

PROPOSED RESIDENTIAL DEVELOPMENT AT
LAND ADJ. 178 DEIGHTON ROAD, HUDDERSFIELD HD2 1JJ

PHASE 1 DESK STUDY REPORT

Client:
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REVISION SHEET

Revision	Date	Revision
1 st Issue	August 2021	

EXECUTIVE SUMMARY

Development Proposals	New residential property and workshop with associated driveway, hard paved, garden and soft landscaped areas.
Site Description	Unoccupied overgrown former domestic garages site. Remains of demolished garages in piles and tree stumps present, retaining walls retaining the site to the east and south boundaries in poor condition. Site slopes to the southwest. Houses adjacent to site.
Site History	<u>On site:</u> houses, outbuildings, domestic garages. <u>Adj. site:</u> houses, Inn, schools, fields.
Geology	No drift deposits. Sandstone of Lower Coal Measures Formation solid deposits.
Mining	Shallow coal mining risk considered medium. Detailed CMRA required and possible rotary borehole investigation TBC.
Surface Water	Tributary watercourse 337m north.
Ground Water	Drift – Unproductive strata Bedrock – Secondary A Aquifer
Radon	Lower probability radon area (< 1% homes estimated above Action level). No radon protection measures are necessary.
Contamination	General/demolition fill associated with former terraced houses, outbuildings, domestic garages, regrading of the site. <u>Potential Contaminants</u> Asbestos, Heavy Metals, PAH's, TPH's
Landfill Gas	<u>On site:</u> General/demolition fill associated with former terraced houses, outbuildings, domestic garages, regrading of the site. <u>Off site:</u> Historical landfill site 104m east, potentially infilled land, reservoirs 100m east and 202m east, within 250m. Shallow mining. No drift deposits.
Remediation	Watching brief, intrusive investigation and sampling. Allow for 600mm capping layers to gardens and 450mm capping layers to soft landscaped areas. CS2, NHBC Amber 1 gas protection measures.
Contamination Liability	The site is unlikely to be classified by the Local Authority as 'Contaminated Land' or designated a 'Special Site' under the Contaminated Land Regulations, provided remediation measures are carried out.
Foundations	Clay, sands and gravels, shale and sandstone deposits likely to be suitable for strip and pad foundations, to be confirmed by intrusive investigation.
Flood Risk	The EA flood risk maps indicate the site is in Flood Zone 1. Surface water flood risk very low.

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1 INTRODUCTION

1.1 Appointment

- 1.1.1 Build Vision Consulting Engineers were appointed by Jamie Tully to carry out a Phase 1 Desk Study for the site.

1.2 Development Proposals

- 1.2.1 The proposed development comprises the construction of one new residential property and a workshop with associated hard paved, driveway, garden and soft landscaped areas as shown on the proposed site plan enclosed in Appendix A.

1.3 Desk Study Objectives

- 1.3.1 The desk study was carried out in accordance with BS10175 Investigation of potentially contaminated sites and BS5930 Code of practice for site investigations.

- 1.3.2 The purpose of the desk study was to identify potential environmental and geotechnical hazards to the proposed development to undertake environmental risk assessments and recommendations. The desk study was carried out in August 2020 and involved: -

- § A walk over survey of the site
- § Review of Environmental Data (Appendix A)
- § Review of Historical Maps (Appendix A)
- § Review of Geological Maps
- § Review of Coal Mining Report (Appendix A)

- 1.3.3 The desk study results are presented and assessed in the following sections and appendices of this report.

2 DESK STUDY

2.1 Site Location

- 2.1.1 The site is located adjacent to no. 178 Deighton Road in Huddersfield as shown on the site plan enclosed in Appendix A.

2.2 Site Description

- 2.2.1 The site is an irregular shaped parcel of land occupying approximately 0.04 hectares. The site is unoccupied and is an overgrown former domestic garages site. The remains of the demolished garages are still present in piles on the site in the northwest and southeast corners and three tree stumps present in the southeast corner. There are stone retaining walls retaining the site to the east and south boundaries and these are in poor condition with numerous cracks and leaning evident. The former garage panels remain present held in place by chains around tree stumps at the north boundary and there is a retaining wall to the west boundary behind the former garage panels retaining land to the west. The site generally slopes to the southwest as shown on the topographical survey and the aerial and site photo's enclosed in Appendix A.
- 2.2.2 There is no evidence of any significant contamination on the site.
- 2.2.3 There did not appear to be any asbestos containing materials present on the site but garages were often constructed from or lined with asbestos containing materials and an asbestos specialist should be consulted to determine if there are any present and for their safe removal if required.
- 2.2.4 The site is surrounded by houses to the north, east, south and west of the site.
- ### 2.3 Site History
- 2.3.1 The site history has been assessed by a review of landmark historical maps, which are included in Appendix A.
- 2.3.2 The 1854 map is not very clear but shows the site occupied by buildings assumed to be houses. There are houses shown to the north and west and further east and fields to the east and south. Tents are shown approx. 100m north and south and a well is shown approx. 100m west and a Dye Works is shown approx. 250m southwest of the site.

- 2.3.3 The 1894 and 1895 maps show the site occupied by a row of terraced houses with yards and outhouses. There are houses to the north and east, southeast and southwest, fields to the south, an Inn to the west and a school further east of the site. Tenters are shown approx. 100m east, a mill pond approx. 200m east, dye works approx. 230m east and a Woollen Mills approx. 230m west of the site.
- 2.3.4 The 1907, 1908, 1918 and 1930 maps show no significant changes on the site. There is now a bowling green shown approx. 80m south and the woollen mills is now a laundry approx. 230m west of the site.
- 2.3.5 The 1938 and 1948 maps show no significant changes on the site. There is significant housing development shown increasing to the south of the site.
- 2.3.6 The 1956 map shows no significant changes on the site. There is a new large school now shown approx. 100m northwest of the site.
- 2.3.7 The 1959 and 1965 maps show the terraced houses on the site have gone and there are three domestic garages now shown on the east half of the site. There is another new large school now shown approx. 100m north of the site, the mill pond approx. 200m east has gone and there is significant regrading indicated by spoil heaps and embankments shown approx. 100m east of the site.
- 2.3.8 The 1975, 1976, 1980, 1989, 1993 and 1996 maps show no significant change on the site. The school to the east is now noted as a youth club and has extended northeast and there are school playing fields noted approx. 100m northeast of the site.
- 2.3.9 The 2000 aerial map shows a garage in the northwest corner and trees in the southeast area of the site.
- 2.3.10 The 2000 and 2006 maps show the site unoccupied.
- 2.3.11 The 2021 map shows a garage in the northwest corner of the site.

2.4 Geology and Mining

- 2.4.1 Historical maps indicate that the site was occupied by a row of terraced houses, yards and outbuildings prior to three garages occupying the east half of the site and then a garage occupying the northwest corner of the site and the site may have been regraded and filled and therefore made ground deposits may be present beneath the site as general fill and demolition fill.
- 2.4.2 British Geological Society (BGS) Geology Maps indicate no drift deposit are recorded to be present beneath the site. Glaciofluvial sands and gravels and head as clay, silt, sands, gravels are indicated in the vicinity and may be present beneath the site.
- 2.4.3 Solid geology is recorded to be Sandstone of the Pennine Lower Coal Measures Formation present beneath the site.
- 2.4.4 The nearest BGS borehole records approx. 200m west of the site indicate 0.5m to 2m of clay over shale and sandstone layers to 100m depth.
- 2.4.5 A coal mining report has been obtained and is enclosed in Appendix A. The report confirms that the site is not within a surface area that could be affected by past recorded underground mining. However, the site is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered, particularly prior to any site works or future development activity, as ground movement could still be a risk. There are no recorded coal mine entries within, or within 20m of the boundary of the site.
- 2.4.6 The coal authority interactive map indicates that the site is in a coal mining reporting area, a development high risk area and there are coal outcrops and probable or past shallow coal mine workings indicated to be present beneath the site. The coal outcrops are shown northeast to southwest and the dip is shown to the northwest of the site.
- 2.4.7 Geology Maps indicate coal seams conjectured to outcrop southeast of the site from northeast to southwest, no dip directions or angles shown. It is not clear but is likely to be the Crow Coal seam which is recorded as 0 to 1.2m thickness. Coal workings with ten times the thickness of the worked coal seam of rock are considered to have adequate rock cover. If the Crow Coal seam is present beneath the site as the coal seam thickness is recorded as 0 to

1.2m, adequate rock cover would be 12m. As the geology maps indicate coal outcrops to the southeast of the site, there is unlikely to be adequate rock cover present above the coal seam depending on the dip angles, if the coal seam had been worked and if collapse did occur it would be likely to cause settlement at the surface. This concurs with the coal authority interactive map which indicates that the site is within a development high risk area. As there are no dip angles indicated it is not clear at what depth the coal seam could be present beneath the drift deposits beneath the site and a detailed coal mining risk assessment should be carried out, the risk from shallow mining at the site is therefore considered medium.

2.4.8 There are no BGS Recorded Mineral Sites recorded within 250m of the site.

2.4.9 BGS Records indicate ground stability hazards as no, very low or low with the exception of a moderate potential for landslide ground stability hazard 244m north of the site.

2.5 Hydrogeology

2.5.1 The drift deposits are designated as unproductive strata and the bedrock are designated as high vulnerability Secondary A Aquifers. These are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

2.5.2 The site is not located within a source protection zone.

2.5.3 There is one ground water abstraction recorded within 500m for general industrial use 177m west of the site but the license has been revoked.

2.5.4 Groundwater vulnerability maps indicate limited potential for groundwater flooding to occur on the site.

2.6 Hydrology

2.6.1 The nearest surface water feature recorded is an unnamed tributary watercourse 337m north of the site which runs from west to east. Huddersfield Broad Canal is recorded 500m south and the River Colne is recorded 1km south of the site.

2.6.2 There are no surface water abstractions recorded within 500m of the site.

2.6.3 The Environment Agency flood risk maps for planning indicate that the site is in Flood Zone 1. Flood Zone 1 is classified as having a 'Very Low' risk of flooding with a flood risk of less than 1 in 1000 (0.1%).

2.6.4 The EA surface water flood risk maps indicate that the site is in a very low risk of surface water flooding area. There are low risk areas shown to the south of the site on Deighton Road.

2.7 Waste and Mineral Sites

2.7.1 There are no BGS recorded landfill sites within 250m of the site.

2.7.2 There is one historical landfill site recorded 104m east of the site at Deighton Playing Fields, waste details unknown, within 250m of the site.

2.7.3 There are no waste management facilities within 250m of the site.

2.7.4 There are no potentially infilled land (non-water) pit quarry etc. recorded within 250m of the site.

2.7.5 There is one potentially infilled land (water) pond, marsh, river etc. recorded 202m east, within 250m of the site.

2.7.6 There are no Registered Landfill sites within 250m of the site.

2.7.7 There are no Registered Waste Treatment Sites recorded within 250m of the site.

2.8 Radon

2.8.1 Information relating to radon obtained from the National Radiological Protection Board and the BGS indicates that the site is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action level). No radon protection measures are necessary in the construction of new dwellings or extensions.

2.9 Industrial Land Use

2.9.1 There are no Contemporary Trade Directory Entries, Commercial Services or Manufacturing and Production premises recorded on or adjacent to the site.

2.10 Potential Sources of Contamination

- 2.10.1 Historical maps indicate that the site was occupied by a row of terraced houses, yards and outbuildings prior to three garages occupying the east half of the site and then a garage occupying the northwest corner of the site and the site may have been regraded and filled and therefore made ground deposits may be present beneath the site as general fill and demolition fill.
- 2.10.2 There is no evidence of any significant contamination on the site.
- 2.10.3 There did not appear to be any asbestos containing materials present on the site but garages were often constructed from or lined with asbestos containing materials and an asbestos specialist should be consulted to determine if there are any present and for their safe removal if required.
- 2.10.4 The site is and was surrounded by houses to the north, east and south, an Inn to the west and schools further east and north of the site.
- 2.10.5 Potential contaminants associated with general fill and demolition fill associated with the former terraced houses, outbuildings, domestic garages and regrading of the site that may be present beneath the site are asbestos, heavy metals, polyaromatic hydrocarbons (PAH's) and Total Petroleum Hydrocarbons (TPH's).
- 2.10.6 The drift deposits are designated as unproductive strata and the bedrock are designated as high vulnerability Secondary A Aquifers. There are no active ground water abstractions within 250m and the site is not in a source protection zone. The nearest surface water feature is a tributary watercourse located 337m north of the site.
- 2.10.7 The risk to receptors from contamination at the site is therefore considered low.

2.11 Potential Sources of Landfill Gas

- 2.11.1 Historical maps indicate that the site was occupied by a row of terraced houses, yards and outbuildings prior to three garages occupying the east half of the site and then a garage occupying the northwest corner of the site and the site may have been regraded and filled and therefore made ground deposits may be present beneath the site as general fill and demolition. The general fill and demolition fill associated with these are unlikely to be significant potential sources of landfill gases.
- 2.11.2 BS 8485 Code of Practice for the characterisation and remediation from ground gas in affected developments and CIRIA C665 Assessing Risks posed by hazardous ground gases to buildings have been used to assess the risk from landfill gases and any sources of landfill gases within 250m are considered to have the potential to migrate to a site.
- 2.11.3 There are no BGS, Registered landfill sites or waste management or treatment sites or mineral sites within 250m and no potentially infilled land (non-water) pit quarry etc. recorded within 250m of the site.
- 2.11.4 There is one historical landfill site recorded 104m east of the site at Deighton Playing Fields, waste details unknown, within 250m of the site and there is one potentially infilled land (water) pond, marsh, river etc. recorded 202m east, within 250m of the site.
- 2.11.5 Historical maps show significant regrading, spoil heaps and embankments approx. 100m east and a potentially infilled reservoirs approx. 200m east of the site.
- 2.11.6 Landfill sites, infilled land, spoil heaps and reservoirs may contain organic materials/silts/sediments that are potential sources of landfill gases that could migrate to the site.
- 2.11.7 Geology maps indicate no drift deposits over sandstone solid deposits beneath the site. Glaciofluvial sands and gravels and head as clay, silt, sands, gravels are indicated in the vicinity and BGS boreholes indicated clay drift deposits over shale may be present beneath the site. The clay and sandstone are unlikely to be a pathway for migration but the sands and gravels and shales could be a pathway for landfill gases from off site sources within 250m of the site.

- 2.11.8 The site is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action level). No radon protection measures are necessary in the construction of new dwellings or extensions.
- 2.11.9 The site is not within a surface area that could be affected by past recorded underground mining. However, the site is in an area where the Coal Authority believes there is coal at or close to the surface that may have been worked at some time in the past, a development high risk area and there are coal outcrops and probable shallow coal mine workings indicated to be present beneath the site.
- 2.11.10 The risk to receptors from potential landfill gases and mine gases at the site is therefore considered low to medium.

2.12 Conceptual Model

2.12.1 A conceptual model of the site has been produced identifying the sources, pathways and receptors with respect to the proposed development and the effects on the environment and summarised in the following table:

2.12.2 Conceptual Model – Source-Pathway-Receptor

Source	Pathway	Receptor	Risk
<u>Contamination (on site)</u> General fill and demolition fill associated with the former terraced houses, outbuildings, domestic garages and regrading of the site <u>Potential Contaminants</u> Asbestos, Heavy Metals, PAH's, TPH's	Direct contact, Ingestion, Inhalation Direct contact, Ingestion, Inhalation Direct contact Direct contact Direct contact, Ingestion, Inhalation Migration Migration	Construction Workers End User Structures Services Adjacent Land Users Groundwater Surface Water	Low Low Low Low Low Low Low
<u>Contamination (adj. sites)</u> General fill and demolition fill associated with houses, Inn, schools, fields <u>Potential Contaminants</u> Asbestos, Heavy Metals, PAH's, TPH's	Migration Migration Migration Migration	Construction Workers End User Structures Services	Low Low Low Low
<u>Landfill Gases (on site)</u> General fill and demolition fill associated with the former terraced houses, outbuildings, domestic garages and regrading of the site	Migration-Asphyxiation, Explosion Migration-Asphyxiation, Explosion	Construction Workers End User	Low Low
<u>Landfill and Mine Gases (within 250m)</u> Historical landfill site 104m east, potentially infilled land, reservoirs 100m east and 202m east, within 250m. Shallow mining. No drift deposits.	Migration-Asphyxiation, Explosion Migration-Asphyxiation, Explosion	Construction Workers End User	Low/Med Low/Med

3 REMEDIATION STRATEGY AND FURTHER SITE INVESTIGATION RECOMMENDATIONS

3.1 General

- 3.1.1 The Site Investigation Conceptual Model indicates that there are Source-Pathway-Receptor pollution linkages present on the site and therefore the following remediation measures will be required to mitigate the risks identified.

3.2 Contamination

- 3.2.1 Historical maps indicate that the site was occupied by a row of terraced houses, yards and outbuildings prior to three garages occupying the east half of the site and then a garage occupying the northwest corner of the site and the site may have been regraded and filled and therefore made ground deposits may be present beneath the site as general fill and demolition fill.
- 3.2.2 There is no evidence of any significant contamination on the site.
- 3.2.3 There did not appear to be any asbestos containing materials present on the site but garages were often constructed from or lined with asbestos containing materials and an asbestos specialist should be consulted to determine if there are any present and for their safe removal if required.
- 3.2.4 The site is and was surrounded by houses to the north, east and south, an Inn to the west and schools further east and north of the site.
- 3.2.5 Potential contaminants associated with general fill and demolition fill associated with the former terraced houses, outbuildings, domestic garages and regrading of the site that may be present beneath the site are asbestos, heavy metals, polyaromatic hydrocarbons (PAH's) and Total Petroleum Hydrocarbons (TPH's).
- 3.2.6 The drift deposits are designated as unproductive strata and the bedrock are designated as high vulnerability Secondary A Aquifers. There are no active ground water abstractions within 250m and the site is not in a source protection zone. The nearest surface water feature is a tributary watercourse located 337m north of the site.
- 3.2.7 The risk to receptors from contamination at the site is therefore considered low.

- 3.2.8 This Desk Study Report should be submitted to the Local Authority for approval and a watching brief with photographic records should be carried out during initial earthworks and excavations at the site to determine if an intrusive ground investigation should be carried out to assess the ground conditions and obtain samples for contamination analysis in accordance with BS10175:2001 to identify the level of risk associated with the potential sources of contamination and the pathways. All investigation works should be agreed with the Local Authority.
- 3.2.9 Until the intrusive investigation is carried out, it would be prudent to allow for minimum 600mm capping layers to the garden areas and 450mm to the soft landscaped areas, comprising minimum 100mm granular capillary break layer or geotextile membrane and the remainder as 'inert' subsoil and/or topsoil.
- 3.2.10 If there is insufficient topsoil and subsoil on site or it is not considered suitable for re-use, validation sampling of any imported soil or sub soil will be required and should comprise 1 sample per 50m³ of topsoil and subsoil with 3 no. samples minimum of any source of material. Delivery tickets and waste transfer notes will be required for all material imported and disposed off site.
- 3.2.11 Construction workers should adopt appropriate health and safety measures on site and undertake soil gas monitoring prior to and during man entry of below ground voids or confined spaces, as detailed in HSE guidance.
- 3.2.12 Dust suppression measures should be adopted during all earthworks.
- 3.2.13 Surface water control measures should be adopted during construction to limit runoff and infiltration through exposed made ground and to limit siltation of the surface drainage.
- 3.2.14 Buried concrete and services should be designed in accordance with the guidance given in BRE Special Digest 1: Concrete in aggressive ground.
- 3.2.15 The advice of service providers should be obtained to ensure that appropriate measures are taken to protect services from contamination and aggressive ground conditions.

3.3 Landfill Gas

- 3.3.1 Historical maps indicate that the site was occupied by a row of terraced houses, yards and outbuildings prior to three garages occupying the east half of the site and then a garage occupying the northwest corner of the site and the site may have been regraded and filled and therefore made ground deposits may be present beneath the site as general fill and demolition. The general fill and demolition fill associated with these are unlikely to be significant potential sources of landfill gases.
- 3.3.2 BS 8485 Code of Practice for the characterisation and remediation from ground gas in affected developments and CIRIA C665 Assessing Risks posed by hazardous ground gases to buildings have been used to assess the risk from landfill gases and any sources of landfill gases within 250m are considered to have the potential to migrate to a site.
- 3.3.3 There are no BGS, Registered landfill sites or waste management or treatment sites or mineral sites within 250m and no potentially infilled land (non-water) pit quarry etc. recorded within 250m of the site.
- 3.3.4 There is one historical landfill site recorded 104m east of the site at Deighton Playing Fields, waste details unknown, within 250m of the site and there is one potentially infilled land (water) pond, marsh, river etc. recorded 202m east, within 250m of the site.
- 3.3.5 Historical maps show significant regrading, spoil heaps and embankments approx. 100m east and a potentially infilled reservoirs approx. 200m east of the site.
- 3.3.6 Landfill sites, infilled land, spoil heaps and reservoirs may contain organic materials/silts/sediments that are potential sources of landfill gases that could migrate to the site.
- 3.3.7 Geology maps indicate no drift deposits over sandstone solid deposits beneath the site. Glaciofluvial sands and gravels and head as clay, silt, sands, gravels are indicated in the vicinity and BGS boreholes indicated clay drift deposits over shale may be present beneath the site. The clay and sandstone are unlikely to be a pathway for migration but the sands and gravels and shales could be a pathway for landfill gases from off site sources within 250m of the site.

- 3.3.8 The site is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action level). No radon protection measures are necessary in the construction of new dwellings or extensions.
- 3.3.9 The site is not within a surface area that could be affected by past recorded underground mining. However, the site is in an area where the Coal Authority believes there is coal at or close to the surface that may have been worked at some time in the past, a development high risk area and there are coal outcrops and probable shallow coal mine workings indicated to be present beneath the site.
- 3.3.10 The risk to receptors from potential landfill gases and mine gases at the site is therefore considered low to medium.
- 3.3.11 In accordance with BS 8485 and CIRIA C665 a watching brief with photographic records should be carried out during initial earthworks and excavations at the site to determine if an intrusive ground investigation should be carried out to assess ground conditions beneath the site and to identify the level of risk associated with the potential sources of landfill gases and potential pathways for migration and to determine if it is necessary to carry out a landfill gas survey consisting of the installation of gas standpipes and a minimum of 6 no. gas monitoring visits over a 3 month period initially to assess the gas risk. For such a small development it may be possible to agree gas protection measures in lieu of carrying out gas monitoring.
- 3.3.12 Until the intrusive investigation is carried out, it would be prudent to allow for gas protection measures to be provided in accordance with CS2 and NHBC Amber 1 from BS 8485 in the substructures. For residential, a score of 3.5 is required, this can be achieved by providing the following gas protection measures: -
- § Reinforced concrete cast in-situ, beam and block or pre-cast concrete floor slabs with low permeability gas membranes with taped joints and sealed entries using specialist approved gas prevention tape and underfloor ventilated void or vented layers, ideally installed by a certified installer.
 - § Basement floor and walls in accordance with BS 8102 Grade 2 Waterproofing with low permeability gas membranes or tanking materials and products, ideally installed by a certified installer.

3.3.13 Validation of the installation of the gas protection measures will be required with delivery notes and photographic evidence.

3.4 Waste Regulations

3.4.1 Consultation should be made with the Environment Agency to confirm whether the transfer of materials should be registered as exempt from Waste Management licensing or require licensing.

3.5 Landfill Tax

3.5.1 It will be necessary to undertake waste characterisation with current landfill regulations prior to off site disposal of material.

3.6 Liability Statement

3.6.1 The site is unlikely to be classified by the Local Authority as 'Contaminated Land' or designated a 'Special Site' under the Contaminated Land Regulations provided remediation measures are carried out.

3.7 Foundation Design

3.7.1 Historical maps indicate that the site was occupied by a row of terraced houses, yards and outbuildings prior to three garages occupying the east half of the site and then a garage occupying the northwest corner of the site and the site may have been regraded and filled and therefore made ground deposits may be present beneath the site as general fill and demolition.

3.7.2 The made ground is unlikely to be suitable for foundations due to the risk of differential settlement.

3.7.3 Geology Maps indicate no drift deposits over sandstone solid deposits beneath the site. Glaciofluvial sands and gravels and head as clay, silt, sands, gravels are indicated in the vicinity and BGS boreholes indicated clay drift deposits over shale may be present beneath the site.

3.7.4 The clay and sands and gravel, shale and sandstone if present are likely to be suitable for strip and pad foundations, but this should be confirmed by intrusive investigation. If depths to suitable ground are greater than 3m then piled foundations may need to be considered and specialist piling contractors should be consulted for the design.

- 3.7.5 An intrusive ground investigation should be carried out to assess the ground conditions and obtain samples for geotechnical testing in accordance with BS5930 Code of practice for site investigations and BS1377 Methods of test for soils for civil engineering purposes.
- 3.7.6 As there may be clay drift deposits present beneath the site and there have been trees present on and adjacent to the site, a tree survey and plasticity tests may be necessary to determine the shrinkability of the clay to assess potential heave in accordance with the NHBC Guidance For Building Near Trees.
- 3.7.7 Sulphate and pH tests should be carried out to design buried concrete and services in accordance with the guidance given in BRE Specialist Digest 1: Concrete in aggressive ground.
- 3.8 Retaining Walls
- 3.8.1 Retaining walls are likely to be required at the site and should be considered during detailed design.
- 3.9 Pavement Design
- 3.9.1 CBR tests should be carried out on the formation subgrade prior to design of pavements at the site.
- 3.10 Mining
- 3.10.1 The coal mining report confirms that the site is not within a surface area that could be affected by past recorded underground mining. However, the site is in an area where the Coal Authority believes there is coal at or close to the surface. This coal may have been worked at some time in the past. The potential presence of coal workings at or close to the surface should be considered, particularly prior to any site works or future development activity, as ground movement could still be a risk. There are no recorded coal mine entries within, or within 20m of the boundary of the site.
- 3.10.2 The coal authority interactive map indicates that the site is in a coal mining reporting area, a development high risk area and there are coal outcrops and probable or past shallow coal mine workings indicated to be present beneath the site. The coal outcrops are shown northeast to southwest and the dip is shown to the northwest of the site.
- 3.10.3 Geology Maps indicate coal seams conjectured to outcrop southeast of the site from northeast to southwest, no dip directions or angles shown. It is not clear but is likely to be the

Crow Coal seam which is recorded as 0 to 1.2m thickness. Coal workings with ten times the thickness of the worked coal seam of rock are considered to have adequate rock cover. If the Crow Coal seam is present beneath the site as the coal seam thickness is recorded as 0 to 1.2m, adequate rock cover would be 12m. As the geology maps indicate coal outcrops to the southeast of the site, there is unlikely to be adequate rock cover present above the coal seam depending on the dip angles, if the coal seam had been worked and if collapse did occur it would be likely to cause settlement at the surface. This concurs with the coal authority interactive map which indicates that the site is within a development high risk area. As there are no dip angles indicated it is not clear at what depth the coal seam could be present beneath the drift deposits beneath the site.

3.10.4 A detailed coal mining risk assessment should be carried out and it may be necessary to carry out a rotary borehole shallow mining investigation, the risk from shallow mining at the site is therefore considered medium.

3.11 Flood Risk

3.11.1 The Environment Agency flood risk maps for planning indicate that the site is in Flood Zone 1. Flood Zone 1 is classified as having a 'Very Low' risk of flooding with a flood risk of less than 1 in 1000 (0.1%).

3.11.2 The EA surface water flood risk maps indicate that the site is in a very low risk of surface water flooding area. There are low risk areas shown to the south of the site on Deighton Road.

3.11.3 Groundwater vulnerability maps indicate limited potential for groundwater flooding to occur on the site.

3.11.4 The local authority and/or the Environment Agency should be consulted to determine if a flood risk assessment is required for the site in accordance with flood risk planning policy and guidance.

3.12 Drainage

3.12.1 It is assumed that the former terraced houses had drains and sewers that discharged to the public sewers in Deighton Road and these should be investigated further and details confirmed on site.

3.12.2 The use of sustainable drainage systems (SUDS) such as soakaways, permeable pavements, infiltration basins, ponds and swales should be incorporated where possible into the surface water drainage design to reduce surface water runoff from the development. Soakaway tests should be carried out in accordance with BRE365 to determine infiltration co-efficients and confirm whether the site is suitable for infiltration methods of SUDS. Should these prove inadequate, permeable pavements should still be considered as attenuation and to slow down flows and flow control and attenuation are feasible within the site.

4 FURTHER WORKS

4.1.1 The desk study should be submitted to the local authority for comment/approval.

4.1.2 The recommended detailed coal mining risk assessment should be carried out.

4.1.3 The recommended watching brief and intrusive investigation should be carried out.

DISCLAIMER

The recommendations made and the opinions expressed in this report are based on the borehole and/or trial pit records, examination of samples and the results of the site and laboratory tests. The report is issued on the condition that Build Vision Consulting Engineers, will in no circumstances be liable for any loss arising directly or indirectly from ground conditions between the boreholes or trial pits which have not been shown by the borehole, trial pits or other tests carried out during the investigation, nor for any loss whatsoever arising directly or indirectly from any opinion given on the possible configuration of strata both between the borehole and/or trial pit positions and/or below the maximum depth of the investigation : such opinions, where given, are for guidance only. This report is confidential, personal to the client, non-assignable and not for the benefit of third parties.

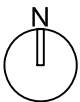
APPENDIX A

DESK STUDY INFORMATION

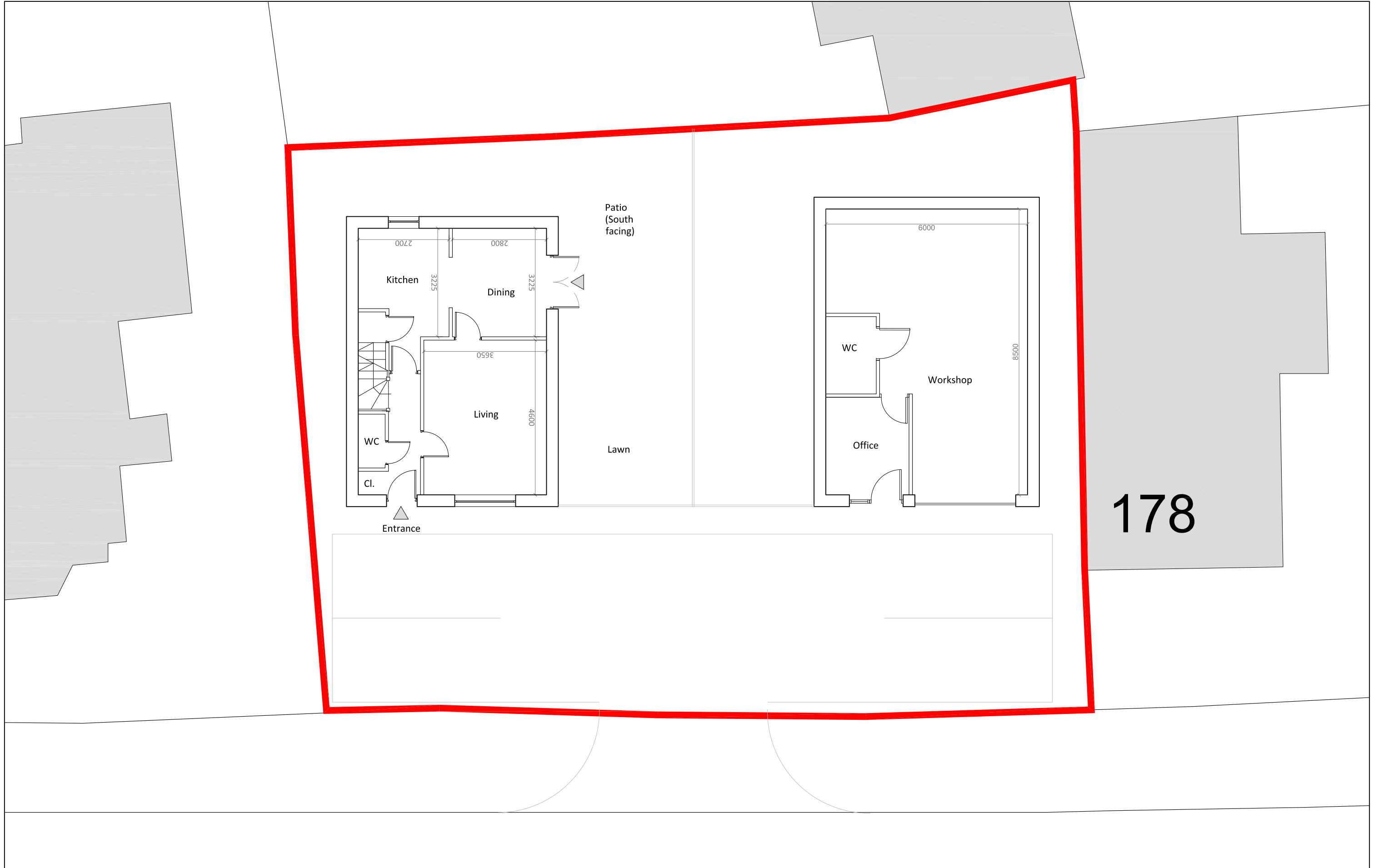
- § Site Location Plan
- § Proposed Site Plan
- § Topographical Survey
- § Aerial Photo
- § Site Photo's
- § Historical Maps
- § Environmental Report
- § Coal Mining Report



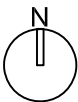
Location Plan (1.500 @ A3)



CLIENT Mr J Tully				
PROJECT 188 Deighton Rd, Huddersfield				
DRAWING TITLE Location Plan				
SCALE 1.100 @ A3	DATE OF ORIGIN 04.07.21	PROJECT No. 150	DRAWING No. AP001	REVISION -



178



CLIENT Mr J Tully				
PROJECT 188 Deighton Rd, Huddersfield				
DRAWING TITLE Proposed Site Plan (Option 2)				
SCALE 1:100 @ A3	DATE OF ORIGIN 04.07.21	PROJECT No. 150	DRAWING No. AP011	REVISION -



Quickdraw
SURVEYS LTD.

Quickdraw Surveys Ltd, 58 Mavis Drive
Coppull, Lancashire, PR7 5AF

Telephone: 01257 795111

E-mail: admin@QuickdrawSurveys.co.uk
Web Site: www.QuickdrawSurveys.co.uk

Notes:

The survey has been related to the Ordnance Survey National Grid and level datum using Leica GPS SmartNet data.

Tree heights and spreads are estimated and specie identification cannot be assured.

Only features that are accessible/visible at the time of survey can be detailed.

There are no gaurantees offered on the drainage information supplied.

Before commencing works please check important dimensions on-site.

Should there be any discrepancies, inconsistencies, omissions or queries please contact Quickdraw Surveys Ltd as soon as possible for a resolution.

Abbreviations:

Topographical Surveys

BT	British Telecom Cover	FPR	Post & Rail	RS	Road Sign
Bin	Litter Bin	FPW	Post & Wire	RWP	Rain water pipe
BL	Basement Light	FSF	Safety Barrier	SV	Stop Valve
BT	British Telecom Cover	FWM	Wire Mesh	Sty	Cable Stay
OPS	Conc Paving Slabs	FL	Floodlight	TB	Telephone Box
CTV	Cable Television Cable	FP	Flapgate	TF	Traffic Light
Elec	Electric Cover	G	Gully	TP	Telegraph Pole
EP	Electric Pole	GV	Gas Valve	VP	Vent Pipe
ER	Earthing Rod	Hyd	Hydrant	WM	Water Meter
Fence	Mixed Fencing	IC	Inspection Cover	WO	Water Outlet
FBW	Barbed Wire	JB	Junction Box	U/L	Unable to Lift
FOB	Close Board	KQ	Kerb Outlet		
FCI	Corrugated Iron	LB	Letter Box		
FCL	Chain Link	LP	Lamp Post		
FCP	Conc Panel	Mkr	Utility marker		
F(D)I	Disrupted Fence	PM	Parking Meter		
FR	Iron Railings	Pst	Post		
FOB	Open Board	RE	Rodding Eye		
FPB	Post & Chain	RNP	Road Name Plate		
ALev	Arch Level	ILev	Invert Level	ThLev	Threshold Level
BL	Bed Level	PLev	Parapet Level	ToF	Top of Fence Level
CLev	Cover Level	RLev	Ridge Level	ToW	Top of Wall Level
ELev	Eaves Level	SLev	Soft Level	WLev	Water Level

A2 Plot @ 1:200

Client Mr Jamie Tully

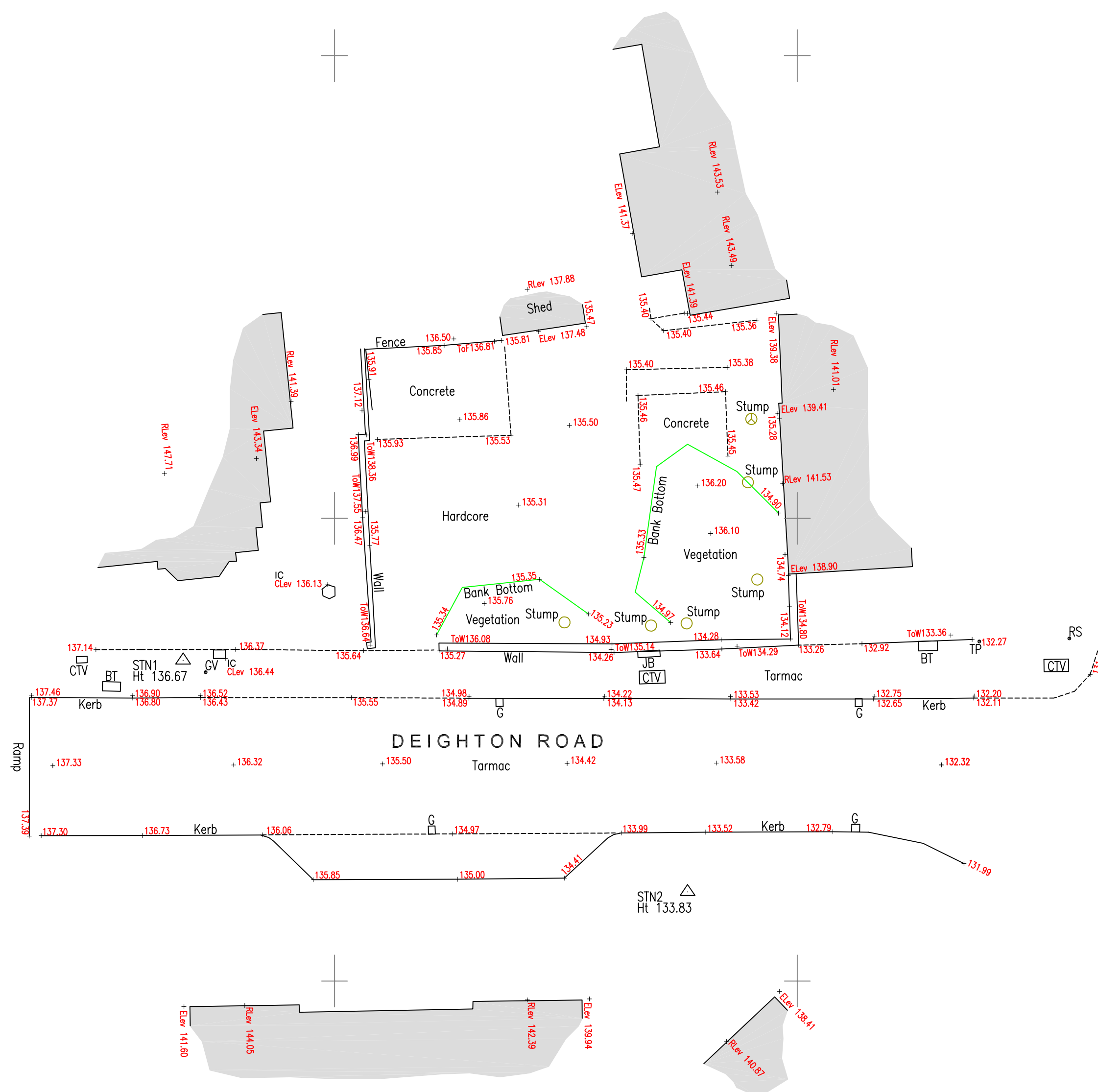
Date July 2021

Project

Topographical Survey
No.188 Deighton Road,
Huddersfield, HD2 1JJ

Scale 1:200

Drawing Number	Revision
QDS/ 350/1115/TOP	0









Historical Mapping Legends

Ordnance Survey County Series 1:10,560

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

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		Administrative County, County Borough or County of City
	Municipal Borough, Urban or Rural District, Burgh or District Council		Borough, Burgh or County Constituency
	Civil Parish		
	BP, BS Boundary Post or Stone		Police Station
	Church		Post Office
	Club House		Public Convenience
	Fire Engine Station		Public House
	Foot Bridge		Signal Box
	Fountain		Spring
	Guide Post		Telephone Call Box
	Mile Post		Telephone Call Post
	Mile Stone		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
	Mean high water (springs)		Mean low water (springs)
	Telephone line (where shown)		Electricity transmission line (with poles)
	Bench mark (where shown)		Triangulation station
	Point feature (e.g. Guide Post or Mile Stone)		Pylon, flare stack or lighting tower
	Site of (antiquity)		Glasshouse
	General Building		Important Building

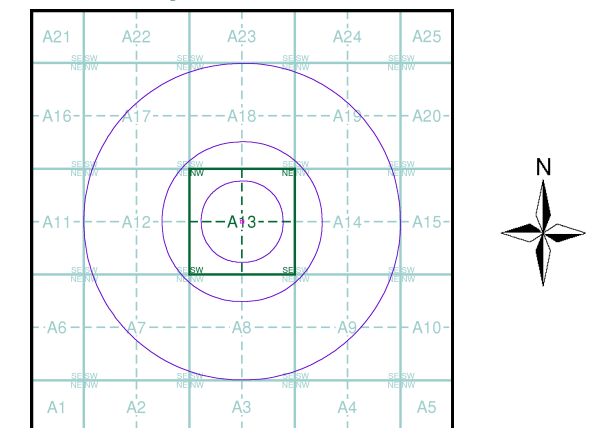
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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:10,560	1854	3
Yorkshire	1:10,560	1894	4
Yorkshire	1:10,560	1908	5
Yorkshire	1:10,560	1930	6
Yorkshire	1:10,560	1938	7
Yorkshire	1:10,560	1948	8
Ordnance Survey Plan	1:10,000	1956	9
Ordnance Survey Plan	1:10,000	1965 - 1969	10
Halifax	1:10,000	1975	11
Ordnance Survey Plan	1:10,000	1976 - 1978	12
Ordnance Survey Plan	1:10,000	1982 - 1989	13
Batley	1:10,000	1983	14
Huddersfield	1:10,000	1984	15
Ordnance Survey Plan	1:10,000	1990	16
10K Raster Mapping	1:10,000	2000	17
10K Raster Mapping	1:10,000	2006	18
VectorMap Local	1:10,000	2021	19

Historical Map - Slice A



Order Details

Order Number: 284079089_1_1
Customer Ref: 1299
National Grid Reference: 415890, 419400
Slice: A
Site Area (Ha): 0.04
Search Buffer (m): 1000

Site Details

Land adj. 178 Deighton Road, HUDDERSFIELD, HD2 1JJ

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Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings Military and Industrial Buildings

Military and Communication Areas Subway Entrance

Fireproof Building Prominent Fireproof Building

Non-fireproof Building Non-fireproof Building (non-dwelling)

Factory, mill, and flour mill, with chimneys Factory, mill, and flour mill, without chimneys

Power Station, drawn to scale Hydroelectric Power Station

Radio Station, drawn to scale Telephone Station, drawn to scale

Abandoned Open-pit Mine or Quarry Open-pit Salt Mine

Pit Oil Deposit or Well Oil Seepage

Tailings Pile Fuel Storage Tanks Natural Gas Tank

Bench Mark Drill Hole Burial Mound Triangulation Point on Burial Mound

Single-track Railroad Double-track Railroad and Station Building

Coniferous Forest Deciduous Forest Mixed Forest

Lawns Citrus Orchard Wet Ground Scattered Vegetation

243.8 Values for prominent elevations

186.0 Numbers for spot elevations, depth soundings, contour lines, etc.

0.2 Velocity of the current, width of river bed, depth of river

180/12 Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A) З з (Z) П п (P) Ч ч (CH)

Б б (B) И и (I) Р р (R) Ш ш (SH)

В в (V) Й й (Y) С с (S) Щ щ (SHCH)

Г г (G) К к (K) Т т (T) Ъ ъ (-)

Д д (D) Л л (L) У у (U) Ы ы (Y)

Е е (E) М м (M) Ф ф (F) Ь ь (')

Ё ё (YO) Н н (N) Х х (KH) Э э (E)

Ж ж (ZH) О о (O) Ц ц (TS) Ю ю (YU or IU)

Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale

Government and Administrative Buildings Military and Industrial Buildings

Military and Communication Areas Subway Entrance

Partly Demolished Buildings Demolished Buildings

Built-Up Area with Fireproof Buildings Predominant Built-Up Area with Non-Fireproof Buildings Predominant

Individual Fireproof Building Prominent Industrial Building

Individual Dwelling, Fireproof Ruins of an Individual Dwelling

Factory or Mill Chimney Factory or Mill with Chimney Factory or Mill without Chimney Mine or Open Pit Mine

Operating Shaft or Mine Non-Operating Shaft or Mine Salt Mine Tailings Pile

Pit Stone Quarry Gas Pump or Service Station Fuel Storage or Natural Gas Tank

Oil or Natural Gas Derrick Small Hydroelectric Power Station Power Station Transformer Station

Cemetery Burial Mound (height in metres) Triangulation Point on Burial Mound Triangulation Point

Bench Mark Bench Mark (monumented) Telegraph Office Telephone Station

Radio Station Radio Tower Airfield or Seaplane Base Landing Strip

Telegraph/Telephone Lines Main Highway Highway under Construction Improved Dirt Road (former truck road)

Double-track Railroad with First Class Station Dismantled Railroad Railroad Under Construction

Shore Embankment River or Ditch with Embankment Direction and velocity of current Water Gauge Water Level Mark

Well Water Reservoir or Rain Water Pit Spring Isobath with value

Heavy (Index) Contour Line Contour Line and Value Half Contour Line Spot Elevation Value

Coniferous Deciduous Mixed Scrub

Key to Numbers on Mapping

SE11NE_Huddersfield

No.	Description
14	Chemical Plant

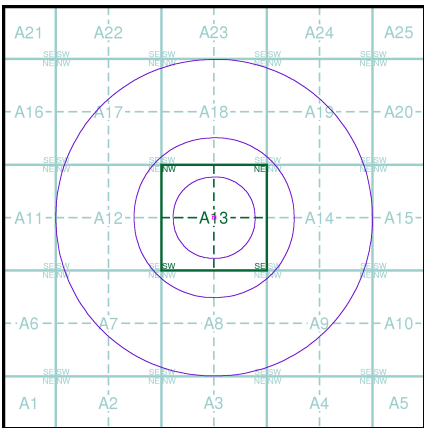
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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:10,560	1854	3
Yorkshire	1:10,560	1894	4
Yorkshire	1:10,560	1908	5
Yorkshire	1:10,560	1930	6
Yorkshire	1:10,560	1938	7
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Ordnance Survey Plan	1:10,000	1965 - 1969	10
Halifax	1:10,000	1975	11
Ordnance Survey Plan	1:10,000	1976 - 1978	12
Ordnance Survey Plan	1:10,000	1982 - 1989	13
Batley	1:10,000	1983	14
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10K Raster Mapping	1:10,000	2000	17
10K Raster Mapping	1:10,000	2006	18
VectorMap Local	1:10,000	2021	19

Russian Map - Slice A



Order Details

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Customer Ref: 1299
National Grid Reference: 415890, 419400
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Site Details

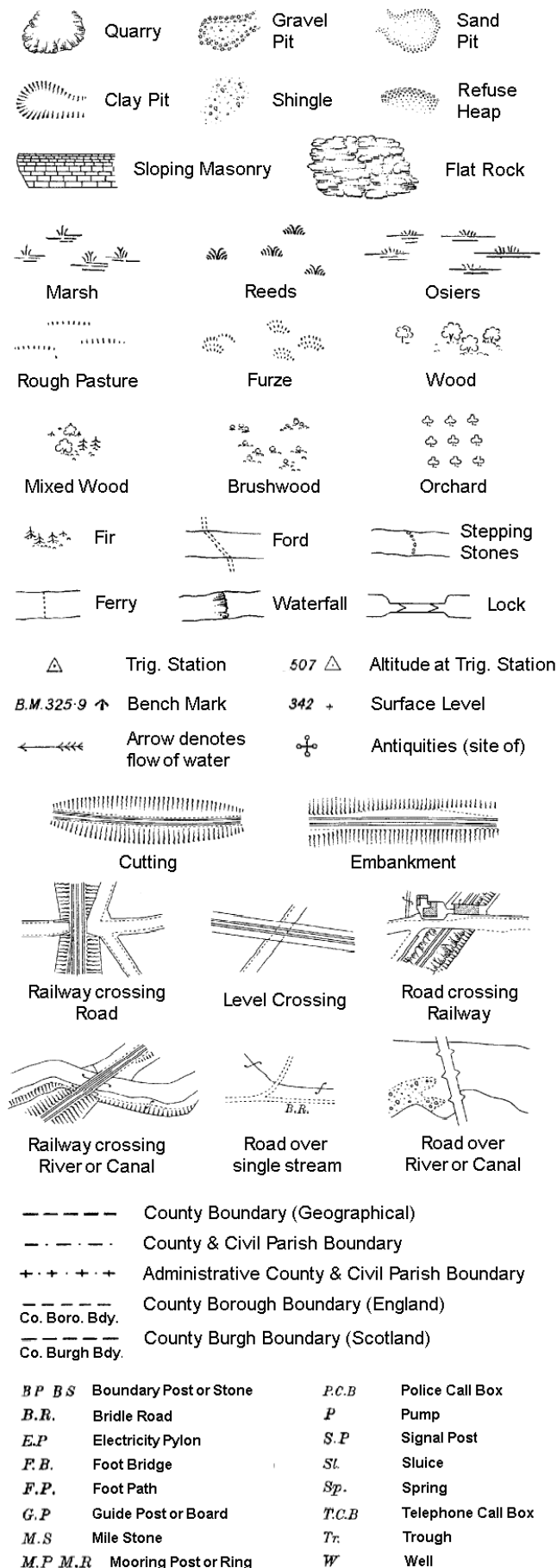
Land adj. 178 Deighton Road, HUDDERSFIELD, HD2 1JJ

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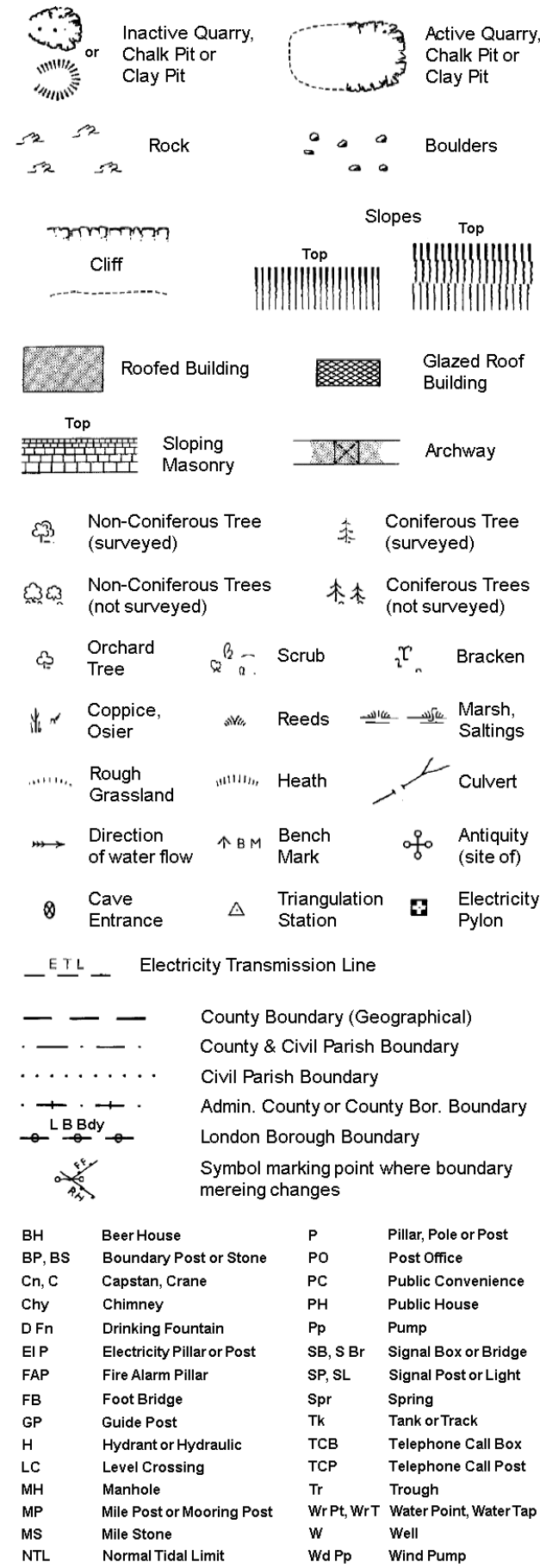
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

Historical Mapping Legends

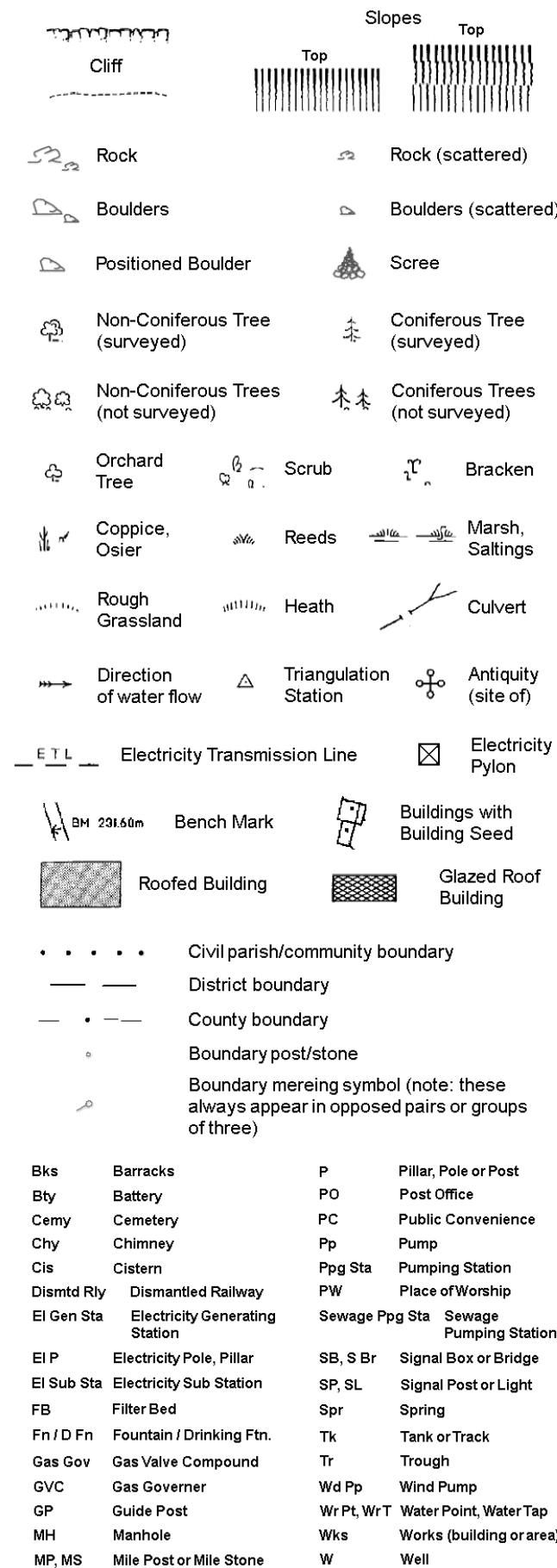
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



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



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



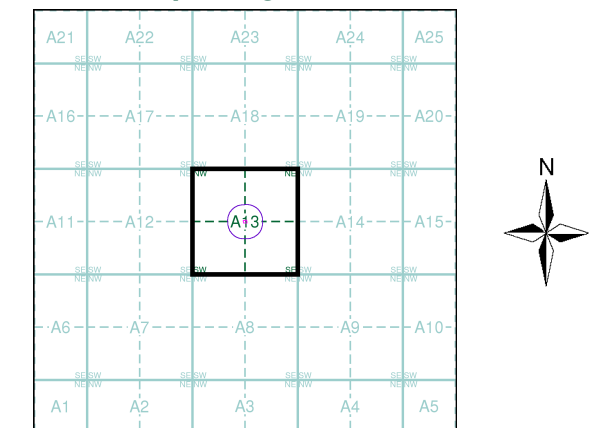
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Historical Mapping & Photography included:

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Yorkshire	1:2,500	1907	3
Yorkshire	1:2,500	1918	4
Ordnance Survey Plan	1:1,250	1958 - 1959	5
Ordnance Survey Plan	1:2,500	1959	6
Ordnance Survey Plan	1:1,250	1966 - 1970	7
Ordnance Survey Plan	1:2,500	1971	8
Supply of Unpublished Survey Information	1:1,250	1974 - 1975	9
Supply of Unpublished Survey Information	1:1,250	1975	10
Additional SIMs	1:1,250	1979 - 1985	11
Large-Scale National Grid Data	1:1,250	1993	12
Large-Scale National Grid Data	1:1,250	1996	13
Historical Aerial Photography	1:2,500	2000	14

Historical Map - Segment A13



Order Details

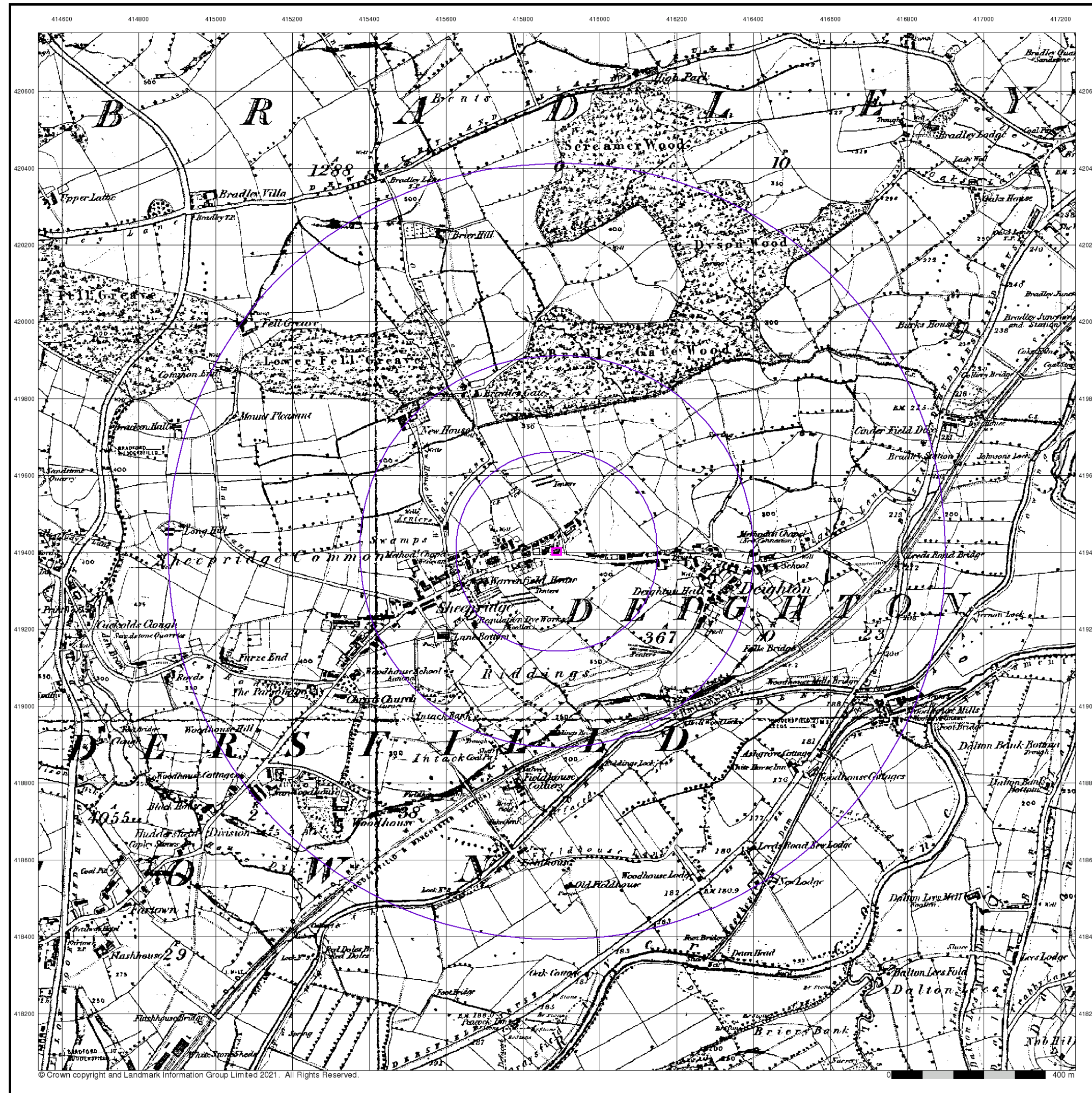
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Slice: A
Site Area (Ha): 0.04
Search Buffer (m): 100

Site Details

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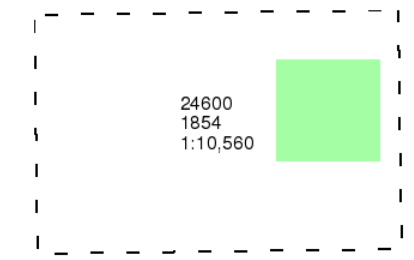
Yorkshire

Published 1854

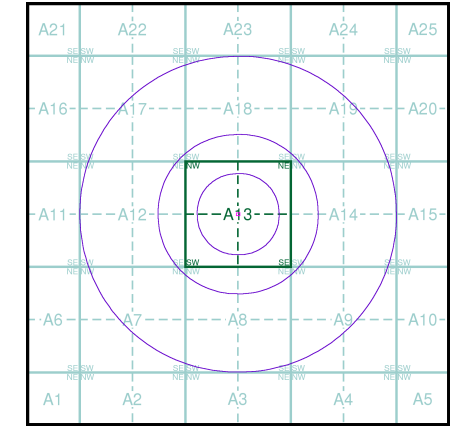
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps.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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

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Slice: A
Site Area (Ha): 0.04
Search Buffer (m): 1000

Site Details

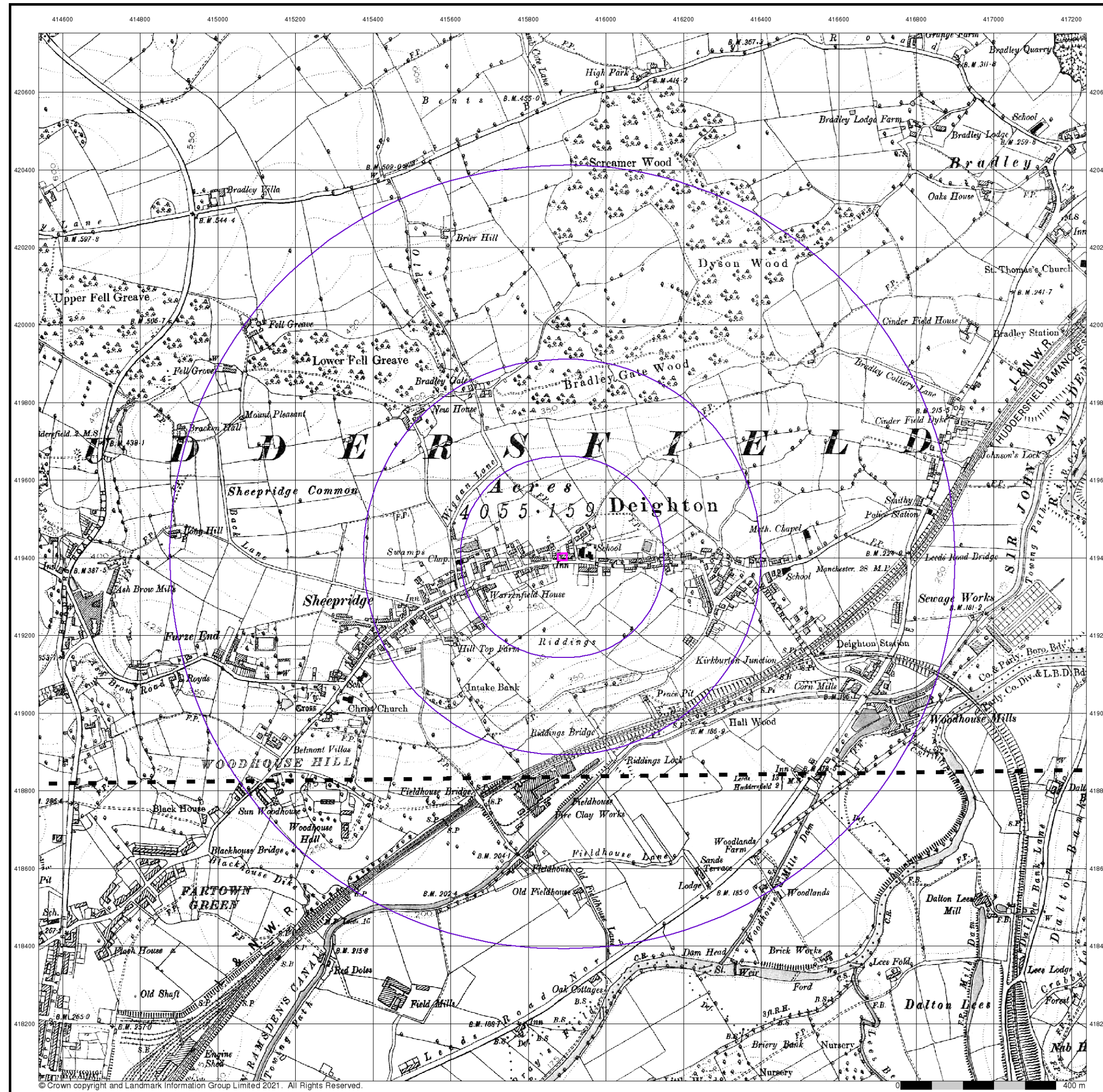
Land adj. 178 Deighton Road, HUDDERSFIELD, HD2 1JJ

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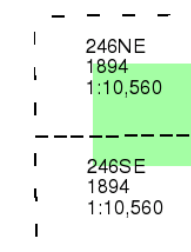
Yorkshire

Published 1894

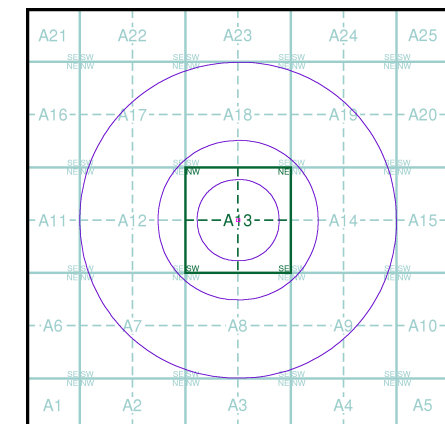
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

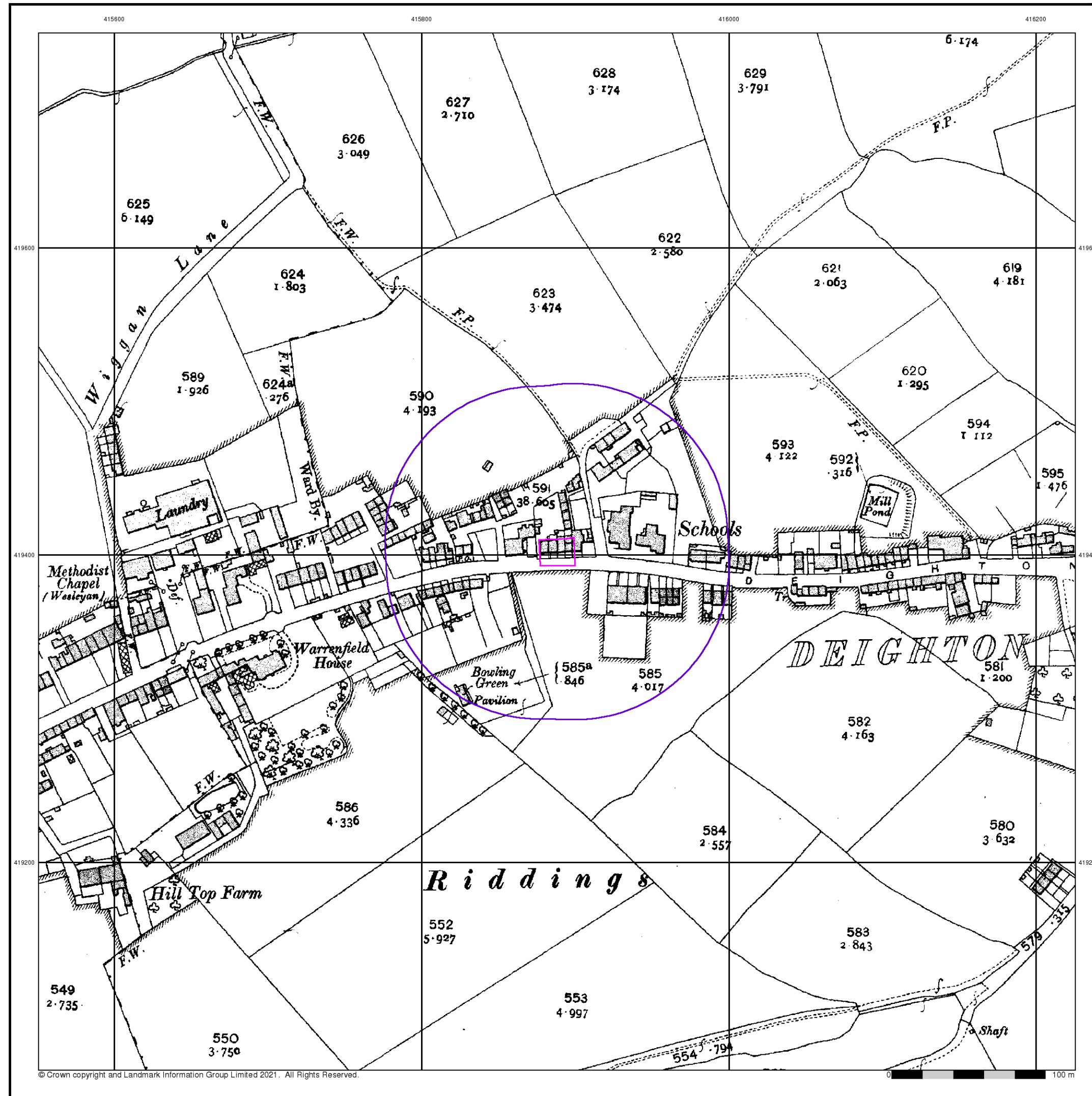
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Slice: A
Site Area (Ha): 0.04
Search Buffer (m): 1000

Site Details

Land adj. 178 Deighton Road, HUDDERSFIELD, HD2 1JJ

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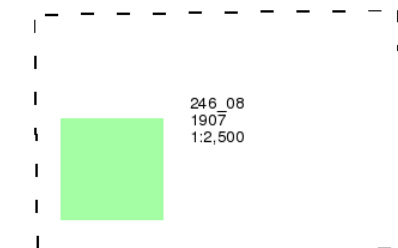
Yorkshire

Published 1907

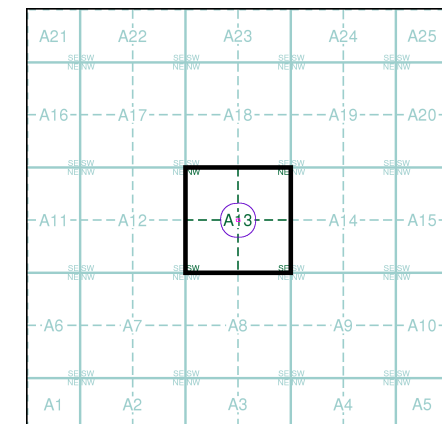
Source map scale - 1:2,500

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

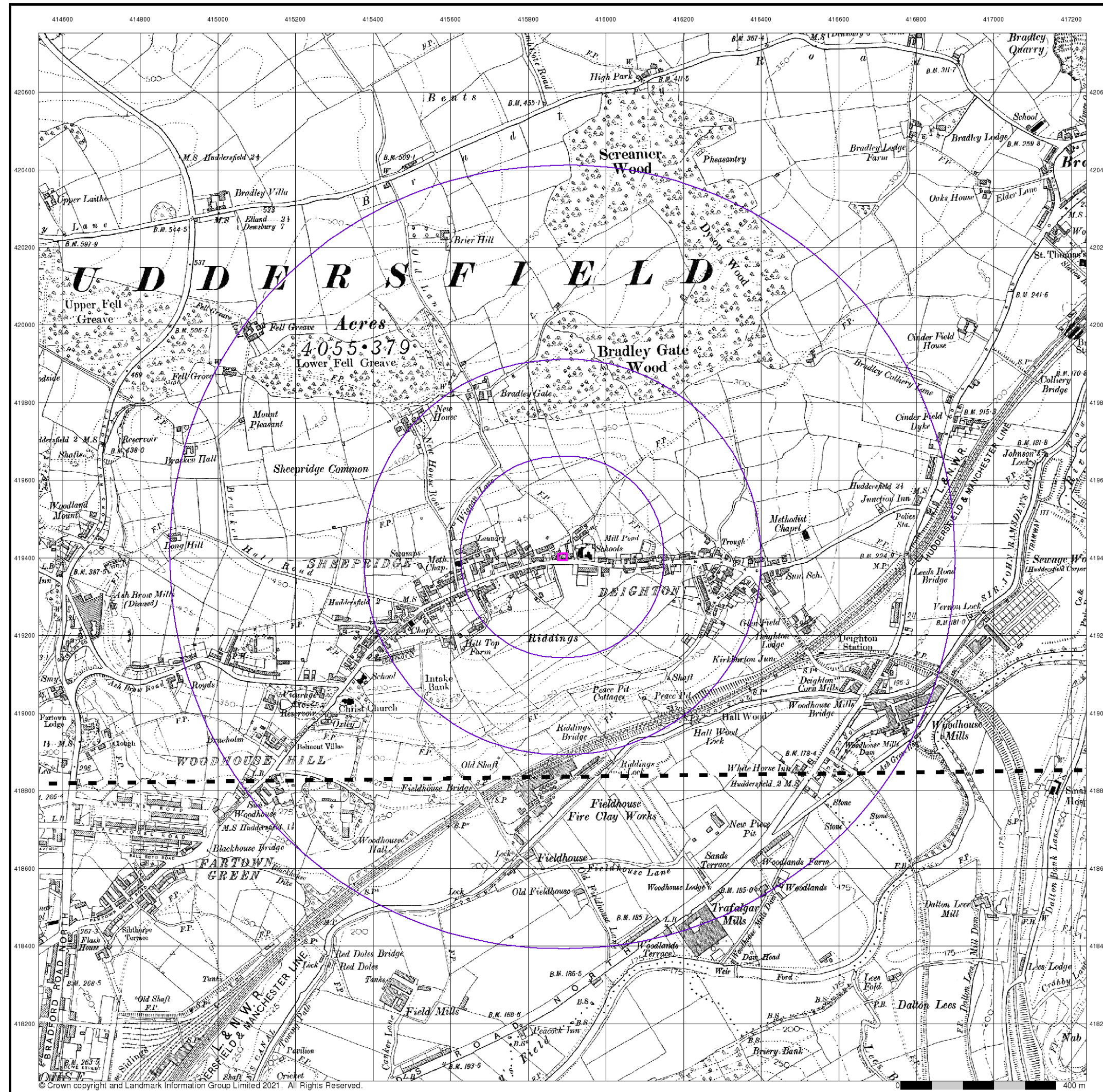
Order Number: 284079089_1_1
Customer Ref: 1299
National Grid Reference: 415890, 419400
Slice: A
Site Area (Ha): 0.04
Search Buffer (m): 100

Site Details

Land adj. 178 Deighton Road, HUDDERSFIELD, HD2 1JJ

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Yorkshire

Published 1908

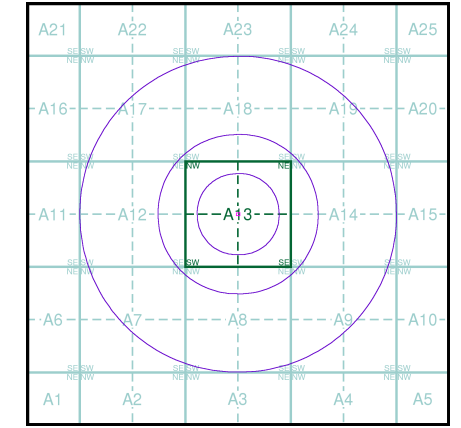
Source map scale - 1:10,560

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)

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1:10,560	
246SE	1908
1:10,560	

Historical Map - Slice A



Order Details

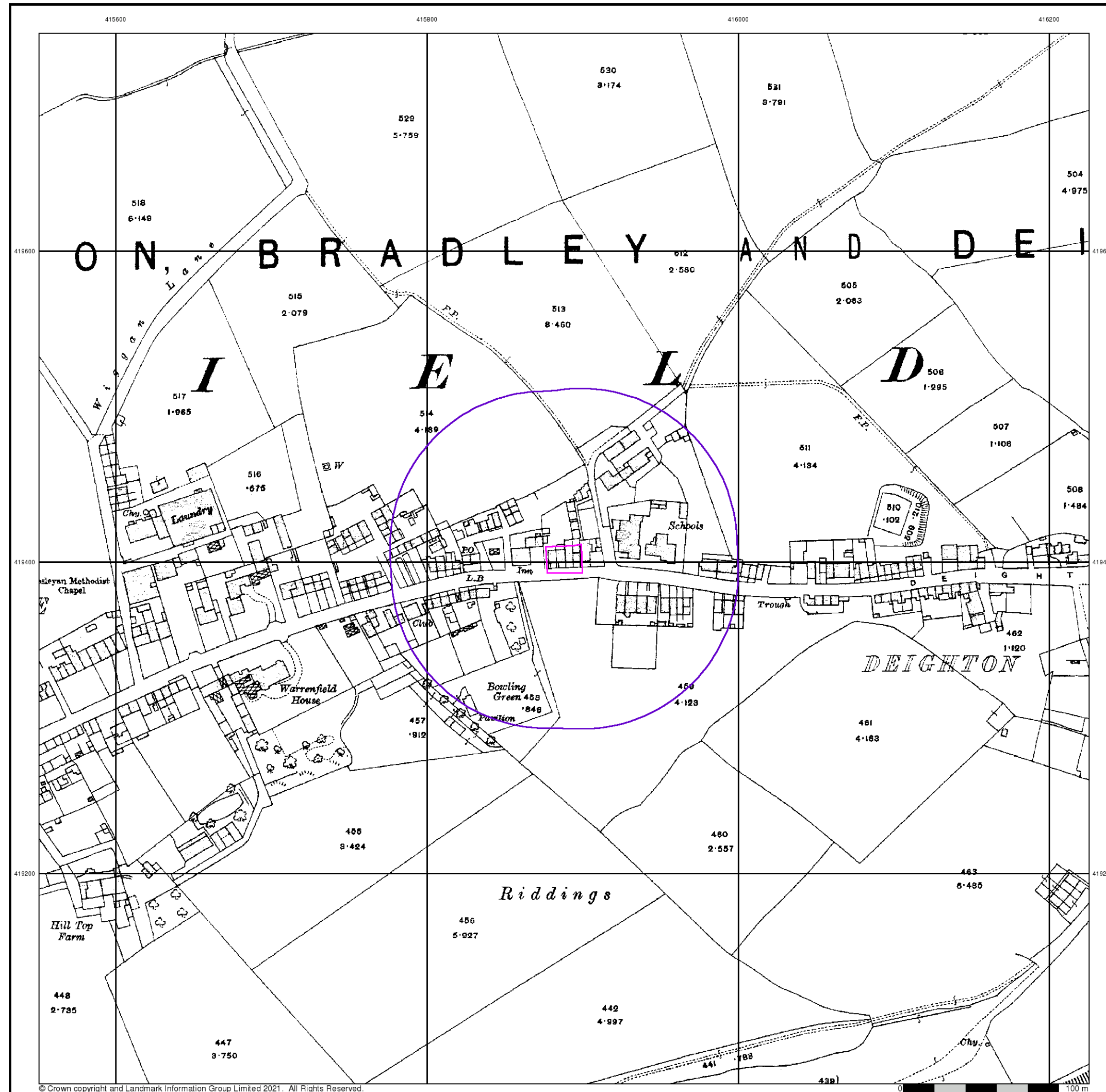
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Search Buffer (m):	1000

Site Details

Land adj. 178 Deighton Road, HUDDERSFIELD, HD2 1JJ

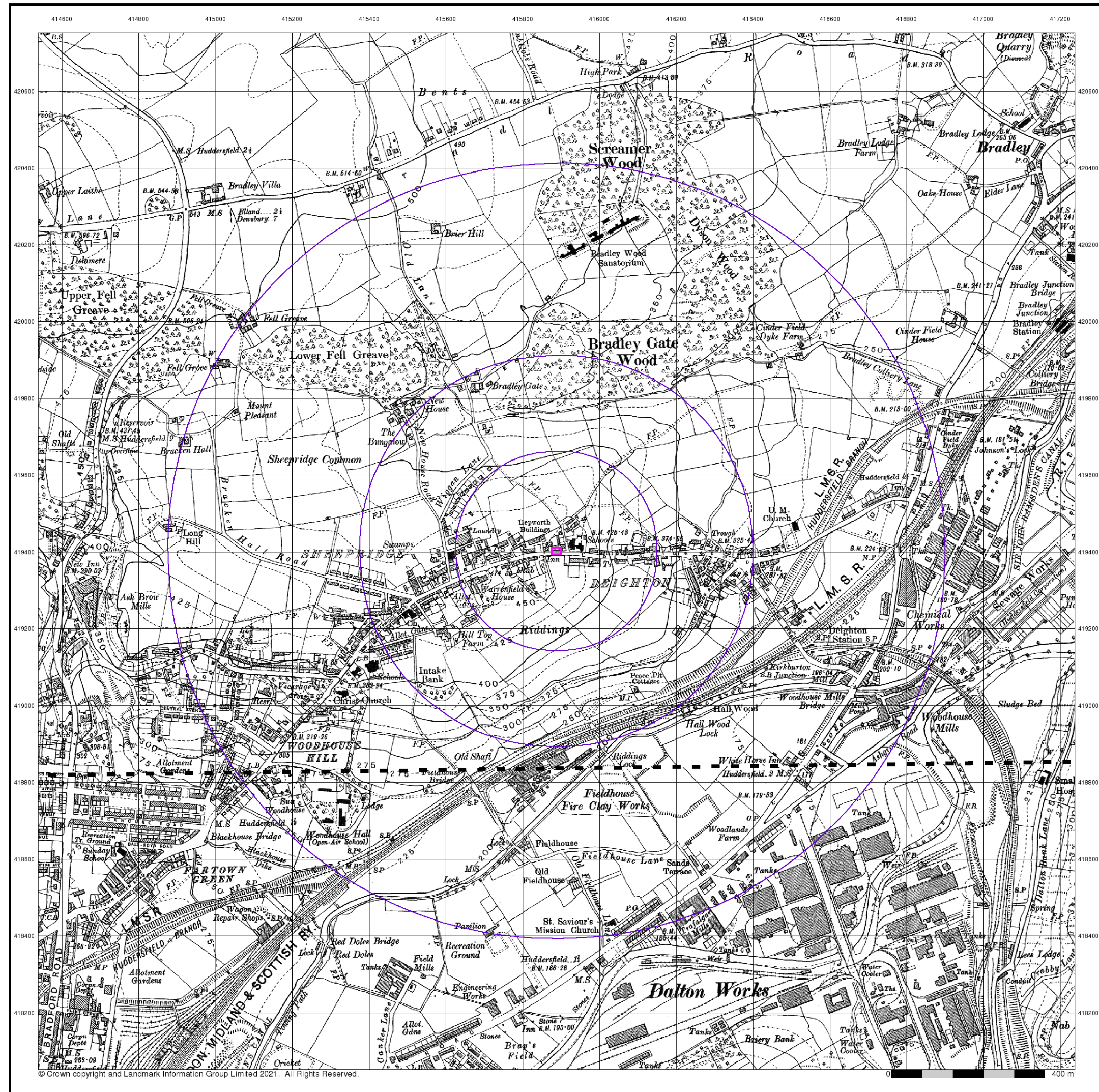
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Yorkshire



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Yorkshire

Published 1930

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)

246NE	1930	1:10,560
246SE	1930	1:10,560

Historical Map - Slice A

Order Details

Order Number:	284079089_1_1
Customer Ref:	1299
National Grid Reference:	415890, 419400
Slice:	A
Site Area (Ha):	0.04
Search Buffer (m):	1000

Site Details

Land adj. 178 Deighton Road, HUDDERSFIELD, HD2 1JJ

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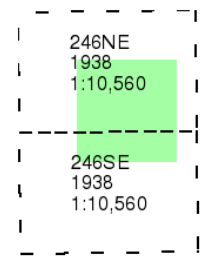
Yorkshire

Published 1938

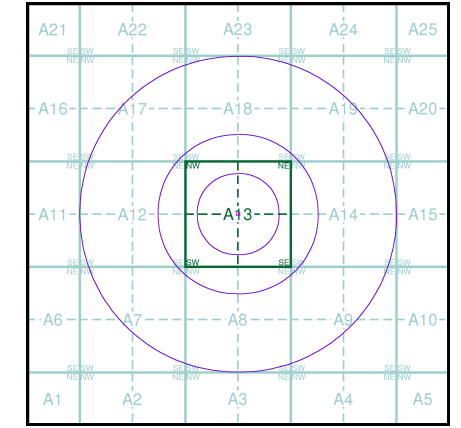
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



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Yorkshire

Published 1948

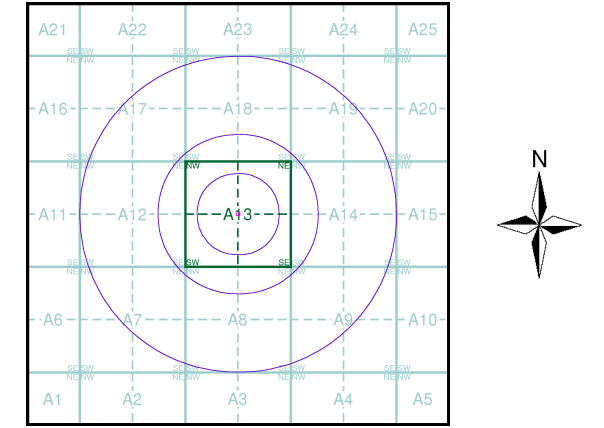
Source map scale - 1:10,560

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

Map Name(s) and Date(s)

246NE	1948
1:10,560	
246SE	1948
1:10,560	

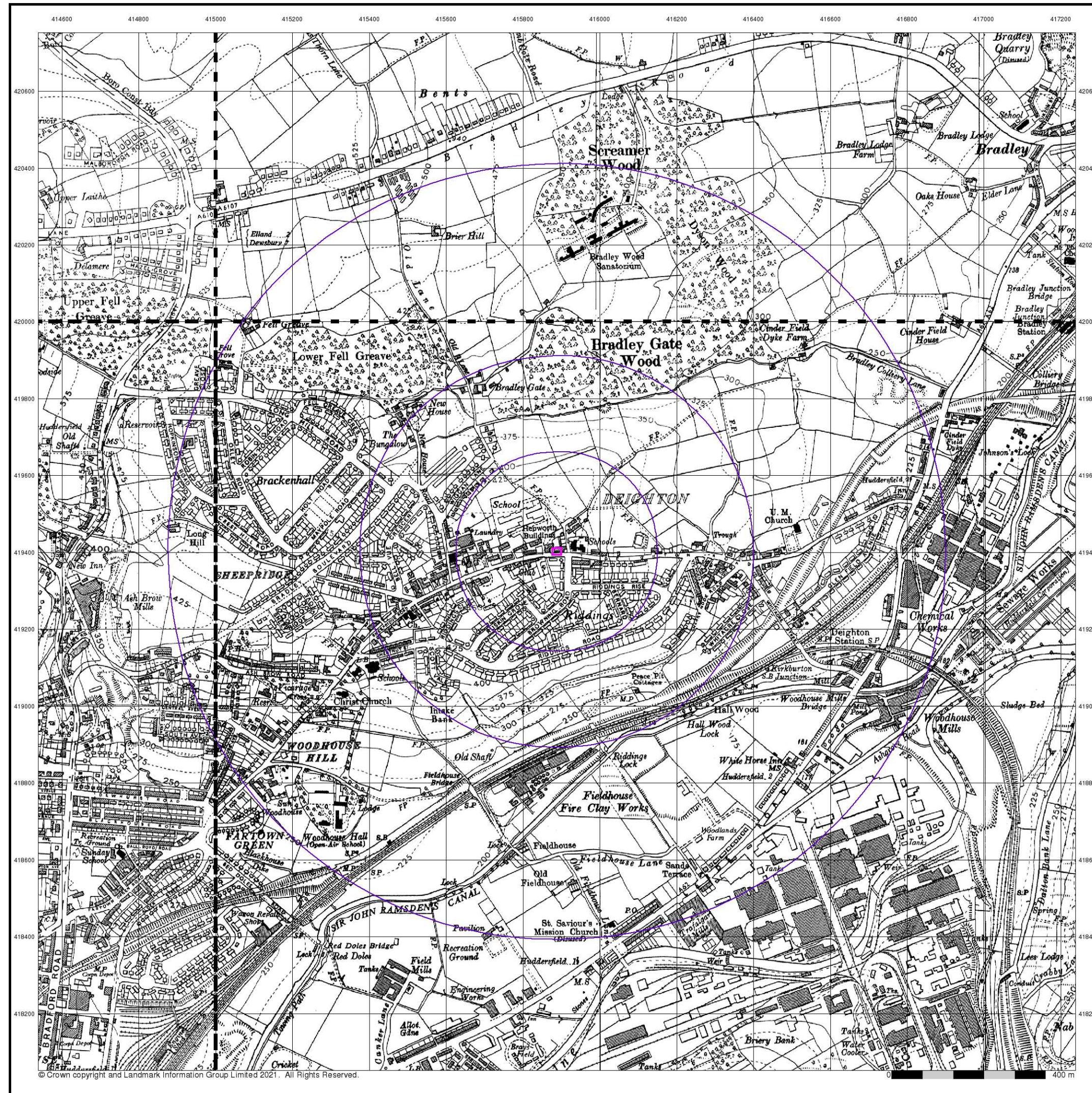
Historical Map - Slice A



Order Number:	284079089_1_1
Customer Ref:	1299
National Grid Reference:	415890, 419400
Slice:	A
Site Area (Ha):	0.04
Search Buffer (m):	1000

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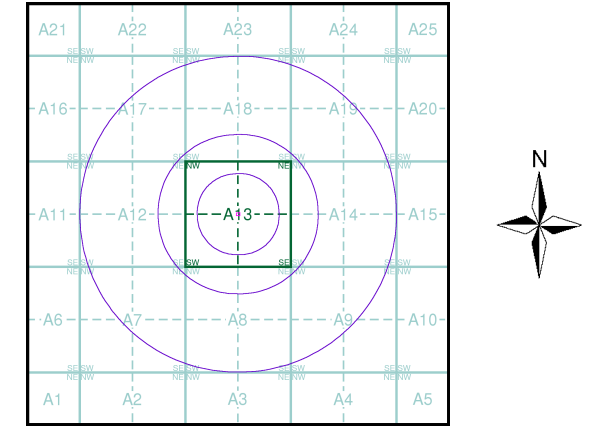
Ordnance Survey Plan Published 1956 Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SE12SW	SE12SE
1956	1956
1:10,560	1:10,560
SE11NW	SE11NE
1956	1956
1:10,560	1:10,560

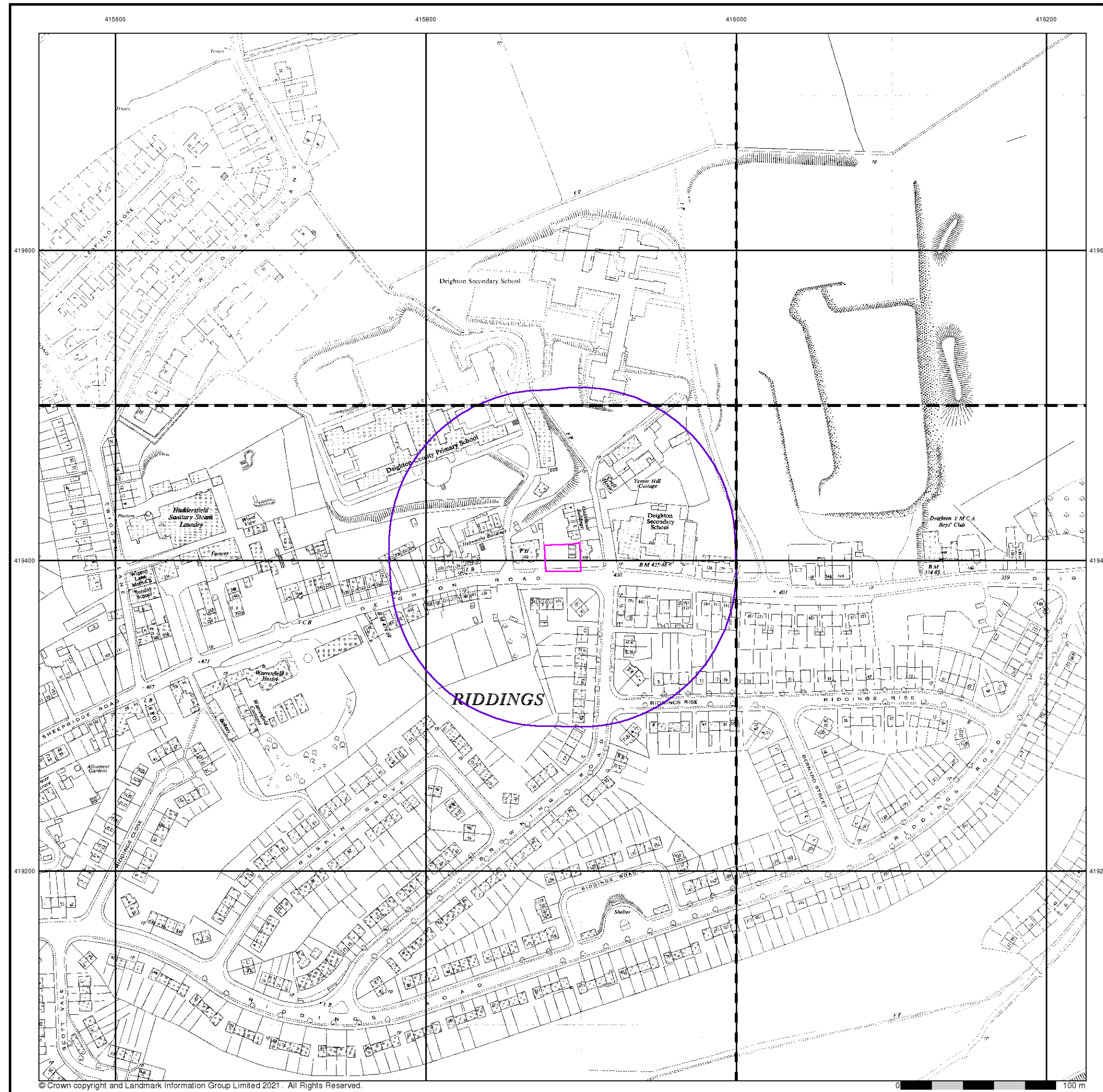
Historical Map - Slice A



Order Details
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Ordnance Survey Plan

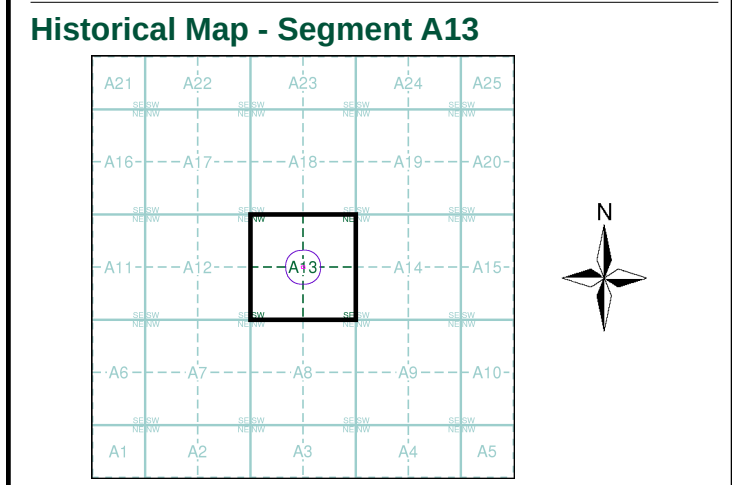
Published 1958 - 1959

Source map scale - 1:1,250

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

Map Name(s) and Date(s)

SE 1519NE 1959 1:1,250	SE 1619NW 1958 1:1,250
SE 1519SE 1959 1:1,250	SE 1619SW 1958 1:1,250



Order Details

Order Number:	284079089_1_1
Customer Ref:	1299
National Grid Reference:	415890, 419400
Slice:	A
Site Area (Ha):	0.04
Search Buffer (m):	100

Site Details

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