grid Reference:	465810, 405240
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Site Details

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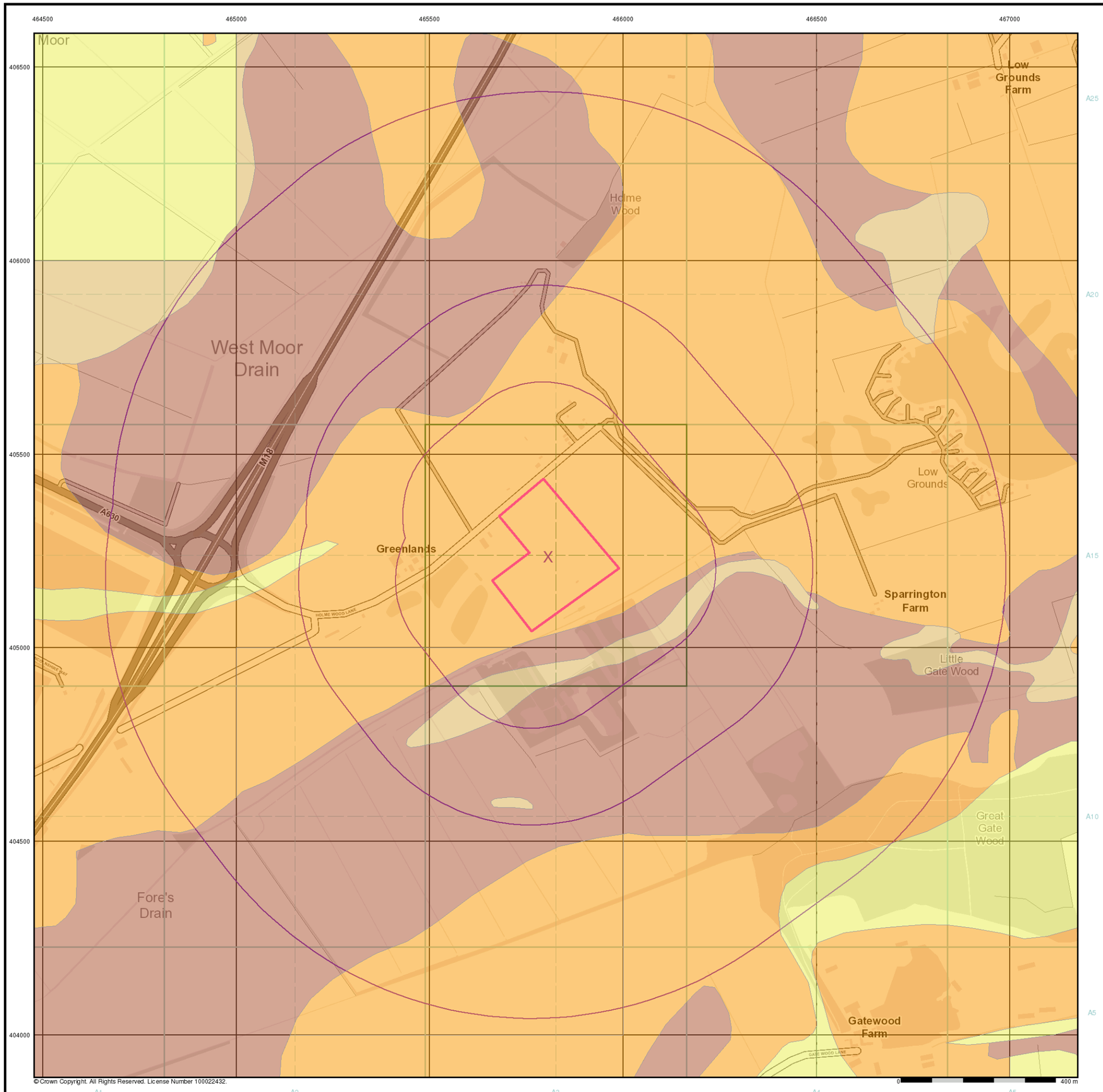


General

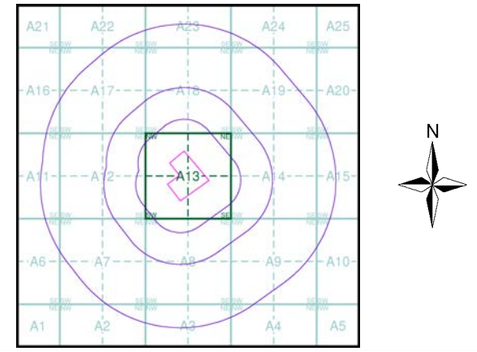
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Estimated Soil Chemistry Chromium - Slice A



Order Details

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National Grid Reference:	465810, 405240
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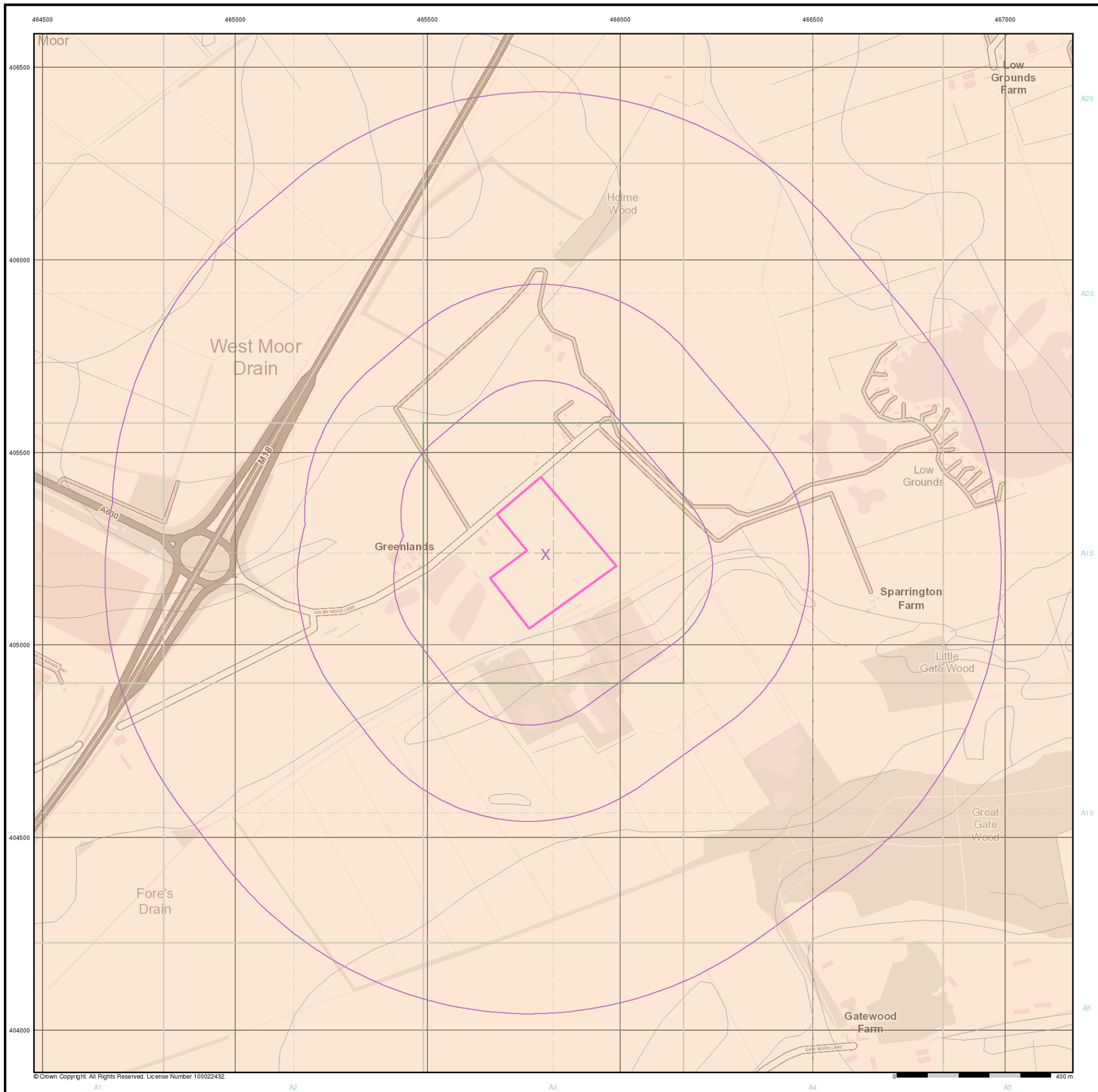


General

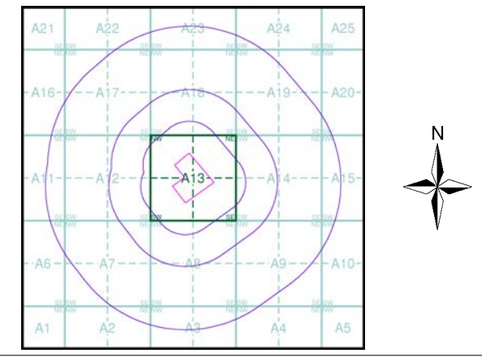
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg

- <100 mg/kg
- 100 - 200
- 200 - 300
- 300 - 600
- 600 - 1200
- >1200

Estimated Soil Chemistry Lead - Slice A



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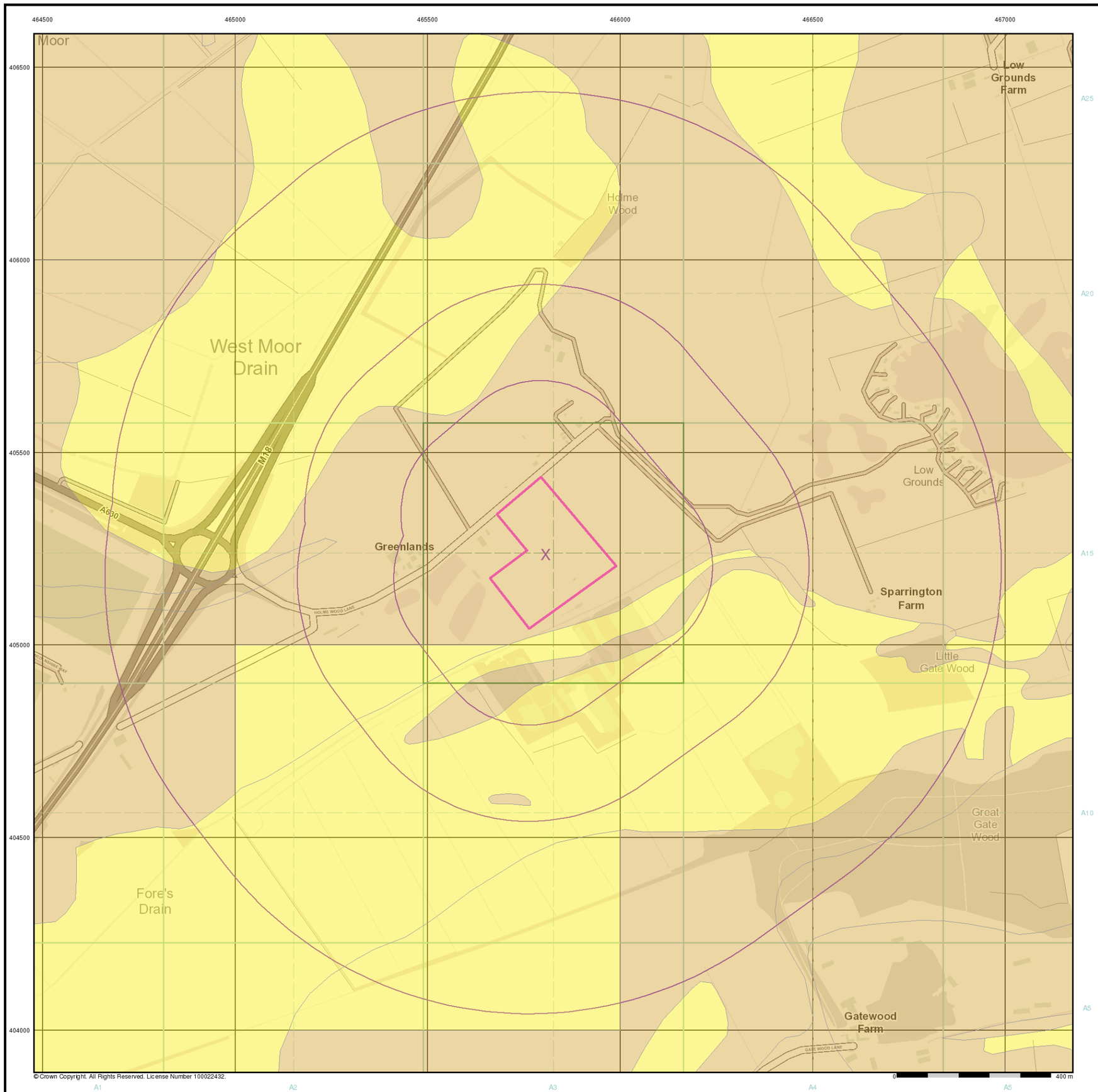


General

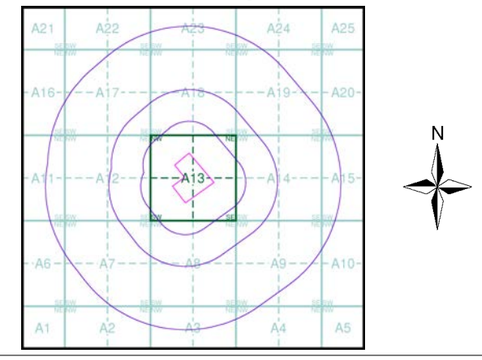
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Estimated Soil Chemistry Nickel - Slice A



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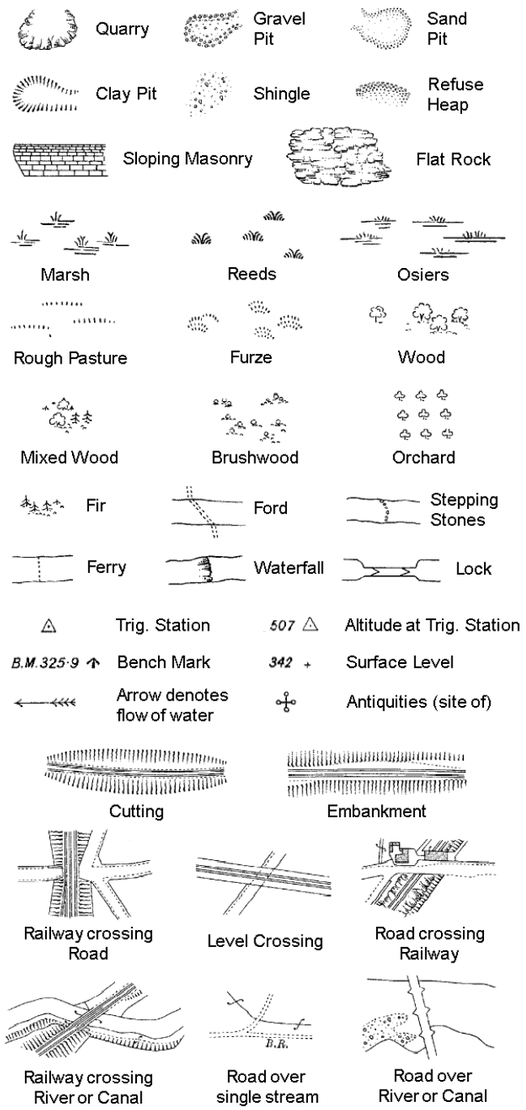
Historical Mapping Legends

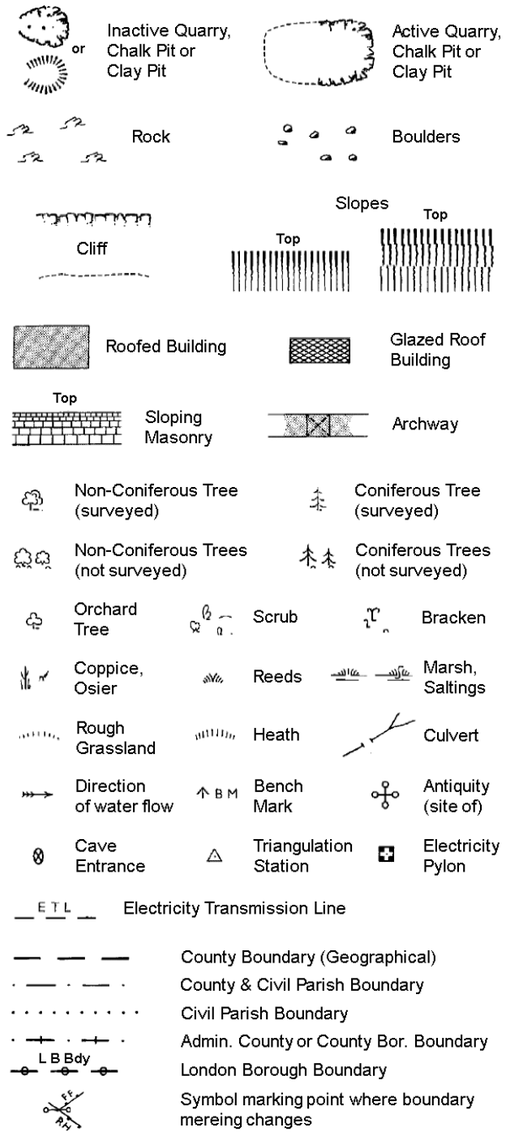
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)

B P B S	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	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

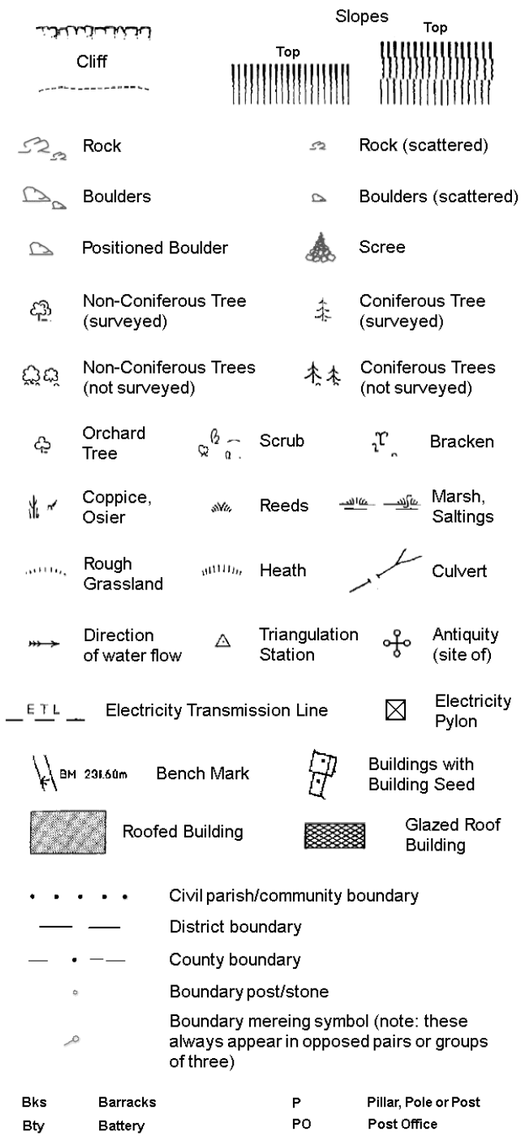
Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
L B Bdy 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
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

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



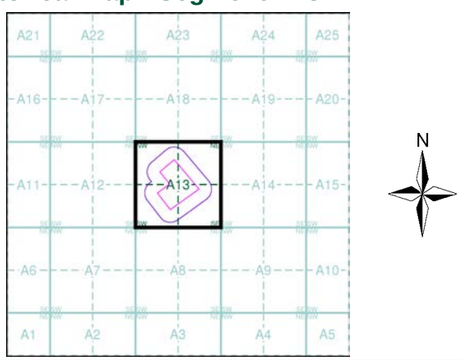
Civil parish/community boundary
District boundary
County boundary
Boundary post/stone
Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)

Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El 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 Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:2,500	1891 - 1892	2
Yorkshire	1:2,500	1906	3
Yorkshire	1:2,500	1930	4
Ordnance Survey Plan	1:2,500	1961 - 1963	5
Additional SIMs	1:2,500	1978 - 1984	6
Additional SIMs	1:2,500	1980	7
Ordnance Survey Plan	1:2,500	1986 - 1991	8
Large-Scale National Grid Data	1:2,500	1993	9
Historical Aerial Photography	1:2,500	1999	10

Historical Map - Segment A13



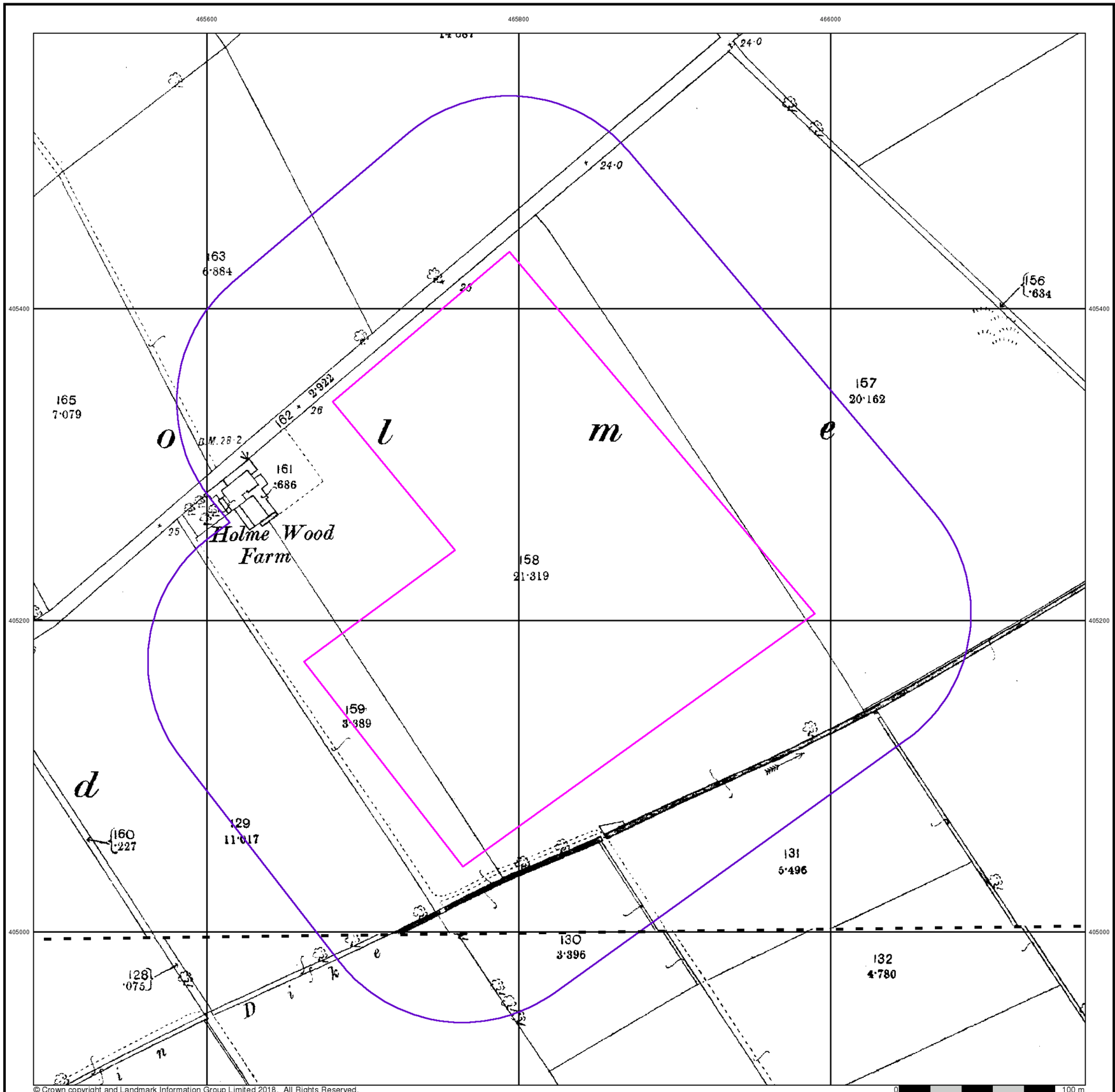
Order Details

Order Number: 167671922_1_1
Customer Ref: Yorkshire Aggregates Ltd
National Grid Reference: 465810, 405240
Slice: A
Site Area (Ha): 6.54
Search Buffer (m): 100

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

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



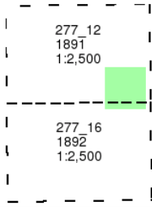
Yorkshire

Published 1891 - 1892

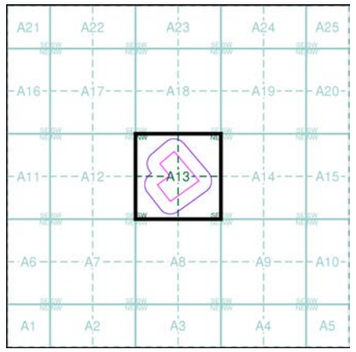
Source map scale - 1:2,500

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

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
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Slice:	A
Site Area (Ha):	6.54
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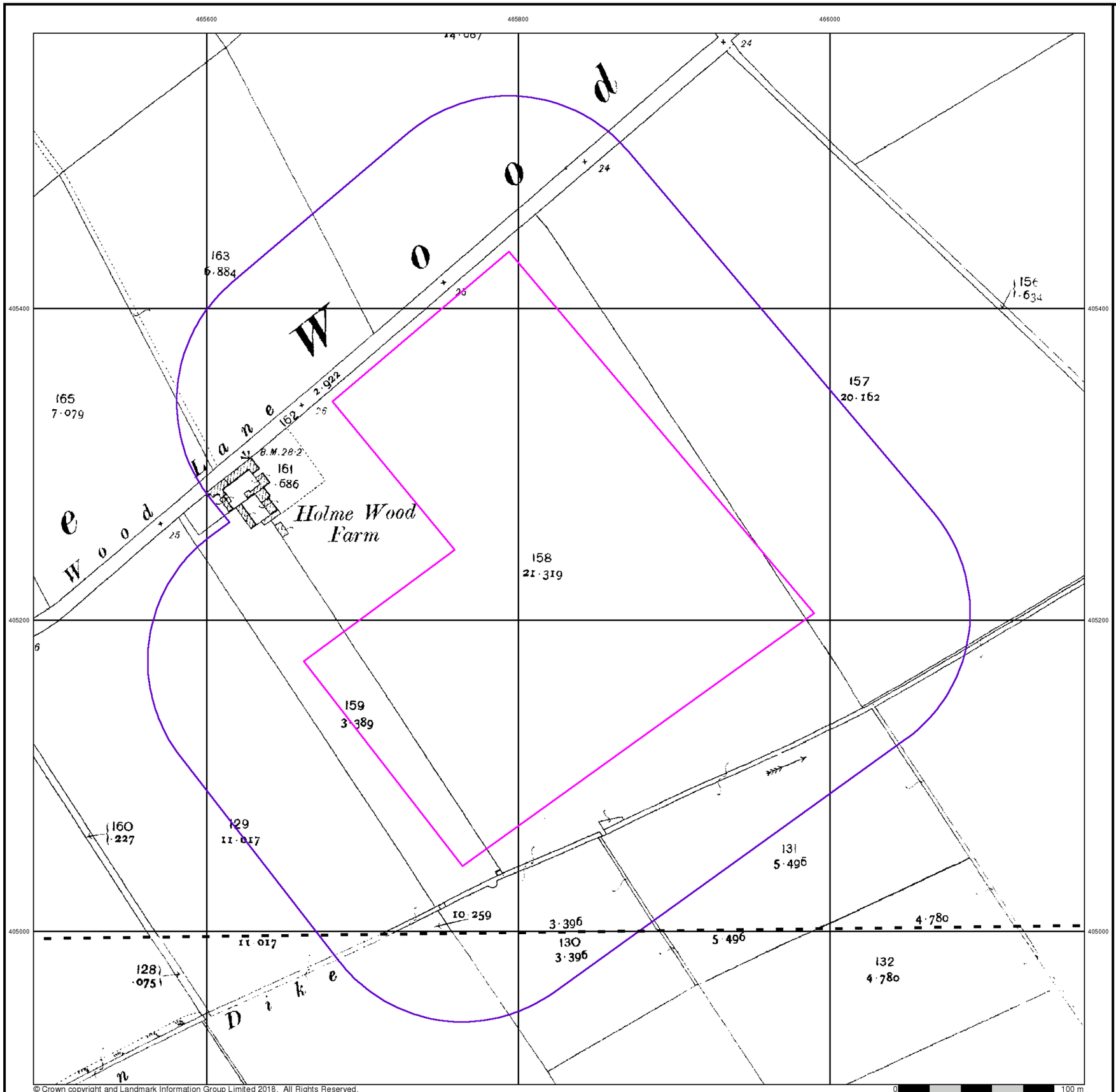


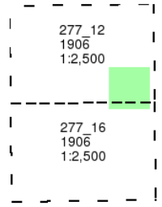
Yorkshire

Published 1906

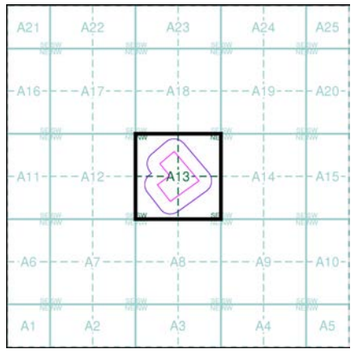
Source map scale - 1:2,500

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

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	100

Site Details

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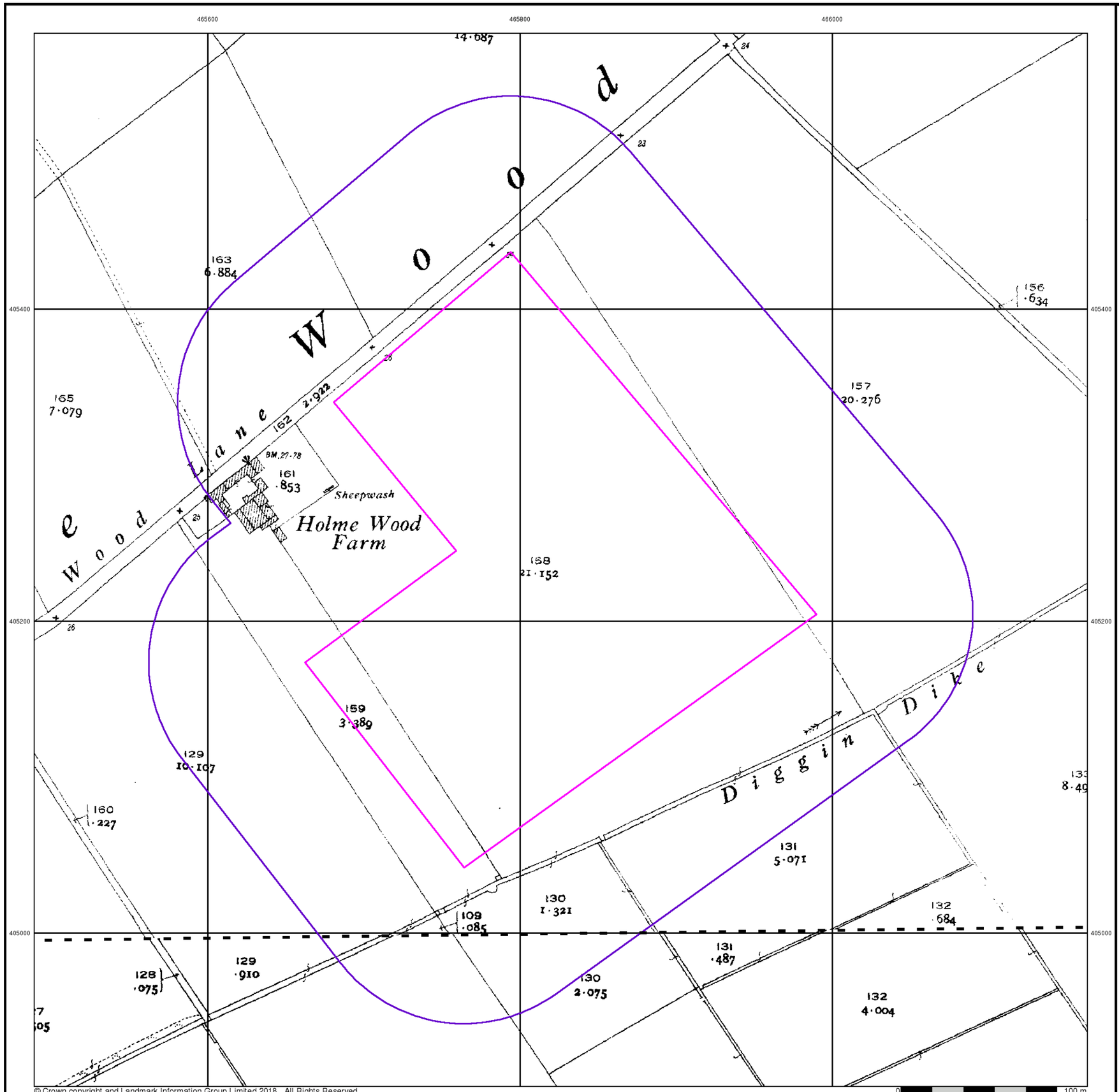


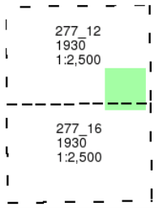
Yorkshire

Published 1930

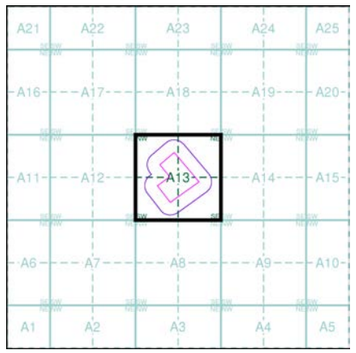
Source map scale - 1:2,500

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 A13



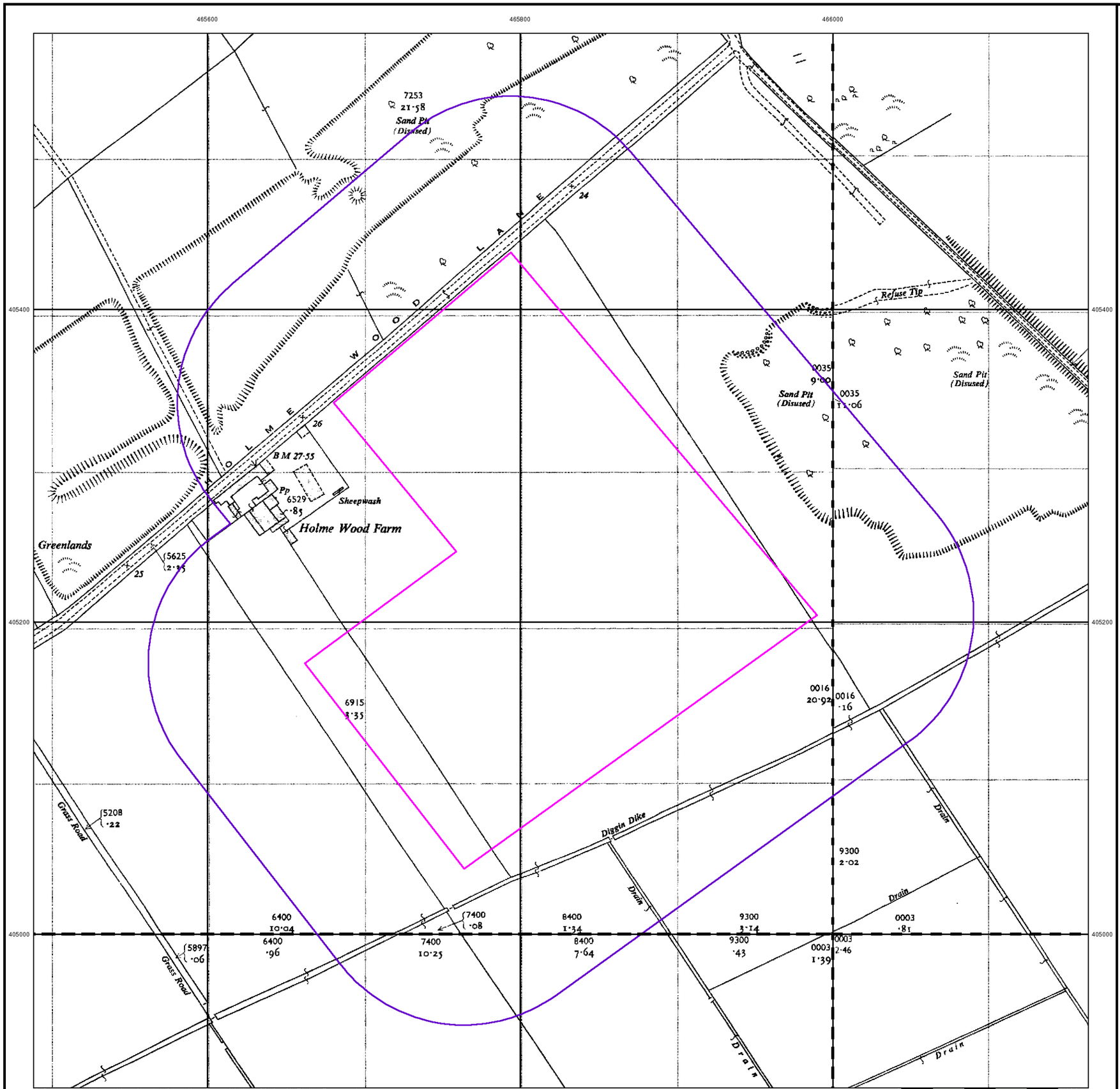
Order Details

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	100

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

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



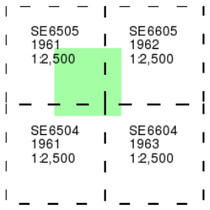
Ordnance Survey Plan

Published 1961 - 1963

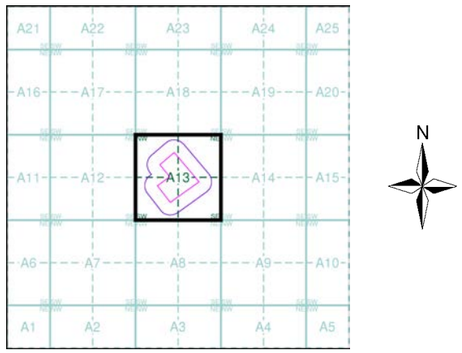
Source map scale - 1:2,500

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:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	100

Site Details

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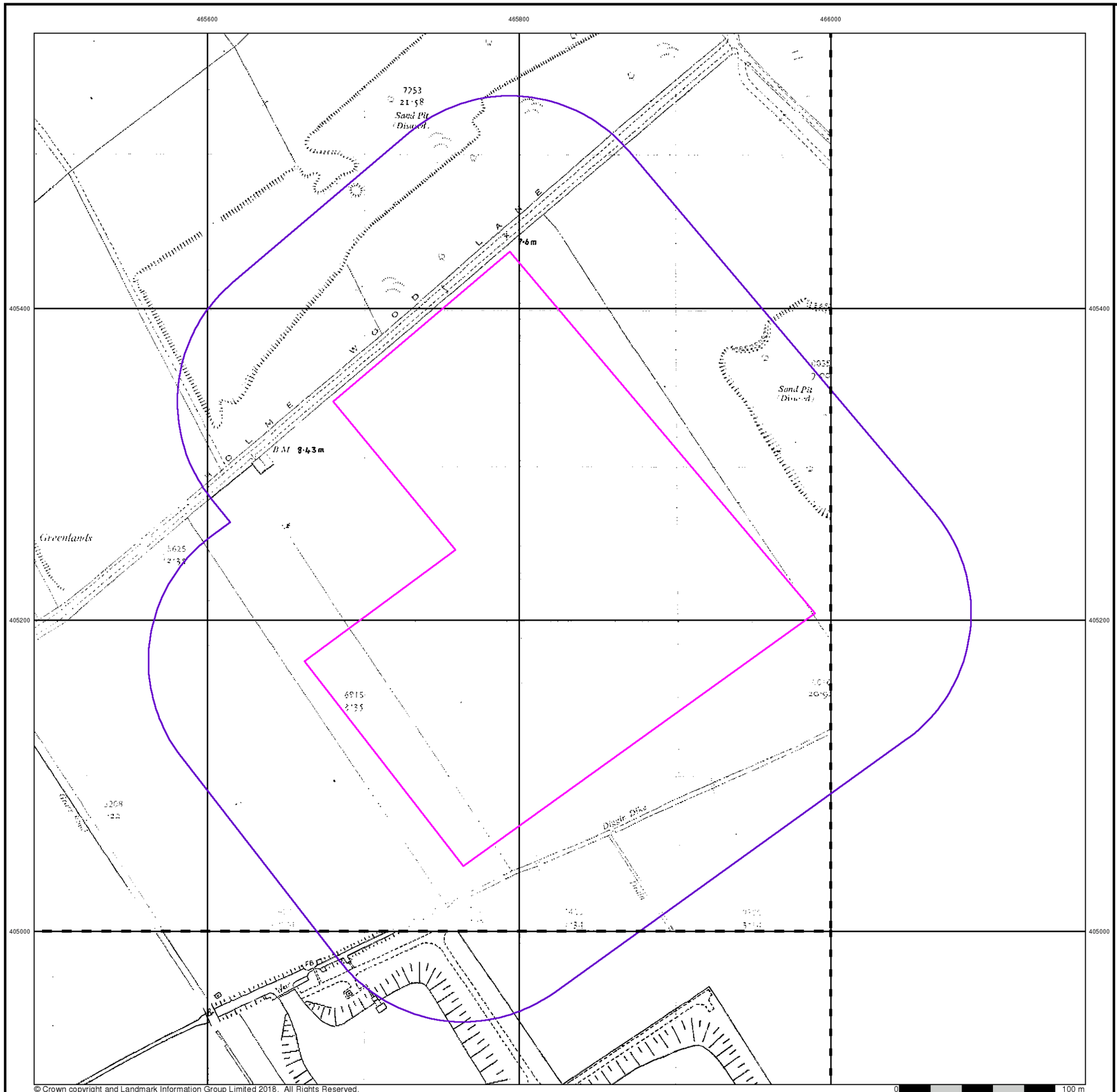


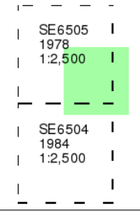
Additional SIMs

Published 1978 - 1984

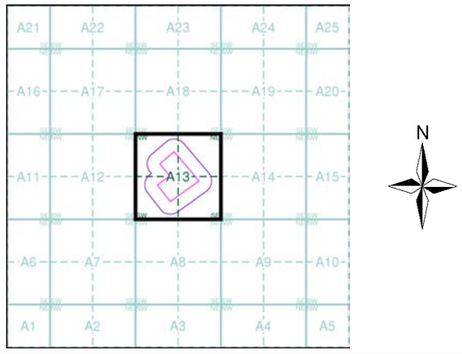
Source map scale - 1:2,500

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

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	100

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

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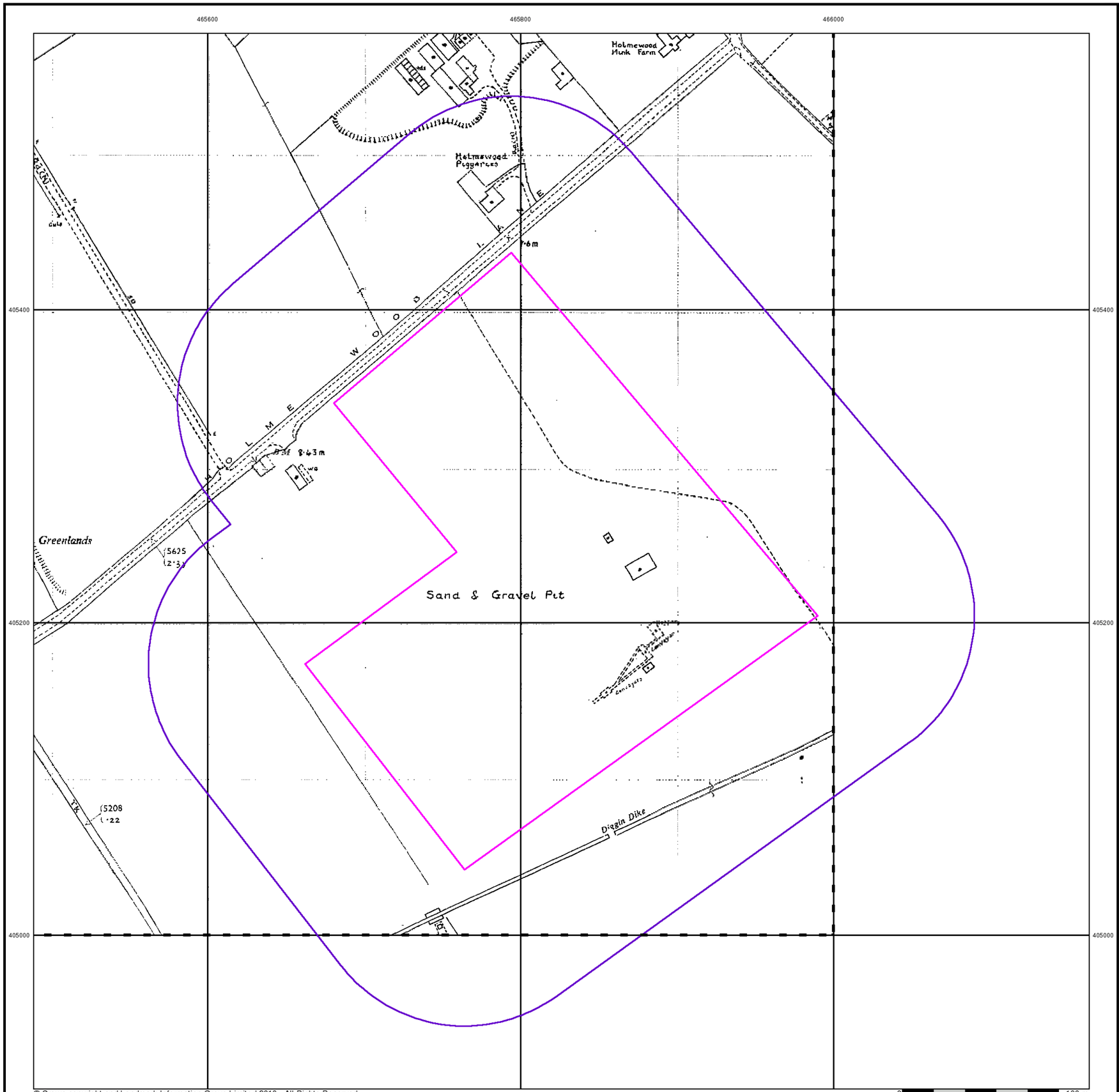


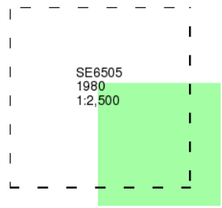
Additional SIMs

Published 1980

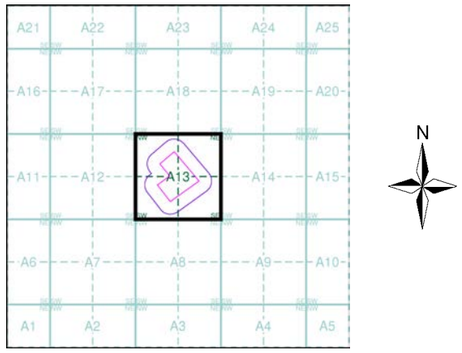
Source map scale - 1:2,500

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

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	100

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

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Tel: 0844 844 9952
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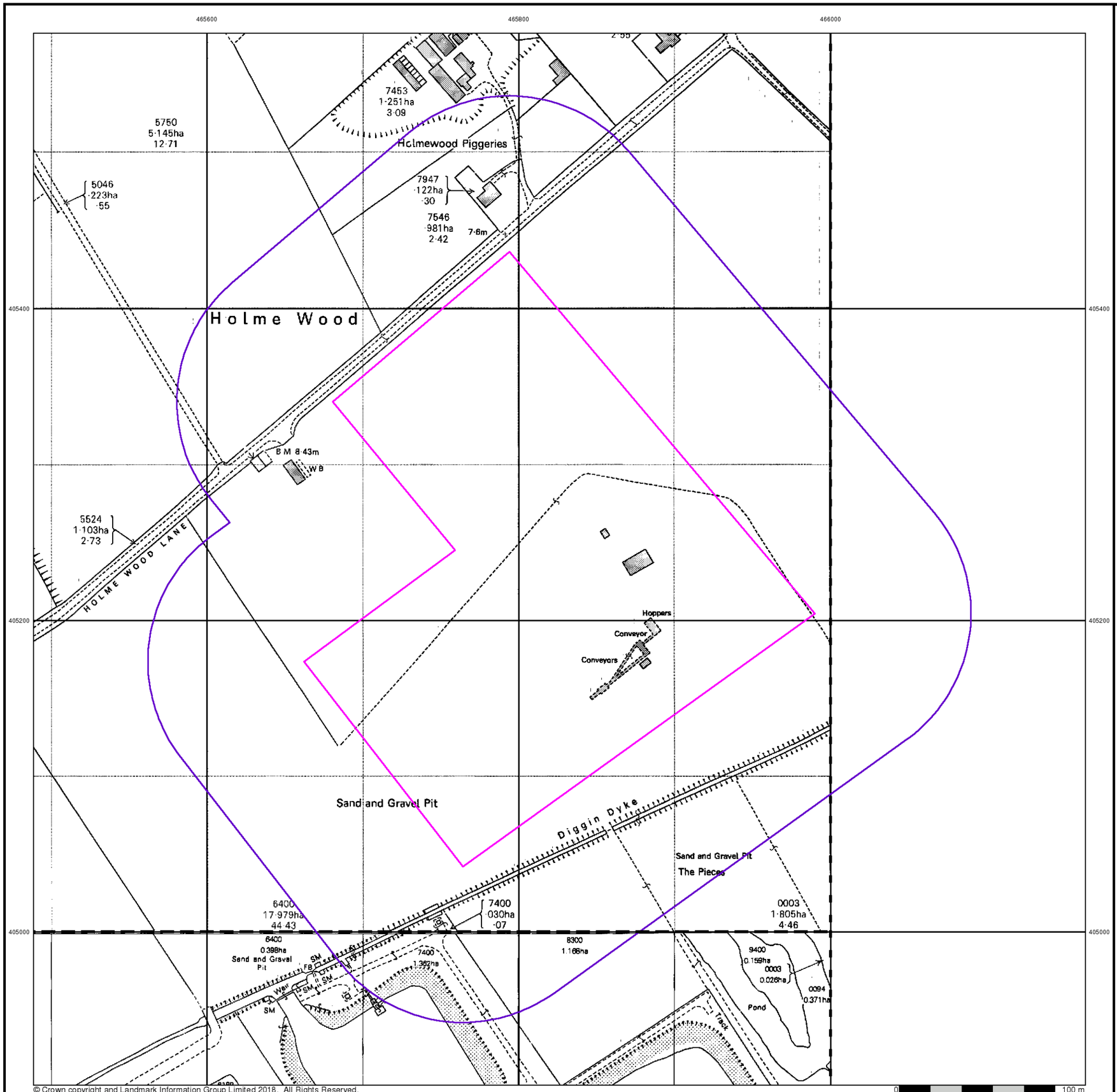


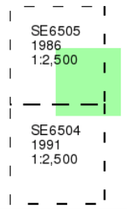
Ordnance Survey Plan

Published 1986 - 1991

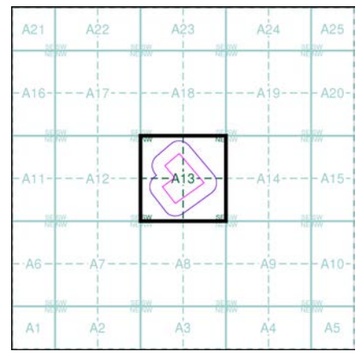
Source map scale - 1:2,500

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:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	100

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

Landmark INFORMATION GROUP
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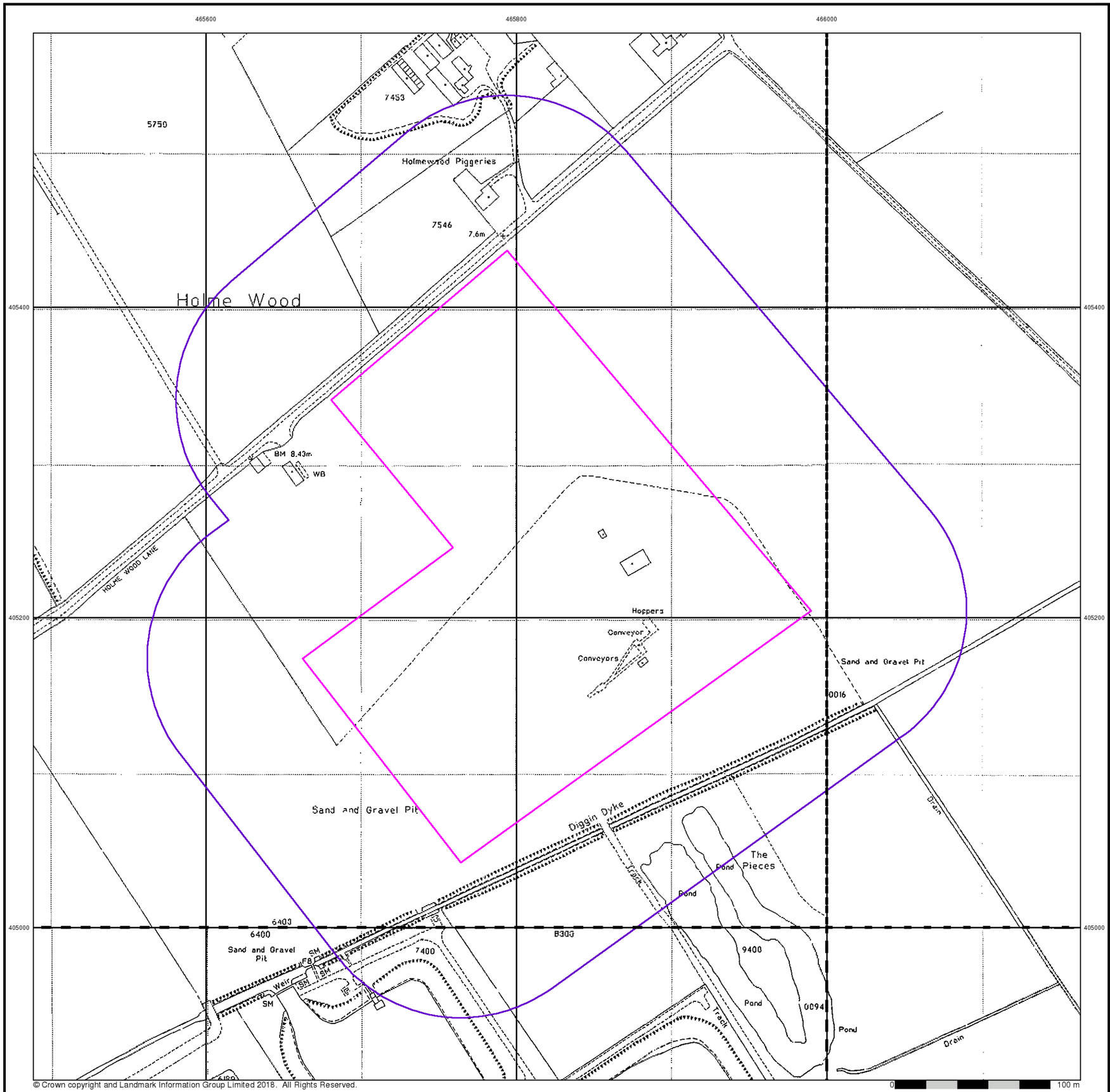
Web: www.envirocheck.co.uk



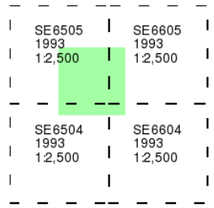
Large-Scale National Grid Data

Published 1993

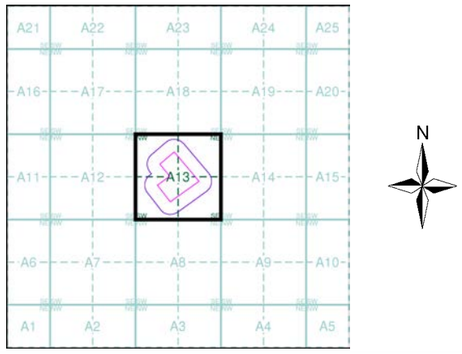
Source map scale - 1:2,500

'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:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	100

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

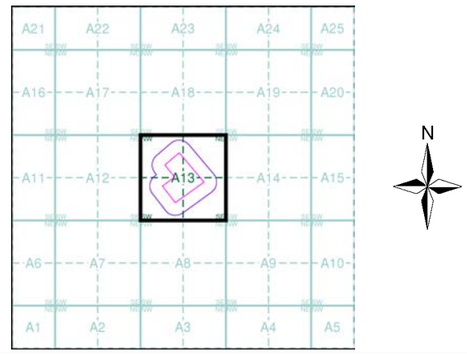
Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Historical Aerial Photography

Published 1999

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405240
Slice:	A
Site Area (Ha):	6.54
Search Buffer (m):	100

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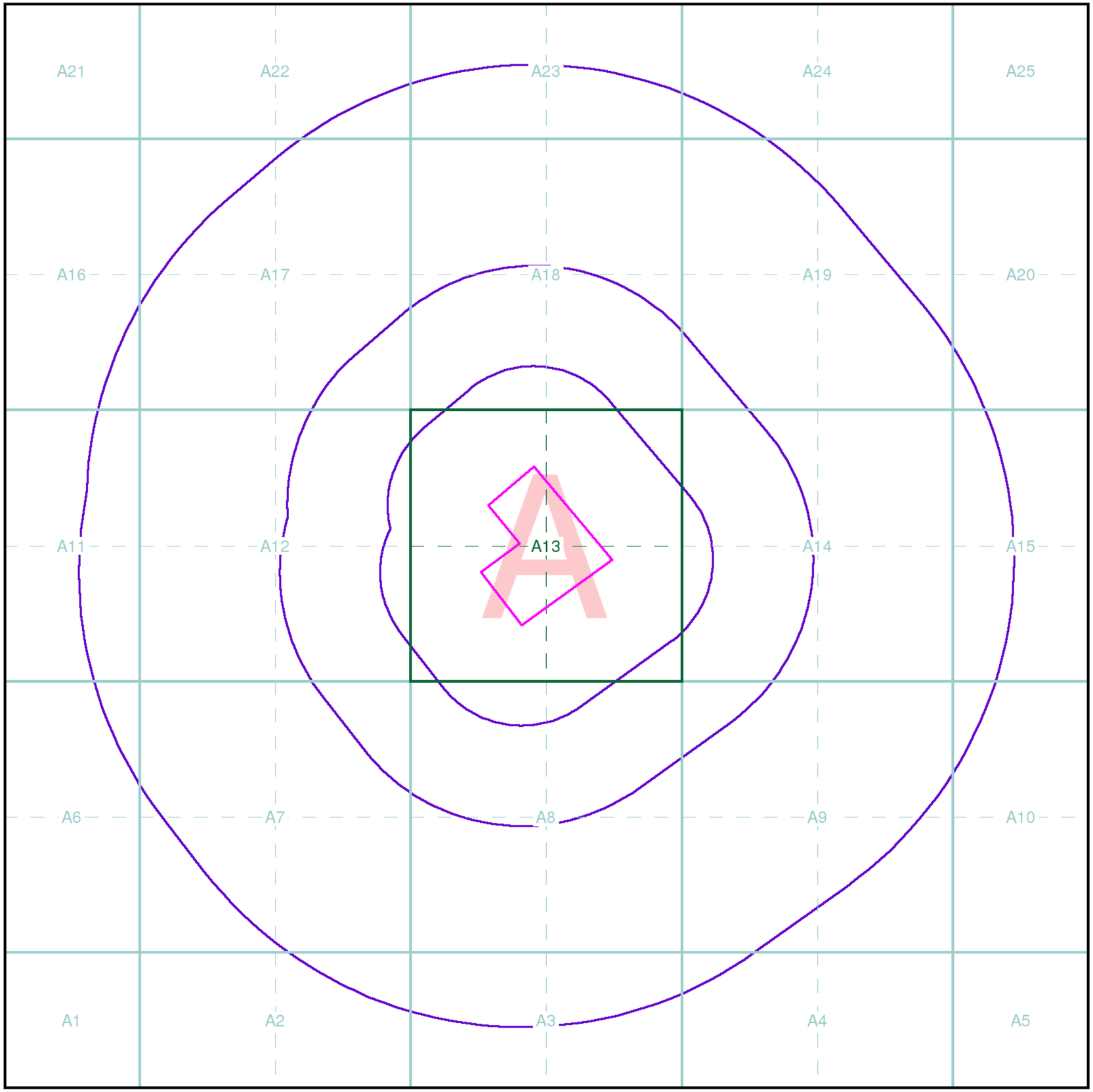

Index Map

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

S Howson, Sirius Geotechnical Ltd, 4245 Park Approach, Thorpe Park, Leeds, LS15 8GB

Order Details

Order Number:	167671922_1_1
Customer Ref:	Yorkshire Aggregates Ltd
National Grid Reference:	465810, 405230
Site Area (Ha):	6.54
Search Buffer (m):	1000

Site Details

Yorkshire Aggregates Ltd, Holme Wood Lane, Armthorpe, DONCASTER, DN3 3EJ

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

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

INDICATIVE RAW MATERIALS LIST

Non-Waste

Material Type	Proposed Usage	Storage
Cem 1	General Purpose Cement for use as additive in the production of cold mix asphalt	Sealed Powder Silo
PFA	Pulverised Fuel Ash for use as additive in the production of cold mix asphalt	Covered Legioblock bay
Fuel Oil*	Mobile Plant / Generator	Bunded Tank with 110% capacity bund within site infrastructure area
Lubricating Oils and Greases*	Mobile and Static Plant	Lockable Container with integral drip tray upon concrete hardstanding within site stores
Spill Granules*	Hydrocarbon spill response	Dedicated Storage area upon concrete hardstanding within site stores

Waste

Material Type	Proposed Usage	Storage
Road base and road planings containing coal tar	Crushing and Screening of materials and stocking into constituent parts for re-use in Cold Recycled Bound Material (CRBM)	Incoming tar bound material is stocked in unprocessed stockpile awaiting treatment. Once treated, stored in clearly marked stockpiles. All storage undertaken on concrete surfacing with sealed drainage to an isolation tank
Road base and road planings not containing coal tar	Crushing and Screening of materials and stocking into constituent parts for re-use in CRBM	Incoming clean material is stored in dedicated stockpile awaiting treatment. Once treated, stored in clearly marked 'clean' stockpiles. All storage undertaken on

Material Type	Proposed Usage	Storage
		concrete surfacing with sealed drainage to an isolation tank

* Information on specific EWC Codes is included within **Appendix 3**

Uniclass L621
/ CI/SfB / / Yq2 / /
June 2015

SAFETY INFORMATION

EN 197-1 COMMON CEMENTS

Health and Safety Information In accordance with Regulation (EC) No 1907/2006 (REACH) as amended by Regulation (EU) No 453/2010

SECTION 1: IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY

1.1 Product identifier			
Product Name	EN 197-1 Common cements		
Substance	EINECS	CAS	
Portland cement clinker	266-043-4	65997-15-1	
Trade Name(s)	PCRM PCCP PC Ferrocrete Snowcrete Microcem	Phoenix Eco- Phoenix PLC Cemergi	Procem Mastercrete General Purpose Sulfacrete

1.2. Relevant identified uses of the mixture and uses advised against

Common cements are used in industrial installations to manufacture/formulate hydraulic binders for building and construction work, such as ready-mixed concrete, mortars, renders and grouts, as well as precast concrete. Common cements and cement containing mixtures (hydraulic binders) are used industrially, by professionals as well as by consumers in building and construction work, indoor and outdoor. The identified uses of cements and cement containing mixtures cover the dry products and the products in a wet suspension (paste). See section 16.2 for more information regarding use descriptors and categories.

Any uses not mentioned above, are advised against.

1.3 Details of the supplier of the safety data sheet

Tarmac Cement and Lime Ltd,
Portland House, Bickenhill Lane,
Birmingham B37 7BQ
Technical helpdesk: 0845 812 6232
Email: info-cement@tarmac.com

1.4 Emergency telephone

Emergency telephone number available during office hours
(08:30 – 16:00): Tel +44 (0)845 812 6232
(English Language only)
Emergency telephone number available outside office hours: None

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the mixture

2.1.1 According to Regulation (EC) No 1272/2008 (CLP)		
Hazard class	**Hazard category**	**Hazard statements**
Skin irritation	2	H315: Causes skin irritation
Serious eye damage/eye irritation	1	H318: Causes serious eye damage
Skin sensitisation	1	H317: May cause an allergic skin reaction
Specific target organ toxicity single exposure respiratory tract irritation	3	H335: May cause respiratory irritation

2.1.2 According to Directive 1999/45/EC

Xi Irritant

R37/38 Irritating to respiratory system and skin
R41 Risk of serious damage to eyes
R43 May cause sensitisation by skin contact

2.2 Label elements

According to Regulation (EC) No 1272/2008 (CLP)

Hazard pictograms

Signal word

Danger

Contains Portland cement clinker.

Hazard statements

H318 Causes serious eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

Precautionary statements

P102 Keep out of reach of children.
P280 Wear protective gloves/protective clothing/ eye protection/face protection.
P305+P351+P338+P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor/physician
P302+P352+P333+P313: IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention
P261+P304+P340+P312: Avoid breathing dust/fume/ gas/mist/vapours/spray. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a doctor/physician if you feel unwell.
P501 Dispose of contents/container to: Harden by application of water and dispose of as concrete waste

Supplemental information

Skin contact with wet cement, fresh concrete or mortar may cause irritation, dermatitis or burns. May cause damage to products made of aluminium or other non-noble metals

2.3. Other hazards

Cement does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH (Regulation (EC) No 1907/2006). When cement reacts with water, for instance when making concrete or mortar, or when the cement becomes damp, a strong alkaline solution is produced.

Due to the high alkalinity, wet cement may provoke skin and eye irritation. Cement is either naturally low in soluble chromium VI or reducing agents have been added to control the levels of sensitising soluble chromium (VI) to below 2 ppm (0.0002%) of the total dry weight of the cement ready for use according to legislation specified under Section 15.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixtures

Contains less than 1% crystalline silica

Information on ingredients								
Substance	**Concentration range (%by wt in cement)**	**Regist-ration No**	**EINECS**	**CAS**	**Classification 67/548/EEC**		**Classification Regulation (EC) 1272/2008**	
					Symb [C&L]	R	Hazard Class Category	Hazard Statement
Portland cement clinker	5-100%		266-043-4	65997-15-1	X_i	R37 R38 R41 R43	Skin Irritation cat 2. Serious eye damage/eye irritation cat 1. Skin sensitisation cat 1. STOT SE respiratory tract irritation cat 3.	H315: Causes skin irritation H318: Causes serious eye damage H317: May cause an allergic skin reaction H335: May cause respiratory irritation

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General notes

No personal protective equipment is needed for first aid responders. First aid workers should avoid contact with wet cement or mixtures containing wet cement.

Following contact with eyes

Do not rub eyes in order to avoid possible cornea damage as a result of mechanical stress. Incline head to injured eye, open the eyelid(s) widely and flush eye(s) immediately by thoroughly rinsing with plenty of clean water for at least 20 minutes to remove all particles. Remove contact lenses, if present and easy to do. Continue rinsing. Avoid flushing particles into uninjured eye. If possible, use isotonic water (0.9% NaCl). Contact a specialist of occupational medicine or an eye specialist, preferably an ophthalmologist.

Following skin contact

For dry cement, remove and rinse abundantly with water. For wet cement, wash skin with plenty of water. Remove contaminated clothing, footwear, watches, etc. and clean thoroughly before re-using them. Seek medical treatment in all cases of skin irritation (redness, rash, blistering) or burns.

Following inhalation

Move the person to fresh air and keep at rest in a position comfortable for breathing. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops or if discomfort, coughing or other symptoms persist.

Following ingestion

Do not induce vomiting. If the person is conscious, wash out mouth with water and give plenty of water to drink. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Eyes: Eye contact with cement (dry or wet) may cause serious and potentially irreversible injuries.

Skin: Cement may have an irritating effect on moist skin (due to sweat or humidity) after prolonged contact or may cause contact dermatitis after repeated contact. Prolonged skin contact with wet cement or wet concrete may cause serious burns because they develop without pain being felt (for example when kneeling in wet concrete even when wearing trousers). For more details see Reference (1).

Inhalation: May cause respiratory irritation. Repeated inhalation of dust of Common cements over a long period of time increases the risk of developing lung diseases.

Medical conditions aggravated by exposure: Inhaling cement dust may aggravate existing respiratory system disease(s) and/or medical conditions such as emphysema or asthma and/or existing skin and/or eye conditions.

4.3. Indication of any immediate medical attention and special treatment needed

When contacting a doctor/physician, take this SDS or the product label with you. IF IN EYES: Contact a specialist of occupational medicine or an eye specialist, preferably an ophthalmologist.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Common cements are not flammable. As appropriate for surrounding fire. Direct water jet may spread the fire.

5.2. Special hazards arising from the substance or mixture

Common cements are non-combustible and non-explosive and will not facilitate or sustain the combustion of other materials.

5.3. Advice for fire-fighters

Common cement poses no fire-related hazards. General measures for a fire are applicable: Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Wear protective equipment as described under Section 8 and follow the advice for safe handling and use given under Section 7.

6.1.2 For emergency responders

Emergency procedures are not required.However, respiratory protection is needed in situations with high dust levels.

6.2. Environmental precautions

Do not wash cement down sewage and drainage systems or into bodies of water (e.g. streams).

6.3. Methods and material for containment and cleaning up

Collect the spillage in a dry state if possible.

Dry cement

Use cleanup methods such as vacuum clean-up or vacuum extraction (Industrial portable units, equipped with high efficiency air filters (EPA and HEPA filters, EN 1822-1:2009) or equivalent technique) which do not cause airborne dispersion. Never use compressed air. Alternatively, wipe-up the dust by mopping, wet brushing or by using water sprays or hoses (fine mist to avoid that the dust becomes airborne) and remove slurry. If not possible, remove by slurrying with water (see wet cement). When wet cleaning or vacuum cleaning is not possible and only dry cleaning with brushes can be done, ensure that the workers wear the appropriate personal protective equipment and prevent dust from spreading. Avoid inhalation of cement and contact with skin. Place spilled materials into a container. Solidify before disposal as described under Section 13.

Wet cement

Clean up wet cement and place in a container. Allow material to dry and solidify before disposal as described under Section 13.

6.4. Reference to other sections

See sections 8 and 13 for more details.

SECTION 7: HANDLING AND STORAGE

Do not handle or store near food and beverages or smoking materials.

7.1. Precautions for safe handling

The “Good practice guides” which contain advice on safe handling practices can be found from: http://www.nepsi.eu/agreement-good-practice-guide/agreement.aspx. These good practices have been adopted under the Social Dialogue “Agreement on Workers’ Health Protection through the Good Handling and Use of Crystalline Silica and Products Containing it by Employee and Employer European sectoral associations, among which CEMBUREAU.

7.1.1 Protective measures

Follow the recommendations as given under Section 8.
To clean up dry cement, see Subsection 6.3.

Measures to prevent fire

Not applicable.

Measures to prevent aerosol and dust generation

Do not sweep. Use dry cleanup methods such as vacuum clean-up or vacuum extraction, which do not cause airborne dispersion.

Measure to protect the environment

Avoid release to the environment. Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

7.1.2 Information on general occupational hygiene

Do not handle or store near food and beverages or smoking materials. In dusty environment, wear dust mask and protective goggles. Use protective gloves to avoid skin contact.

7.2. Conditions for safe storage, including any incompatibilities

Bulk cement should be stored in silos that are waterproof, dry (i.e. with internal condensation minimised), clean and protected from contamination. Engulfment hazard: To prevent engulfment or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains cement without taking the proper security measures. Cement can build-up or adhere to the walls of a confined space. The cement can release, collapse or fall unexpectedly. Packed

products should be stored in unopened bags clear of the ground in cool, dry conditions and protected from excessive draught in order to avoid degradation of quality. Bags should be stacked in a stable manner. Do not use aluminium containers for the storage or transport of wet cement containing mixtures due to incompatibility of the materials.

7.3. Specific end use(s)

No additional information for the specific end uses (see section 1.2).

7.4. Control of soluble Cr (VI)

For cements treated with a Cr (VI) reducing agent according to the regulations given in Section 15, the effectiveness of the reducing agent diminishes with time. Therefore, cement bags and/or delivery documents will contain information on the packaging date, the storage conditions and the storage period appropriate to maintaining the activity of the reducing agent and to keeping the content of soluble chromium VI below 0.0002 % of the total dry weight of the cement ready for use, according to EN 196-10. They will also indicate the appropriate storage conditions for maintaining the effectiveness of the reducing agent.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

8.1.1 Exposure limit values (Workplace Exposure Limits (WEL)

WEL 8 hr Time Weighted Average (TWA):

- Total inhalable dust 10 mg/m^3
- Respirable dust 4 mg/m^3

8.2. Exposure controls

8.2.1 Appropriate engineering controls

Measures to reduce generation of dust and to avoid dust propagating in the environment such as de-dusting, exhaust ventilation and dry clean-up methods which do not cause airborne dispersion.

8.2.2 Individual protection measures such as personal protection equipment

General

During work avoid kneeling in fresh mortar or concrete wherever possible. If kneeling is absolutely necessary then appropriate waterproof personal protective equipment must be worn. Do not eat, drink or smoke when working with cement to avoid contact with skin or mouth. Before starting to work with cement, apply a barrier cream and reapply it at regular intervals. Immediately after working with cement or cement-containing materials, workers should wash or shower or use skin moisturisers. Remove contaminated clothing, footwear, watches, etc. and clean thoroughly before re-using them.

Eye/face protection

Wear approved glasses or safety goggles according to EN 166 when handling dry or wet cement to prevent contact with eyes.

Skin protection

Use watertight, wear-and alkali-resistant protective gloves (eg nitrile soaked cotton gloves with CE marking) internally lined with cotton; boots; closed long-sleeved protective clothing as well as skin care products (eg barrier creams) to protect the skin from prolonged contact with wet cement. Particular care should be taken to ensure that wet cement does not enter the boots. For the gloves, respect the maximum wearing time to avoid skin problems. In some circumstances, such as when laying concrete or screed, waterproof trousers or kneepads are necessary.

Respiratory protection

When a person is potentially exposed to dust levels above exposure limits, use appropriate respiratory protection. The type of respiratory protection should be adapted to the dust level and conform to the relevant EN standard, (e.g. EN 149, EN 140, EN 14387, EN 1827) or national standard. An overview of the APFs of different RPE (according to EN 529:2005) can be found in the glossary of MEASE (16). Any RPE as defined above shall only be worn if the following principles are implemented in parallel: The duration of work (compare with “duration of exposure” above) should reflect the additional physiological stress for the worker due to the breathing resistance and mass of the RPE itself, due to the increased thermal stress by enclosing the head. In addition, it shall be considered that the worker’s capability of using tools and of communicating are reduced during the wearing of RPE. For reasons as given

above, the worker should therefore be (i) healthy (especially in view of medical problems that may affect the use of RPE), (ii) have suitable facial characteristics reducing leakages between face and mask (in view of scars and facial hair). The recommended devices above which rely on a tight face seal will not provide the required protection unless they fit the contours of the face properly and securely. The employer and self-employed persons have legal responsibilities for the maintenance and issue of respiratory protective devices and the management of their correct use in the workplace. Therefore, they should define and document a suitable policy for a respiratory protective device programme including training of the workers.

Thermal hazards
Not applicable.

8.2.3 Environmental exposure controls

Environmental exposure control for the emission of cement particles into air has to be in accordance with the available technology and regulations for the emission of general dust particles.

Air: Environmental exposure control for the emission of cement particles into air has to be in accordance with the available technology and regulations for the emission of general dust particles.

Water: Do not wash cement into sewage systems or into bodies of water, to avoid high pH. Above pH 9 negative ecotoxicological impacts are possible.

Soil and terrestrial environment: No special emission control measures are necessary for the exposure to the terrestrial environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

This information applies to the whole mixture.

(a) Appearance: Dry cement is a finely ground solid inorganic material (grey or white powder). Main particle size: 5-30 µm

(b) Odour: Odourless

(c) Odour threshold: No odour threshold, odourless

(d) pH: (T = 20°C in water, water-solid ratio 1:2): 11-13.5

(e) Melting point: > 1 250 °C

(f) Initial boiling point and boiling range: Not applicableas under normal atmospheric conditions, melting point >1 250°C

(g) Flash point: Not applicable as is not a liquid

(h) Evaporation rate: Not applicable as is not a liquid

(i) Flammability (solid, gas): Non-combustible solid which does not cause or contribute to fire through friction

(j) Upper/lower flammability or explosive limits: Not applicable as is not a flammable gas

(k) Vapour pressure: Not applicable as melting point > 1250 °C

(l) Vapour density: Not applicable as melting point > 1250 °C

(m) Relative density: 2.75-3.20; Apparent density: 0.9-1.5 g/cm^3

(n) Solubility(ies) in water (T = 20 °C): slight (0.1-1.5g/l)

(o) Partition coefficient: n-octanol/water: Not applicable as product is an inorganic mixture

(p) Auto-ignition temperature: Not applicable (no pyrophoricity – no organo-metallic, organo-metalloid or organo-phosphine bindings or of their derivatives, and no other pyrophoric constituent in the composition)

(q) Decomposition temperature: Not applicable as no organic peroxide present

(r) Viscosity: Not applicable as not a liquid

(s) Explosive properties: Not applicable. Not explosive or pyrotechnic. Not in itself capable by chemical reaction of producing gas at such temperature and pressure and at such a speed as to cause damag to the surroundings. Not capable of a self-sustaining exothermic chemical reaction.

(t) Oxidising properties: Not applicable as does not cause or contribute to the combustion of other materials

9.2. Other information

Not applicable.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
When mixed with water, cements will harden into a stable mass that is not reactive innormal environments.

10.2. Chemical stability
Dry cements are stable as long as they are properly stored (see Section 7) and compatible with most other building materials. They should be kept dry. Contact with incompatible materials should be avoided. Wet cement is alkaline and incompatible with acids, with ammonium salts, with aluminium or other non-noble metals. Cement dissolves in hydrofluoric acid to produce corrosive silicon tetrafluoride gas. Cement reacts with water to form silicates and calcium hydroxide. Silicates in cement react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, managanese trifluoride, and oxygen difluoride.

10.3. Possibility of hazardous reactions
Cements do not cause hazardous reactions.

10.4. Conditions to avoid
Humid conditions during storage may cause lump formation and loss of product quality.

10.5. Incompatible materials
Acids, ammonium salts, aluminium or other non-noble metals. Uncontrolled use of aluminium powder in wet cement should be avoided as hydrogen is produced.

10.6. Hazardous decomposition products
Cements will not decompose into any hazardous products.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects
Apart from skin sensitisation, Portland cement clinker and Common cements have the same toxicological and eco-toxicological properties.

Information on toxicological effects			
Hazard class	**Cat**	**Effect**	**Reference**
Acute toxicity - dermal	-	Limit test, rabbit, 24 hours contact, 2,000 mg/kg body weight – no lethality. Based on available data, the classification criteria are not met.	(2)
Acute toxicity- inhalation	-	No acute toxicity by inhalation observed. Based on available data, the classification criteria are not met.	(9)
Acute toxicity - oral	-	No indication of oral toxicity from studies with cement kiln dust. Based on available data, the classification criteria are not met.	Literature survey
Skin corrosion/ irritation	2	Cement in contact with wet skin may cause thickening, cracking or fissuring of the skin. Prolonged contact in combination with abrasion may cause severe burns.	(2) Human experience
Serious eye damage/ irritation	1	Portland cement clinker caused a mixed picture of corneal effects and the calculated irritation index was 128. Common cements contain varying quantities of Portland cement clinker, fly ash, blast furnace slag, gypsum, natural pozzolans, burnt shale, silica fume and limestone. Direct contact with cement may cause corneal damage by mechanical stress, immediate or delayed irritation or inflammation. Direct contact by larger amounts of dry cement or splashes of wet cement may cause effects ranging from moderate eye irritation (e.g. conjunctivitis or blepharitis) to chemical burns and blindness.	(10), (11)
Skin sensitisation	1B	Some individuals may develop eczema upon exposure to wet cement dust, caused either by the high pH which induces irritant contact dermatitis after prolonged contact, or by an immunological reaction to soluble Cr (VI) which elicits allergic contact dermatitis. The response may appear in a variety of forms ranging from a mild rash to severe dermatitis and is a combination of the two above mentioned mechanisms. If the cement contains a soluble Cr (VI) reducing agent and as long as the mentioned period of effectiveness of the chromate reduction is not exceeded, a sensitising effect is not expected [Reference (3)].	(3), (4), (17)
Respiratory sensitisation	-	There is no indication of sensitisation of the respiratory system. Based on available data, the classification criteria are not met.	(1)
Germ cell mutagenicity	-	No indication. Based on available data, the classification criteria are not met.	(12), (13)

Carcinogenicity	-	No causal association has been established between Portland cement exposure and cancer. The epidemiological literature does not support the designation of Portland cement as a suspected human carcinogen. Portland cement is not classifiable as a human carcinogen (According to ACGIH A4: Agents that cause concern that they could be carcinogenic for humans but which cannot be assessed conclusively because of a lack of data. In vitro or animal studies do not provide indications of carcinogenicity that are sufficient to classify the agent with one of the other notations.). Based on available data, the classification criteria are not met.	(1) (14)
Reproductive toxicity	-	Based on available data, the classification criteria are not met.	No evidence from human experience
STOT-single exposure	3	Cement dust may irritate the throat and respiratory tract. Coughing, sneezing, and shortness of breath may occur following exposures in excess of occupational exposure limits. Overall, the pattern of evidence clearly indicates that occupational exposure to cement dust has produced deficits in respiratory function. However, evidence available at the present time is insufficient to establish with any confidence the dose-response relationship for these effects.	(1)
STOT-repeated exposure	-	There is an indication of COPD. The effects are acute and due to high exposures. No chronic effects or effects at low concentration have been observed. Based on available data, the classification criteria are not met.	(15)
Aspiration hazard	-	Not applicable as cements are not used as an aerosol.	

SECTION 12: ECOLOGICAL INFORMATION

Apart from skin sensitisation, Portland cement clinker and Common cements have the same toxicological and eco-toxicological properties.

12.1. Toxicity

The product is not hazardous to the environment. Ecotoxicological tests with Portland cement on Daphnia magna [Reference (5)] and Selenastrum coli [Reference (6)] have shown little toxicological impact. Therefore LC50 and EC50 values could not be determined [Reference (7)]. There is no indication of sediment phase toxicity [Reference (8)]. The addition of large amounts of cement to water may, however, cause a rise in pH and may, therefore, be toxic to aquatic life under certain circumstances.

12.2. Persistence and degradability

Not relevant. After hardening, cement presents no toxicity risks.

12.3. Bioaccumulative potential

Not relevant. After hardening, cement presents no toxicity risks.

12.4. Mobility in soil

Not relevant. After hardening, cement presents no toxicity risks.

12.5. Results of PBT and vPvB assessment

Not relevant. After hardening, cement presents no toxicity risks.

12.6. Other adverse effects

Not relevant.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Do not dispose of into sewage systems or surface waters.

Product - cement that has exceeded its shelf life

EWC entry: 10 13 99 (wastes not otherwise specified) (and when demonstrated that it contains more than 0.0002% soluble Cr (VI)): shall not be used/sold other than for use in controlled closed and totally automated processes or should be recycled or disposed of according to local legislation or treated again with a reducing agent.

Product - unused residue or dry spillage

EWC entry: 10 13 06 (Other particulates and dust) Pick up dry unused residue or dry spillage as is. Mark the containers. Possibly reuse depending upon shelf life considerations and the requirement to avoid dust exposure. In case of disposal, harden with water and dispose according to "Product – after addition of water, hardened"

Product – slurries
Allow to harden, avoid entry in sewage and drainage systems or into bodies of water (e.g. streams) and dispose of as explained below under "Product - after addition of water, hardened".

Product - after addition of water, hardened
Dispose of according to the local legislation. Avoid entry into the sewage water system. Dispose of the hardened product as concrete waste. Due to the inertisation, concrete waste is not a dangerous waste.

EWC entries:
10 13 14 (waste from manufacturing of cement – waste concrete or concrete sludge) or 17 01 01 (construction and demolition wastes - concrete).

Packaging
Completely empty the packaging and process it according to local legislation.

EWC entry:
15 01 01 (waste paper and cardboard packaging).

SECTION 14: TRANSPORT INFORMATION

Cement is not covered by the international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID), therefore no classification is required. No special precautions are needed apart from those mentioned under Section 8.

14.1. UN number
Not relevant

14.2. UN proper shipping name
Not relevant

14.3. Transport hazard class(es)
Not relevant

14.4. Packing group
Not relevant

14.5. Environmental hazards
Not relevant

14.6. Special precautions for user
Not relevant

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not relevant

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/ legislation specific for the substance or mixture
EU regulatory information
Cement is a mixture according to REACH and is not subject to registration. Cement clinker is exempt from registration (Art 2.7 (b) and Annex V.10 of REACH). The marketing and use of cement is subject to a restriction on the content of soluble Cr (VI) (REACH Annex XVII point 47 Chromium VI compounds).

National regulatory information
CONIAC Health Hazard Information Sheet No. 26 (CEMENT) Health and Safety at Work etc Act 1974
Control of Substances Hazardous to Health (Regulations)
PORTLAND CEMENT DUST – criteria document for an occupational exposure limit. June 1994 (ISBN 07176 – 0763 – 1)
HSE Guidance Notes EH26 (Occupational Skin Diseases – Health and Safety Precautions)
HSE Guidance Note EH40 (Workplace Exposure Limits)
Any authorised manual on First Aid by St. John's/ St. Andrew's/Red Cross Manual Handling Operations Regulations Environmental Protection Act

14.5. Environmental hazards
Not relevant

14.6. Special precautions for user
Not relevant

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not relevant

SECTION 15: REGULATORY INFORMATION

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EU regulatory information

Cement is a mixture according to REACH and is not subject to registration. Cement clinker is exempt from registration (Art 2.7 (b) and Annex V.10 of REACH). The marketing and use of cement is subject to a restriction on the content of soluble Cr (VI) (REACH Annex XVII point 47 Chromium VI compounds).

National regulatory information

CONIAC Health Hazard Information Sheet No. 26 (CEMENT) Health and Safety at Work etc Act 1974 Control of Substances Hazardous to Health (Regulations) PORTLAND CEMENT DUST – criteria document for an occupational exposure limit. June 1994 (ISBN 07176 – 0763 – 1) HSE Guidance Notes EH26 (Occupational Skin Diseases – Health and Safety Precautions) HSE Guidance Note EH40 (Workplace Exposure Limits) Any authorised manual on First Aid by St. John's/St. Andrew's/ Red Cross Manual Handling Operations Regulations Environmental Protection Act

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out for this mixture by the supplier.

SECTION 16: OTHER INFORMATION

16.1 Indication of changes

This safety data sheet (v.1.0) includes the information required to meet the provisions of Regulation (EU) No 453/2010

16.2 Identified uses and use descriptors and categories

No chemical safety assessment has been carried out for this mixture by the supplier. As Portland cement clinker has not undergone an ECHA Registration a Chemical safety report has not been compiled. Therefore, no use descriptors and categories have been identified.

16.3 Abbreviations and acronyms

ACGIH	American Conference of Industrial Hygienists
ADR/RID	European Agreements on the transport of Dangerous goods by Road/Railway
APF	Assigned protection factor
CAS	Chemical Abstracts Service
CLP	Classification, labelling and packaging (Regulation (EC) No 1272/2008)
COPD	Chronic Obstructive Pulmonary Disease
DNEL	Derived no-effect level
EC50	Half maximal effective concentration
ECHA	European Chemicals Agency
EINECS	European Inventory of Existing Commercial chemical Substances
EPA	Type of high efficiency air filter
ES	Exposure scenario
EWC	European Waste Catalogue
FF P	Filtering face piece against particles (disposable)
FM P	Filtering mask against particles with filter cartridge
GefStoffV	Gefahrstoffverordnung
HEPA	Type of high efficiency air filter
H&S	Health and Safety
IATA	International Air Transport Association
IMDG	International agreement on the Maritime transport of Dangerous GoodsLC50 Median lethal dose
MEASE	Metals estimation and assessment of substance exposure, EBRC Consulting GmbH for Eurometaux, http://www.ebrc.de/ebrc/ebrc-mease.php
MS	Member State
OELV	Occupational exposure limit value
PBT	Persistent, bio-accumulative and toxic
PNEC	Predicted no-effect concentration
PROC	Process category
RE	Repeated exposure
REACH	Registration, Evaluation and Authorisation of Chemicals
RPE	Respiratory protective equipment
SCOEL	Scientific Committee on Occupational Exposure Limit Values
SDS	Safety Data Sheet
SE	Single exposure
STP	Sewage treatment plant
STOT	Specific Target Organ Toxicity
TLV-TWA	Threshold Limit Value-Time-Weighted Average
TRGS	Technische Regelnfür Gefahrstoffe
VLE-MP	Exposure limit value-weighted average in mg by cubic meter of air
vPvB	Very persistent, very bio-accumulative
w/w	Weight by weight
WWTP	Waste water treatment plant

STP	Sewage treatment plant
STOT	Specific Target Organ Toxicity
TLV-TWA	Threshold Limit Value-Time-Weighted Average
TRGS	Technische Regelnfür Gefahrstoffe
VLE-MP	Exposure limit value-weighted average in mg by cubic meter of air
vPvB	Very persistent, very bio-accumulative
w/w	Weight by weight
WWTP	Waste water treatment plant

16.4 Key literature references and sources of data

(1) Portland Cement Dust - Hazard assessment document EH75/7, UK Health and Safety Executive, 2006. Available from: http://www.hse.gov.uk/pubns/web/portlandcement.pdf.

(2) Observations on the effects of skin irritation caused by cement, Kietzman et al, Dermatosen, 47, 5, 184-189 (1999).

(3) European Commission's Scientific Committee on Toxicology, Ecotoxicology and the Environment (SCTEE) opinion of the risks to health from Cr (VI) in cement (European Commission, 2002). http://ec.europa.eu/health/archive/ph_risk/committees/sct/documents/out158_en.pdf.

(4) Epidemiological assessment of the occurrence of allergic dermatitis in workers in the construction industry related to the content of Cr (VI) in cement, NIOH, Page 11, 2003.

(5) U.S. EPA, Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 3rd ed. EPA/600/7-91/002, Environmental Monitoring and Support Laboratory, U.S. EPA, Cincinnati, OH (1994a) and 4th ed. EPA-821-R-02-013, US EPA, office of water, Washington D.C. (2002).

(6) U.S. EPA, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 4th ed. EPA/600/4-90/027F, Environmental Monitoring and Support Laboratory, U.S. EPA, Cincinnati, OH (1993) and 5th ed. EPA-821-R-02-012, US EPA, office of water, Washington D.C. (2002).

(7) Environmental Impact of Construction and Repair Materials on Surface and Ground Waters. Summary of Methodology, Laboratory Results, and Model Development. NCHRP report 448, National Academy Press, Washington, D.C., 2001.

(8) Final report Sediment Phase Toxicity Test Results with Corophiumvolutator for Portland clinker prepared for Norcem A.S. by AnalyCenEcotox AS, 2007.

(9) TNO report V8801/02, An acute (4-hour) inhalation toxicity study with Portland Cement Clinker CLP/GHS 03-2010-fine in rats, August 2010.

(10) TNO report V8815/09, Evaluation of eye irritation potential of cement clinker G in vitro using the isolated chicken eye test, April 2010.

(11) TNO report V8815/10, Evaluation of eye irritation potential of cement clinker W in vitro using the isolated chicken eye test, April 2010.

(12) Investigation of the cytotoxic and proinflammatory effects of cement dusts in rat alveolar macrophages, Van Berlo et al, Chem. Res. Toxicol., 2009 Sept; 22(9): 1548-58.

(13) Cytotoxicity and genotoxicity of cement dusts in A549 human epithelial lung cells in vitro; Gminskietal,AbstractDGPTconferenceMainz,2008.

(14) Comments on a recommendation from the American Conference of governmental industrial Hygienists to change the threshold limit value for Portland cement, Patrick A. Hessel and John F. Gamble, EpiLung Consulting, June 2008.

(15) Prospective monitoring of exposure and lung function among cement workers, Interim report of the study after the data collection of Phase I-II 2006-2010, Hilde Notø, Helge Kjuus, MaritSkogstad and Karl-Christian Nordby, National Institute of Occupational Health, Oslo, Norway, March 2010.

(16) MEASE, Metals estimation and assessment of substance exposure, EBRC Consulting GmbH for Eurometaux, http://www.ebrc.de/ebrc/ebrc-mease.php.

(17) Occurrence of allergic contact dermatitis caused by chromium in cement. A review of epidemiological investigations, KåreLenvik, Helge Kjuus, NIOH, Oslo, December 2011.

16.5 Relevant R-phrases and/or H-Statements

R37/38 Irritating to respiratory system and skin
R41 Risk of serious damage to eyes
R43 May cause sensitisation by skin contact
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation

16.6 Training advice

In addition to health, safety and environmental training programs for their workers, companies must ensure that workers read, understand and apply the requirements of this SDS.

16.7 Further information

The data and test methods used for the purpose of classification of Common cements, are given or referred to in section 11.1.

16.8 Disclaimer

The information on this data sheet reflects the currently available knowledge and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product, including the use of the product in combination with any other product or any other process, is the responsibility of the user. It is implicit that the user is responsible for determining appropriate safety measures and for applying the legislation covering his/her own activities.

For futher information
Technical helpdesk
Tel: 0845 812 6232
E-mail info-cement@tarmac.com
Customer services & sales
Tel: 0845 812 6300
E-mail customerservice@tarmac.com

Penetration grade bitumen

SAFETY DATA SHEET

Conforms to 91/155/EEC - 2001/58/EC - United Kingdom (UK)

1. Identification of the substance/preparation and of the company/undertaking

Product name : Penetration grade bitumen

Chemical product name : Bitumen

Product type and main use : Paving grade bitumens for road application

Supplier : Nynas UK AB
North Road
Ellesmere Port CH65 1AJ
UNITED KINGDOM
+44-151 327 31 71

East Camperdown Street
Dundee DD1 3LG
UNITED KINGDOM
+44-1-382 462 211
www.nynas.com/bitumen

Emergency telephone number : +44 (0)208 762 8322

2. Composition/information on ingredients

Substance/preparation : Substance

Chemical name*	CAS no.	EC Number	%	Classification
Bitumen See section 16 for the full text of the R Phrases declared above	8052-42-4	232-490-9	100	

* Occupational Exposure Limit(s), if available, are listed in Section 8

In North America and Poland the word asphalt is used to refer to bitumen.

3. Hazards identification

The substance is not classified as dangerous according to Directive 67/548/EEC and its amendments.

Classification : The substance is not classified as dangerous according to Directive 67/548/EEC and its amendments.

Health Hazard : The product is normally handled at elevated temperature which may cause thermal burns. In the heated state the product gives off fumes. Although these are not thought to produce a significant health hazard, exposure to these fumes should be kept to a minimum by observing good work practice and ensuring good ventilation around work areas.

Hydrogen sulphide can accumulate in the head space of storage tanks containing bitumen and can reach potentially hazardous concentrations.

Physical/chemical hazards : The product is normally handled at elevated temperature which may cause thermal burns. Contact with water will result in a violent expansion and a danger of "boil-over". The product is not classified as flammable but consists of hydrocarbons and can burn.

Environmental hazards : At ambient temperatures there is no significant loss of material to the atmosphere. However, prior to road paving and roofing applications, the product is heated and thus it causes fume to enter the atmosphere. The main effect of spill of bitumen in water or on soil is adsorption to sediment causing physical fouling.

4. First aid measures

First-Aid measures

Inhalation : If inhalation of mists, fumes or vapour causes irritation to the nose or throat, or coughing, remove to fresh air. If irritation persists, get medical attention.

Casualties suffering ill effects as a result of exposure to hydrogen sulphide should be immediately removed to fresh air and medical assistance obtained immediately. If unconscious, the injured must be placed in recovery position. Monitor breathing and pulse rate. If breathing has failed or is inadequate, respiration must be assisted, preferable with the mouth to mouth method. Administer external cardiac massage if necessary. Immediately call for medical attention. If unconscious place in recovery position and seek medical advice.

Eye Contact : COLD PRODUCT: Rinse with plenty of running water. If irritation persists, get medical attention.

HOT PRODUCT: Immediately flush eyes with running water for at least 5 minutes, keeping eyelids open. In the event of any product remaining, do not try to remove it other than by continued irrigation with water. Obtain medical attention immediately.

Skin contact : If skin contact with hot product, rinse with water for at least 10 minutes. Do not attempt to remove the product from the skin as it provides an airtight sterile covering over the burn. It will eventually fall off with the scab when the burn heals. It should be noted that bitumen contracts on cooling and where a limb is encased care should be taken to avoid the development of a tourniquet effect. All burns shall receive medical attention.

Treatment should in general be symptomatic and directed to relieving any effects. If for any reason the product must be removed, this can be done using a slightly warmed medicinal liquid paraffin.

Ingestion : COLD PRODUCT: Obtain medical attention if symptoms occur.

HOT PRODUCT: Not likely due to high temperature.

5. Fire-fighting measures

Extinguishing Media

Suitable : In case of fire, use water spray (fog), foam, dry chemical or carbon dioxide- extinguisher or spray.

Not Suitable : Do not use water jet.

Hazardous thermal decomposition products : Burning product gives rise to a complex mixture of gases and airborne particles including carbon monoxide and sulphur oxides. Respiratory problems or nausea by excessive exposure to hot bitumen fumes may occur.

Protection of fire-fighters : Proper equipment (gloves, shoes, goggles and/or self-contained breathing apparatus).

6. Accidental release measures

Personal Precautions : In confined spaces use compressed air or fresh air respiratory equipment. Hot product should be handled so that there is no risk of burns.

Environmental Precautions : Prevent entry into sewers, basements or confined areas; dyke if needed. Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Clean-up Methods : SMALL SPILL: Allow to cool and solidify. Remove mechanically into containers for disposal or reclamation in accordance with local regulations.

LARGE SPILL: Contain and absorb using earth, sand or other inert material. Otherwise as for small spill.

Note: see section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

For quality, technical, health, safety and environmental reasons, bitumen should not be over-heated. Bitumen temperature should be kept at least 30°C below flash point and should never exceed the industry recommended maximum temperature of 200°C.

Handling : Bitumen is handled and stored as a liquid, which means elevated temperatures (>100°C).
Avoid contact (skin burns) and breathing fumes (irritation of respiratory tract).
Do not allow water or any liquid to contact with hot product since this could cause splashing of hot material or boil-over.
Do not use steam to empty pipelines and hoses. Use compressed air to blow the product from the system or apply a vacuum to suck the product from the system. Do not use solvents to clear obstructions of pipeline.

Storage : Prevent ingress of water.
Keep container in a cool, well-ventilated area.
Carbonaceous deposits, that may be pyrophoric and may self-ignite, may develop on walls and roofs of bitumen storage tanks.
Change bitumen or oil contaminated insulation.
Where the product is being pumped from a storage tank or road tank care should be taken to avoid the risk of fire or explosion as a result of exposing hot heater tubes.
Product tanks may be heated by hot oil, electricity or flame tubes. Under circumstances where bitumen is being pumped from a tank containing heater tubes precautions should be taken to prevent the level dropping 150 mm above the tubes unless the heat has been switched off for a period of sufficient cooling.
The bulk temperature of the product during handling should be kept as low as possible, consistent with the efficient discharge and at no time should it exceed the maximum temperature recommended by the supplier.
A check should be made to ensure that the receiving tank has sufficient volume to accommodate the load.

8. Exposure controls/personal protection

Engineering measures : Lower storage and handling temperature decreases fuming.

Hygiene measures : Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

Ingredient name	Occupational exposure limits
Bitumen fumes	EH40-OES (United Kingdom (UK), 2002). STEL: 10 mg/m³ 15 minute(s). TWA: 5 mg/m³ 8 hour(s).
Hydrogen sulphide	EH40-OES (United Kingdom (UK), 2002). Notes: OES STEL: 14 mg/m³ 15 minute(s). TWA: 7 mg/m³ 8 hour(s).

Recommended monitoring procedures : Monitoring procedures for bitumen fumes and hydrogen sulphide can be found on the following web-sites :
[http://www.acgih.org]
[http://europe.ashe.eu.int/good_practice/risks/ds/oel]
[http://concawe.be] - Report 7/02 "Assessment of personal inhalation exposer to bitumen fume - guidance for monitoring benzene-soluble inhalable particulate"

Personal protective equipment

Respiratory system	: A respirator is not needed under normal and intended conditions of product use. Where hot product is handled in confined spaces, effective local ventilation must be provided. Approved respiratory protective equipment shall be used in spaces where hydrogen sulphide may accumulate.
Skin and body	: Wear protective clothing for normal operation with hot material: heat resistant coveralls (with legs over boots and cuffs over gloves), heat resistant gloves and duty boots. Coveralls should be cleaned as necessary to avoid permeation of the product to under clothing. Good personal hygiene in respect of hands and under clothing should always be maintained in the course of work.
Hands	: Heat resistant material.
Eyes	: Goggles, face shield, or other full-face protection if potential exists for direct exposure to aerosols or splashes, or when material is handled hot.

9. Physical and chemical properties

Physical State at Normal Handling Temperature	: Liquid.
Physical State at Ambient Temperature	: Solid.
Colour	: Brown to black
Odour	: Characteristic.
Flash point	: >220°C (428°F) (COC).
Auto-ignition temperature	: >300°C (572°F)
Vapor pressure	: Negligible at ambient temperature.
Density	: 0,99 to 1.1 g/cm^3 (25°C / 77°F)
Solubility	: Insoluble in water. Partially soluble in fat. Soluble in most organic solvents.
Penetration	: < 330 X 10^{-1} mm at 25 °C (test method EN 1426)
Electrical Conductivity	: Insulating
Hygroscopicity	: Not hygroscopic

10. Stability and reactivity

Stability	: The product is stable.
Conditions to Avoid	: Excessive heating above the maximum recommended handling and storage temperature will cause cracking and evolution of flammable vapours. Do not allow water or any liquid to contact with hot product since this could cause splashing of hot material or boil-over.
Materials to avoid	: Prevent ingress of water. Change bitumen or oil contaminated insulation. If necessary a non-absorbent type of insulation should be used. Self-heating, leading to auto-ignition at the surfaces of porous or fibrous materials impregnated with bitumen / bitumen preparation or condensates from bituminous fumes can occur below 100 °C.
Hazardous decomposition products	: Burning product gives rise to a complex mixture of gases and airborne particles including carbon monoxide and sulphur oxides. Respiratory problems or nausea by excessive exposure to hot bitumen fumes may occur.

11. Toxicological information

Acute toxicity : The data reviewed and extrapolated from other petroleum products indicate that the acute toxicity of the product is likely to be low.

Inhalation : Inhalation of fumes from warm product may lead to a slight irritation of the upper respiratory tract.

Sensitization and irritation : The product is not known to be a skin sensitizer, although condensed bitumen fume is likely to be slightly irritant to the skin. Vapour from hot bitumen may be slighly irritant to the eyes and the upper respiratory tract.

Chronic toxicity : Bitumen present no chronic hazard at ambient temperature. The safety hazard normally limits any chronic skin hazards. Under normal conditions of application skin contact with the product is expected to be limited by the high handling temperature.

Specific hazard : Bitumen is not classified as dangerous under EC criteria, but they do contain very low concentrations of Polycyclic Aromatic Compounds (PAC's). In undiluted bitumens these PAC's are not considered bio-available. However, if bitumens are mixed with diluents it is believed that such materials may become bio-available if the product has low viscosity at ambient temperatures. Despite the known presence of PAC's there is no evidence that exposure to undiluted bitumens, or their fumes is harmful.

12. Ecological information

Ecotoxicity data : There are no known acute or chronic eco-toxicity data for the product. Due to high molecular weight and low water solubility, the product is not expected to have effect on aquatic organisms.

Mobility : GROUND: If hot bitumen is spilled onto soil or water it quickly cools and becomes solid. The product is not mobile and will remain on the soil surface.

WATER: Bitumen will normally sink to the sediment although in some circumstances it may float. The water solubility is so low that it could be considered as to be negligible.

Persistence/degradability : There are no known studies of the biodegradation of bitumen in aquatic systems. However, the use of bitumen in roadway and roofing constructions show that bitumen is a persistent material and that it does not biodegrade.

Bioaccumulation : Although all constituents of bitumen have log Kow in excess of 6 and hence are potentially bioaccumulative, the low water solubility and high molecular weight make the bioavailability to aquatic organisms limited. Bioaccumulation is unlikely.

Other environmental effects : The main effect of spill of bitumen in water or on soil is adsorption to sediment causing physical fouling. Bitumen are not thought to present any significant hazard.

13. Disposal considerations

Methods of disposal

Waste of residues : Dispose in accordance to local and national regulations. Recycling is recommended.

Contaminated packaging : Through authorized contractor or collector.

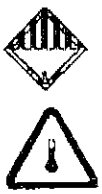
Recycling of end-use products : See EAPA/HSE/02/N299

European waste catalogue (EWC) : 050117

Hazardous waste : Non-hazardous waste.

14. Transport information

International transport regulations

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
ADR/RID Class	3257	ELEVATED TEMPERATURE LIQUID, N.O.S. (Bitumen)	9	III		Emptied uncleaned tankers are classified as follows: Emptied container Class 9 ADR Label cargo UN 3257, ELEVATED TEMPERATURE LIQUID, N.O.S. (Bitumen)
IMDG / AGN Class	3257	ELEVATED TEMPERATURE LIQUID, N.O.S. (Bitumen)	9	III		Marine pollutant: No Risk Label: 9 Emergency schedules (EmS) Number: Fire: F - A Spillage: S - P
IATA-DGR Class	3257	ELEVATED TEMPERATURE LIQUID, N.O.S. (Bitumen)	9	III		Forbidden for transport on passenger and cargo aircraft in molten state.

HOT PRODUCT: Transported at > 100°C but below it's flashpoint.

COLD PRODUCT: Not classified as hazardous for transport (ADR, RID, UN, ICAO/IATA).

15. Regulatory information

Risk Phrases : The substance is not classified as dangerous according to Directive 67/548/EEC and its amendments.

Additional warning phrases : Safety data sheet available for professional user on request.

16. Other information

References : Concawe product dossier 92/104 - Bitumen and bitumen derivatives
Concawe report 01/54, Environmental classification of petroleum substances - summary data and rationale
Concawe report 01/53, Classification and labelling of petroleum substances according to the EU dangerous substances directive
Institute of Petroleum - Bitumen Safety Code
CEN/TC 19/SC - Bitumen and bituminous binders, terminology
Eurobitume, Guidelines on the classification of bitumens and bituminous preparations
Eurobitume, Report 96/002, revised Feb 2000 (MSDS paving grade bitumen).
Eurobitume, Bitumen burns card - Notes for physician
Concawe report 5/02, Amended safety data sheet directive (2002/58/EC)

Notice to reader

The advice given in this safety data sheet reflects the current knowledge of the hazards and risks associated with the handling of the product. If the product is mixed with other materials the users shall take these into account in identifying any additional hazards and risks which might arise.

History

Date of printing : 2004-12-09.

Date of issue : 2004-12-07.

Date of previous issue : 2004-12-06.

RWE Power International

Material Safety Data Sheet (PFA)

1. Identification of the substance/preparation and of the Company/Undertaking

Product PULVERISED FUEL ASH, PFA
Company RWE Power International
Address Windmill Hill Business Park
Whitehill Way
Swindon SN5 6PB

Telephone 0800 731 2865
Emergency Telephone 01793 877777

2. Composition/Information on Ingredients

Chemical Composition
PFA is composed of inorganic material with a small proportion of carbon particulate resulting from incomplete combustion of the parent fuel, coal. PFA is extracted from flue gases discharged from combustion systems by electrostatic and mechanical processes.

Hazardous Components
PFA is not considered to have any hazardous components that will affect existing patterns of production, handling, storage and use.

3. Hazard Identification

This material is not considered to be especially hazardous to health but should be handled in accordance with good occupational hygiene and safety practices.

Dust in high concentrations may cause irritation to eyes.

4. First Aid Measures

Eyes
If the substance has entered the eyes, wash out with water or emergency eye wash solution. Continue irrigation for 15 minutes. Obtain medical advice if any pain or redness persists.

Skin
Wash skin thoroughly with soap and water as soon as reasonably practicable.

Ingestion
If contamination of the mouth occurs wash out thoroughly with water.

Inhalation
If inhalation of dust causes irritation of the nose or throat or coughing, remove to fresh air. If symptoms persist, obtain medical advice.

5. Fire Fighting Measures

There are no risks of fire or explosion as the product is identified as non-combustible.

6. Accidental Release Measures

Environmental Precautions
Prevent entry to drains or watercourses.

Personal Precautions
See section on Exposure Controls/ Personal Protection.

Clean up Methods
LARGE SPILLS of dry material should be removed by a vacuum system, conditioned (dampened) material should be removed by mechanical means where possible, and then recycled or disposed of to a licensed site.

The potential for dust blow can be reduced by applying a fine spray of water.

7. Handling and Storage

Storage
DRY FORM – PFA should be stored in silos or sealed containers/bags.

CONDITIONED FORM – When stored in stock piles, keep exposed surfaces damp. Small stockpiles may be covered with sheeting.

Handling
Avoid creating airborne dust wherever possible. Where dust is generated then engineering control measures should be considered to maintain the airborne dust concentration as low as is reasonably practicable.

Avoid prolonged skin contact especially where the product is dampened.

Wear protective clothing. See the next section, Exposure Controls/ Personal Protection.
Good working practices as well as high standards of housekeeping and personal hygiene should be maintained.

Wear protective clothing. See section, Exposure Controls/Personal Protection.
Good working practices as well as high standards of housekeeping and personal hygiene should be maintained.

8. Exposure Controls/ Personal Protection

Exposure Limits
Relevant UK Occupational Exposure Standards as published in HSE Guidance Note EH40 are:

Pulverised Fuel Ash (PFA)

Total Inhalable dust	10mg m-3 8hr TWA
Respirable Dust	5mg m-3 8hr TWA

Control Measures
Engineering control measures, such as enclosing transfer chutes and pipes, should be used wherever reasonably practicable to prevent/control dust generation and exposure. Conditioning/dampening the dust can also reduce exposure.

Protective Clothing
To prevent eye and skin irritation, where contact can occur, then goggles, gloves, overalls and boots should be worn.

Change heavily contaminated clothing as soon as possible; launder before re-use. Wash any contaminated underlying skin with soap and water.

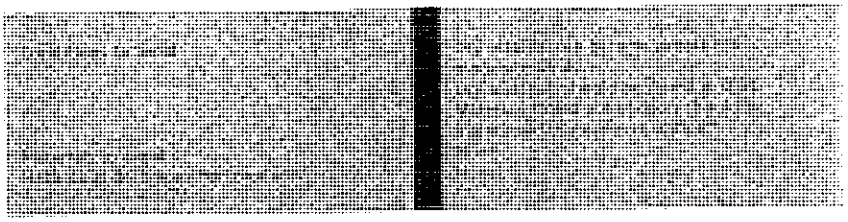
Respiratory Protection
If operations are such that the airborne dust level is likely to exceed the concentrations quoted above, suitable approved respiratory protection should be worn. The highest probable dust concentration should be estimated or measured and appropriate equipment selected.

The use of respiratory equipment must be strictly in accordance with the manufacturer's instructions and any statutory requirements governing its selection and use.

9. Physical and Chemical properties

Appearance	A fine grey powder
Odour	virtually none
pH	moderately alkaline when damp
Boiling point/boiling range	Not applicable
Melting point/melting range	Not applicable
Flash point	Not applicable
Flammability	Not applicable
Auto flammability	Not applicable
Explosive properties	Not applicable
Oxidising properties	Not applicable
Vapour pressure	Not applicable
Bulk density	1.2 - 1.7 g/cm^3
Specific gravity	1.8 - 2.4 g/cm^3
Solubility	<2% in water

10. Stability and Reactivity
PFA is predominantly an inert glassy material containing small amounts of neutral salts and some lime.



11. Toxicological Information
Eyes
Due to the reaction with moisture in the eye, irritation of the conjunctiva occurs if dust remains in contact with the eye.

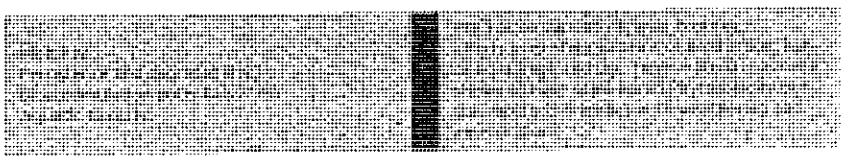
Skin
Dry PFA will have little effect on the skin. However, when moist it is alkaline and prolonged or repeated contact can cause abrasion and irritant dermatitis.

Ingestion
There are no known adverse health effects following ingestion.

Inhalation
After 60 years of exposure experience there is no clinical evidence of a significant risk of harm to the respiratory tract or lung. Heavy exposure in power stations (of the type no longer found) over a number of years has been shown to cause only small changes in lung function testing and minor symptoms, neither of which is considered to be of clinical significance. Pneumoconiosis does not occur. The Health & Safety Executive have reviewed the scientific literature and assigned PFA an Occupation Exposure Limit of 10 milligrams per cubic metre total inhalable dust and 5 milligrams per cubic metre respirable dust, both 8 hour time weighted averages.

There is insufficient data on potential carcinogenic or mutagenic effects.

12. Ecological Information



13. Disposal Considerations
Classification of waste disposal route
PFA is a "Controlled Waste" in the UK and has no special requirements for its disposal at appropriately licensed facilities. It is included in the European Waste Catalogue (code no. 10 01 02) but is not hazardous material as determined by the EC Hazardous Waste List (Directive 94/904/EC).

It is also a "Green List" material for transfrontier shipment.

14. Transport Information
Category under CPL Regs etc: Non Hazardous

15. Regulatory Information
Hazard Label Data:
This product is NOT classified as dangerous for supply in the UK.

PFA is governed by the following legislative requirements:

EC Directives: 94/3/EC, the European Waste Catalogue.

Statutory Instruments
Health and Safety at Work etc. Act 1974

Consumer Protection Act 1987

Environmental Protection Act 1990

Control of Substances Hazardous to Health 1994

Waste Management – The Duty of Care

Personal Protective Equipment at Work Regulations 1992

Guidance Notes: Occupational Exposure Limits EH/40

16. Other Information
Other sources which have been used in the compilation of this Safety Data Sheet include:

HSE, Pulverised Fuel Ash, Criteria Document for an Occupational Exposure Limit, HMSO c20 11/92, ISBN 0 11 886391 6.

This product is supplied on the understanding that it will be used in the manner and for the purpose(s) specified in the Data Sheet, the user having taken all the precautions stipulated. Failure to follow such directions may adversely affect any rights the user might have against the Company.

If you have purchased the product for supply to a third party for use at work, it is your duty to take all necessary steps to ensure that any person handling or using the product is provided with the information on this sheet.

If you are an employer, it is your duty to inform your employees and others who may be affected, of any hazards described in this sheet and any precautions which should be taken.

In circumstances where products are to be used outside the jurisdiction of the United Kingdom, such usage must be in conformity with national standards or those described on this sheet, whichever are more stringent.

Please note; Aberthaw PFA may, under certain circumstances, emit a slight aroma of ammonia.
This should neither have any medical implications nor detriment to product performance.

Note:
Section headings conform to EU Directive 93/112/EC.

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T +44 (0)1793/89 29 00
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E rwepi@rwe.com

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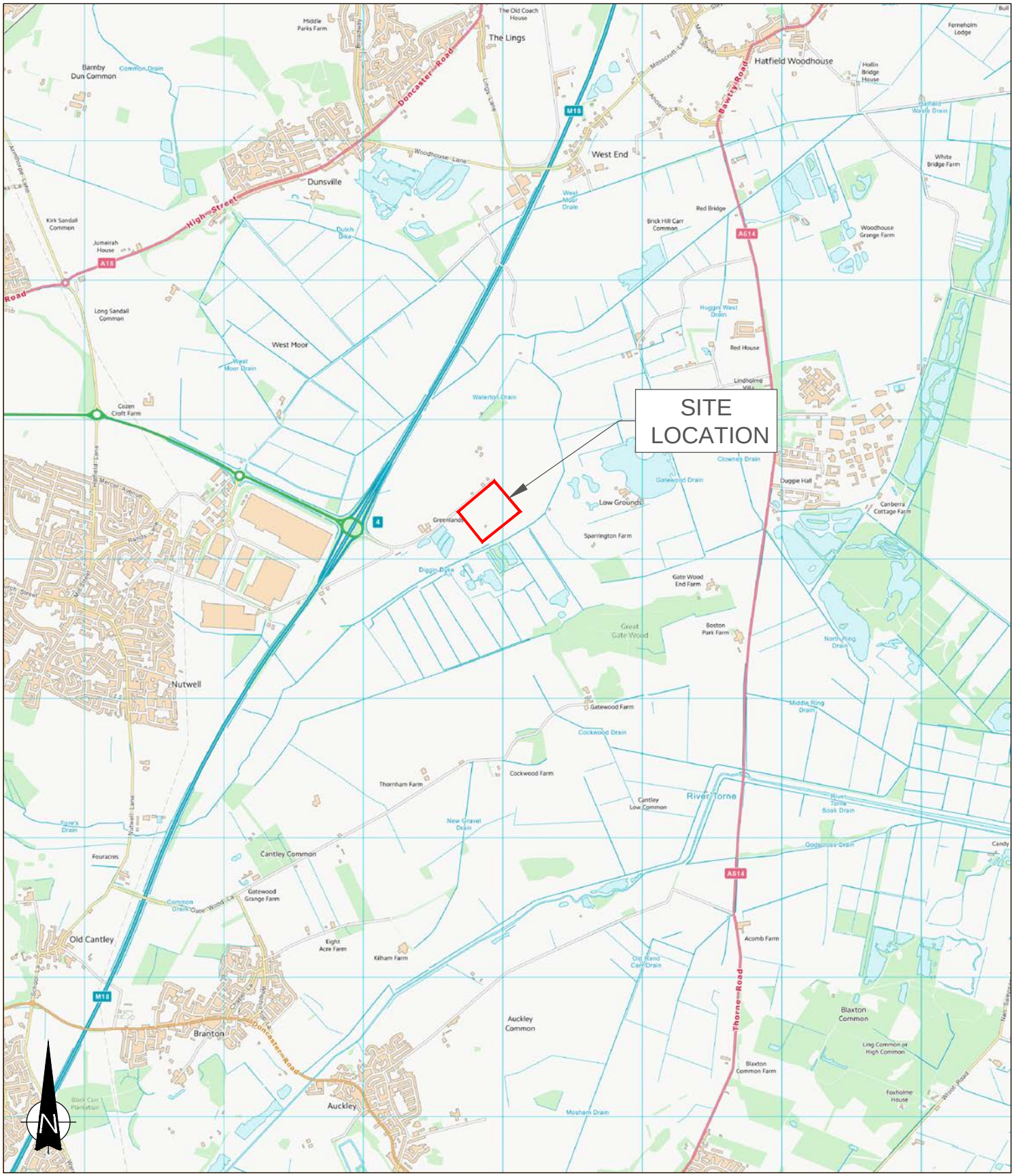
F +44 (0)1757 613631
E generation.aggregates@rwenpower.com

TARMAC LIMITED – ARMTHORPE QUARRY ASPHALT WASTE RECYCLING FACILITY
EWC LIST OF WASTES

Waste Code	Description
17	**CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)**
1703	**bituminous mixtures, coal tar and tarred products**
170301*	road base and road planings containing coal tar
170302	road base and road planings (other than those containing coal tar) only



CLIENT

TARMAC
A CRH COMPANY

JOB TITLE

TARMAC ARMTHORPE

DRAWING TITLE

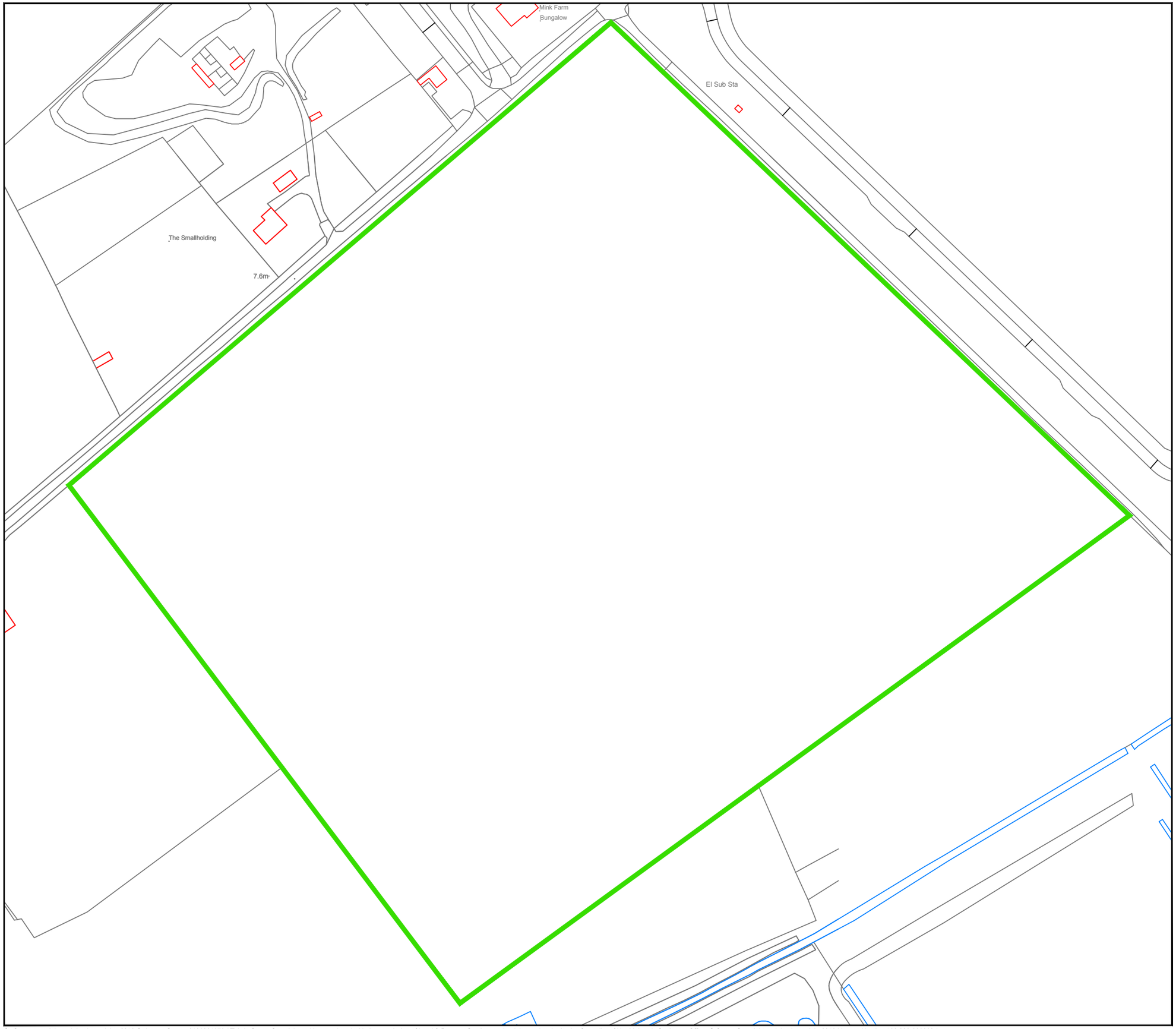
SITE LOCATION PLAN

REV	DESCRIPTION	DATE	BY
1	REVISION TO SITE BOUNDARY	13/09/2018	MK

DRAWN	DATE	APPROVED	DATE
KMB	12/6/2018	MG	12/6/2018

SCALE	SHEET	DRAWING NUMBER	REVISION
1:20,000	A4P	TA1041/05/SCR1	1

SIRIUS Environmental
The Beacon Centre for Enterprise, Dafen, Llanelli, SA14 8LQ, 01554 780 544



Legend

AREA COVERED BY SITE CONDITION REPORT

Site Name:

TA1041 - ARMTHORPE

Drawing Name:

AREA COVERED BY SITE CONDITION REPORT

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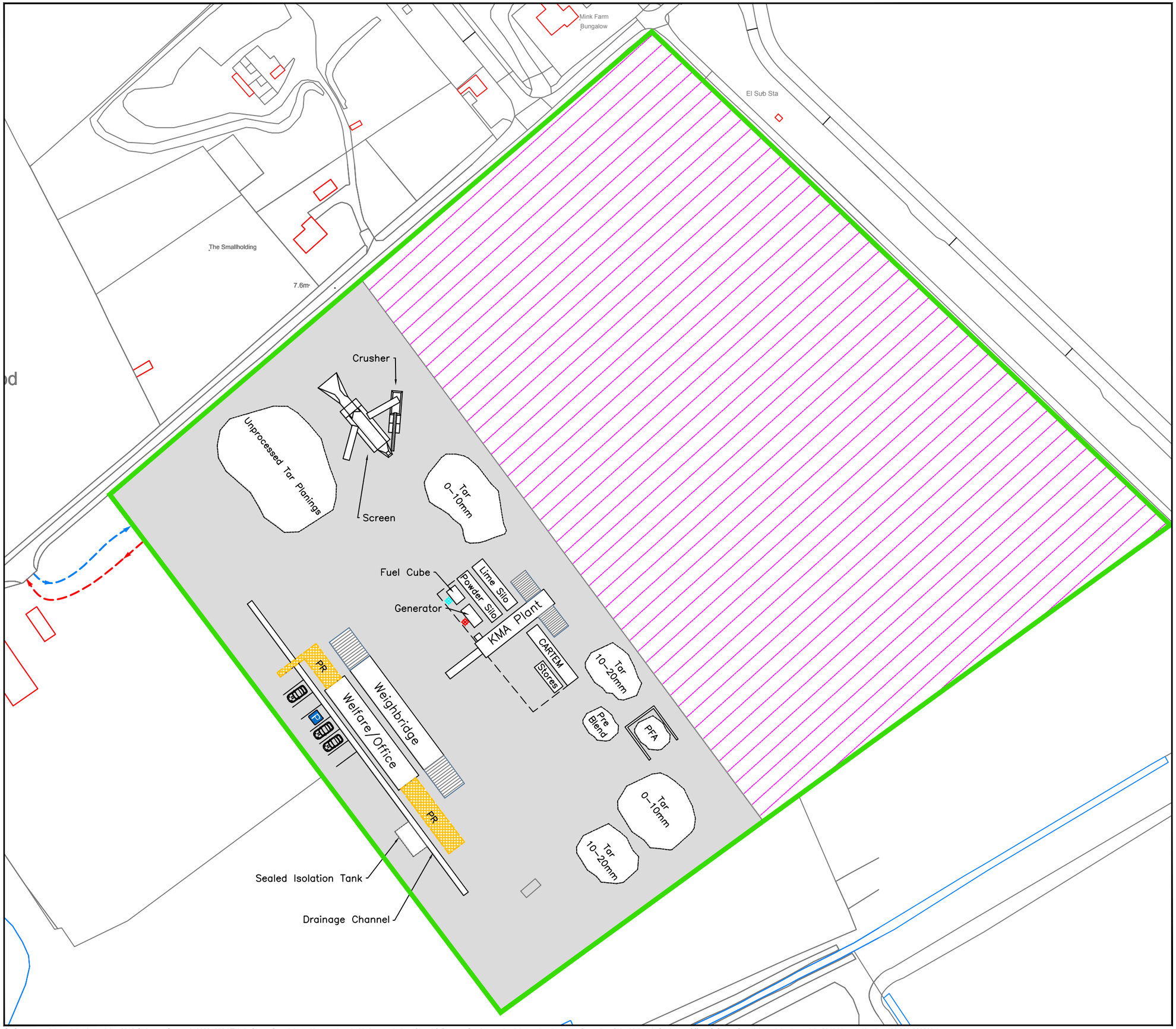
M.Knott	1:1,667
Date:	**Drawing Number:**
13/09/2018	TA1041/05/SCR2



Legend

- ENVIRONMENTAL PERMIT BOUNDARY
- CAR & VAN PARKING
- PEDESTRIAN ROUTE
- TRAFFIC FLOW IN
- TRAFFIC FLOW OUT
- SPILL KIT
- FIRE EXTINGUISHER
- ENGINEERED SURFACING
- FUTURE EXPANSION AREA

SiriUS Environmental

TARMAC
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Site Name:
TA1041 - ARMTHORPE

Drawing Name:
INDICATIVE OPERATIONAL LAYOUT

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M.Knott	1:1,667
Date:	**Drawing Number:**
13/09/2018	TA1041/05/SCR3

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Legend

- ENVIRONMENTAL PERMIT BOUNDARY
- CAR & VAN PARKING
- PEDESTRIAN ROUTE
- TRAFFIC FLOW IN
- TRAFFIC FLOW OUT
- SPILL KIT
- FIRE EXTINGUISHER
- DRAINAGE FLOW AND ENGINEERED FALLS
- ENGINEERED SURFACING
- FUTURE EXPANSION AREA

sirius Environmental

TARMAC
A CRH COMPANY

Site Name:
TA1041 - ARMTHORPE

Drawing Name:
INDICATIVE DRAINAGE LAYOUT

Drawn By:	Scale @ A3:
M.Knott	1:1,667
Date:	**Drawing Number:**
13/09/2018	TA1041/05/SCR4

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