



Telereal Trillium Ltd

Heywood Stores, Heywood

Coal Mining Risk Assessment

Report no. 322834-R02 (00)

RSK GENERAL NOTES

Project No.: 322834-R02 (00)

Title: Coal Mining Risk Assessment: Heywood Stores, Heywood

Client: Telereal Trillium

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Author R Newberry / Jon Lord

Richard Newberry

Signature

Date: October 2021

Technical reviewer Ian Wilson

IM Wilson

Signature

Date: October 2021

Project manager Jon Clayton

J. Clayton

Signature

Date: October 2021

Quality reviewer V Fletcher

V Fletcher

Signature

Date: October 2021

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Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by RSK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd.

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1 INTRODUCTION

RSK Environment Limited (RSK) have been commissioned by Telereal Trillium to produce a Coal Mining Risk Assessment (CMRA) report for land at Heywood Stores, Heywood. At present, RSK have not been provided with a proposed development plan for the site, and the end-use is not yet determined.

The Coal Authority, in common with other statutory consultees, utilises a risk-based approach for the advice that they offer on proposed developments in relation to coal mining legacy issues. The site lies within the Coal Authority Coal Mining Reporting Area and is located in close proximity to an area of recorded coal mining, including known mine shaft locations.

A CMRA needs to consider a number of sources of information to determine coal mining issues relevant to a site. It then needs to identify and assess the site-specific coal mining risks and propose an appropriate mitigation strategy relevant for the proposed site end-use. This approach has been followed in the current assessment.

Guidance from the Coal Authority outlines the assessment stages required for a CMRA, which are included in the following sections of this report:

Stage 1 - Sources of information

- Sections 1 and 2 provide background information
- Section 3 presents available desk-based information.

Stage 2 - Assessment of site-specific coal mining risks

- Section 4 presents an assessment of the site-specific coal mining risks.

Stage 3 - Mitigation strategy proposed

- Section 5 presents the required mitigation measures to address the identified risks.

1.1 Scope of coal mining risk assessment

The scope of this CMRA is to:

- present a review of all available information on the coal mining issues which are relevant to the site, gained from a desk-based review
- use that information to identify and assess the risks to the proposed development from coal mining legacy, including the cumulative impact of issues
- identify the required mitigation measures to address the site-specific coal mining risks.

1.2 Limitations

The comments given in this report and the opinions expressed are based on information gained in the desk study, the sources of which are presented within the report for reference. This report is subject to the RSK service constraints given in Appendix A.

2 THE SITE

2.1 Site location and description

The site is located at Heywood Stores, Manchester Road, Heywood, OL10 2QR, approximately 1.2km south of Heywood town centre at National Grid Reference 385560, 409190, as shown on Figure 1. Figure 2 shows the site boundary.

Table 1: Site boundary constraints and environmental setting

To the north:	School playing fields are present immediately to the north of the site which are part of Newhouse Academy.
To the east:	Residential properties are present to the east of the northern part of the site. Manchester Road forms the eastern site boundary with open fields further to the east.
To the south:	Open fields are present to the south of the site with the M62 motorway noted 430m to the south east
To the west:	Commercial units are present to the immediate west of the site with agricultural land noted further to the west.

The site occupies approximately 11.9 hectares at an elevation ranging from 129m above Ordnance Datum (AOD) in the south eastern part of the site to 134m AOD in the north western area.

2.2 Proposed development

RSK have not been provided with any proposed development plans for the site.

3 COAL MINING DESK STUDY

3.1 Introduction

A review of available information has been undertaken to establish the historical development of the site in relation to coal mining activities and to ascertain the environmental setting relating to geology. A review of the Coal Authority Interactive Viewer has indicated that the site is in a Coal Reporting area, though not within a development high risk area. However, land to the immediate east of the site has reported coal mining activities, including mine shafts. The following sources of information have been used within the review:

- Consultants Coal Mining Report, The Coal Authority, reference 51002560837001, dated 21 July 2021 (presented in Appendix B)
- plan showing site boundary (see Figure 2)
- British Geological Society borehole logs (provided in Appendix C)
- plans showing the history of the site (from the Envirocheck historical maps report, see Appendix D).

3.2 Geology

A review of the available geological records has been made, which includes:

- BGS mapping available online (Onshore GeoIndex, accessed August 2021)
- BGS six inch to one-mile scale county map sheet Manchester 88SW
- BGS 1:50,000 geological map series, sheet Manchester 85.

The published records indicated the site to be immediately underlain by superficial deposits comprising Devensian till (clay, silt and sand). The bedrock at the site comprises mudstone of the Pennine Lower Coal Measures.

One geological fault is present across the site, orientated north-west to south-east, with the downthrown strata on the eastern site. There are no outcrops or subcrops of coal seams present within the site boundary. The closest coal seam subcrop is the Arley (or Royley) coal seam, which is located over 500m to the north-east of the site, orientated approximately north-west to south-east. The general dip of geological units is towards the south at between 5° and 15°. Geological information is shown on Figure 4 (1:50,000 scale mapping).

3.3 History of the site and surrounding area

The history of the land-use and development of the site and surrounding area has been assessed based on the following sources:

- historical maps dated from 1848 to 2021 (both 1:2,500 and 1:10,000 scale)
- internet search.

Copies of the historical maps (1:10,000 scale) are included in Appendix D.

The first available map from 1882 shows the site to be occupied by agricultural land with a footpath crossing the south western part of the site. No historical mining features are shown to be present on site.

A shaft and pit are present on the 1910 map edition approximately 200m to the east of the site boundary. The surrounding land use is primarily agricultural land in all directions. By 1929, the shaft is labelled as an old shaft, but remains marked on the map editions up until 1984 (along with the pit).

No significant changes to the site or surrounding area are noted until the plan from 1977 where the site is developed as a depot, with six large structures and multiple smaller buildings associated with it. The surrounding area to the north and east are developed with residential and commercial properties. However, no further coal mining activities appear to have occurred after 1929.

3.3.1 Local history sources

Information provided on the website '*The Dirty History of Coal Mining in Heywood*' (<https://www.heywoodhistory.com>) provides a brief overview of the history of Heywood, giving details about its coal mining heritage and past. This suggests that local mining may have been carried out in the area since the sixteenth century. There were at least 20 pits/tunnels along the Cheesden Valley, which operated until the 20th century. The decline of coal mining in Heywood occurred around 1898, when the Ashworth Colliery (3km to the north of Heywood) closed.

3.4 Previous assessments on the site

A preliminary risk assessment (PRA) and intrusive site investigation report has been prepared for the site by RSK (document reference 322834-R01(00), dated September 2021). This should be consulted alongside this CMRA report for further details of the site.

The report concluded that the site remained undeveloped until the 1960s, though anecdotal information indicates that military buildings (maintenance) were present around the time of the Second World War.

Ground conditions comprised grass onto topsoil, overlying generally granular made ground to a maximum depth of 3m. Devensian Till, described as soft to firm clay with thin sand lenses was encountered under the made ground. Bedrock was encountered at three locations at a depth between 5.9m bgl and 9.5m bgl.

3.5 Identification and assessment of site-specific coal mining risks

The following table summarises potential risks associated with coal mining and identifies those that are applicable to the site.

Table 2: Identification of site-specific coal mining risks

Possible coal mining risks	Present on site	Risk assessment
Mine entries (shafts and adits)	No	Mine shafts are not present on site but are present on land east of the site. Assessment required (see Section 3.6.1)
Underground coal mining	No	The Consultants Coal Mining Report does not identify this as a possible issue
Coal mining geology (fissures)	Yes	Fracturing is possible in Coal Measures units, and a fault is shown on geological mapping
Record of past mine gas emissions or potential	No	Desk based review will consider this, but not thought to be an issue
Recorded coal mining surface hazard	No	Desk based review will consider this, but not thought to be an issue
Surface mining (opencast workings)	No	The Consultants Coal Mining Report does not identify this as a possible issue
Colliery processes (industrial land use including washing and blending of coal)	No	Desk based review will consider this, but not thought to be an issue

3.6 The Coal Authority Consultants Coal Mining Report

A Coal Authority Consultants Coal Mining Report was obtained from the Coal Authority and reviewed as part of this assessment. A copy of this is presented as Appendix B. The following information has been obtained regarding the site:

- no recorded past underground mining
- no spine roadways recorded at shallow depths
- one mine shaft relating to coal mining has been identified in the vicinity of the site (see Section 3.6.1)
- no outcrops of coal are recorded
- a geological fault crosses the northern and eastern part of the site in a north west to south east direction
- no opencast mining has occurred within 500m of the site boundary
- the Coal Authority has not received a damage notice or claim for the subject property, or any property within 50m of the enquiry boundary since 31 October 1994
- there are no Coal Authority managed tips within 500m of the site boundary
- there are no remediated sites within 500m of the site boundary
- no mine gas issues have been recorded within 500m of the boundary
- there are no recorded mine water treatment schemes within 500m of the boundary.

These records indicate that the site has not been subject to significant historical coal mining.

3.6.1 Mine shafts and adits

There are no mine shafts or adits located within the site boundary according to the Consultants Report. Further details relating to the closest off-site mine shaft are provided in Table 3.

Table 3: Summary of Coal Authority mine shaft data (Consultants Report)

Entry type	Reference	Grid reference	Mineral type	Details	Distance from site boundary (m)
Shaft	385408-002	385797 408986	Coal	2.5m diameter, 10m departure*	50m to east
* A 10m departure means that the margin of error for the shaft location is 10m from the reported grid reference.					

There are no treatment details provided by the Coal Authority for this shaft. The location of the shaft is presented on Figure 3.

It should be noted that additional mine shaft data for off-site locations is provided in Section 3.7, obtained from the Coal Authority Interactive Viewer.

3.6.2 Underground workings

No historical underground mining at the site have been recorded, according to the Consultants Report.

The BGS six-inch map shows the site is underlain by the Pennine Lower Coal Measures; however, no coal outcrops are shown to be present beneath the site.

The Coal Authority Interactive Map Viewer shows an area of probable shallow coal workings that appear to be associated with a shaft to the east of the site (reference 385409-001). The shaft is approximately 200m from the site, and the workings extend north westwards and south eastwards from the shaft, so do not come closer than approximately 200m to the site. This shaft is in the same location as the shaft marked on historical map editions from 1910 until 1984. The mine shaft record shows the depth to bedrock to be 10.9m and the full shaft depth to be 26m, suggesting that shallow coal is present in this location.

3.6.3 Opencast workings

No opencast workings have been recorded at the site or within 500m of the site boundary.

3.7 The Coal Authority Interactive Map Viewer

The Consultants Report concentrates on the site and up to 100m from the site boundary. Due to the presence of a marked shaft on the historical plans, approximately 200m off-

site to the east, further assessment of shafts that were slightly further from the site boundary was considered appropriate, to ensure that a full assessment of potential risks at the site had been considered. Review of data available on the Coal Authority Interactive Map Viewer (<https://mapapps2.bgs.ac.uk/coalauthority/home.html>) was undertaken, and the information on four shafts located off-site to the east is present in Table 4.

Table 4: Summary of Coal Authority mine shaft data (Interactive Map Viewer)

Entry type	Reference	Grid reference	Mineral type	Details	Distance from site boundary (m)
Shaft	385408-002	385797 408986	Coal	2.5m diameter, 10m departure	50m to east
NB, shaft 385408-002 above is the same as that detailed in Table 3, from the Consultants Report					
Shaft	385408-001	Not given	Coal	2.5m diameter, 10m departure	100m to east
Shaft	385409-002	Not given	Coal	2.5m diameter, 10m departure	100m to east
Shaft	385409-001	Not given	Coal	2.4m diameter, depth 26m, 8m departure, treated 1978, drift thickness 10.9m, associated with Hopwood Colliery	200m to east

A map from the Interactive Viewer is provided in Appendix C, which details the shaft locations and shows the area of probable shallow workings, which extends away from the subject site towards the north west and south east.

3.8 British Geological Survey (BGS) borehole information

A large number of BGS borehole records are shown on the GeoIndex portal for the surrounding area, but there are no borehole records available on the site itself.

(https://mapapps2.bgs.ac.uk/geoindex/home.html?_ga=2.122520523.1742973557.1623935303-1855683938.1601459804)

The nearest borehole record to the site (reference SD80NE219) is located 500m north east of the site and comprises made ground to 1.2m, overlying firm clay, with highly weathered mudstone encountered at 4m. A second borehole (reference SD80NE142), located 610m north of the site, indicates made ground to a depth of 3.8m, overlying stiff clay, with weathered siltstone encountered at 7.3m. A thin layer of highly weathered coal is encountered between 9.6m and 9.9m, which overlies grey, highly weathered siltstone to the base of the hole at 11m. Copies of boreholes records for these two locations are provided in Appendix C.

A review of other boreholes to the north of the site indicates a general trend of bedrock becoming shallower in a southerly direction, i.e. towards the site.

4 ASSESSMENT OF SITE-SPECIFIC COAL MINING RISKS

4.1 Underground coal workings

Information available from '*The Dirty History of Coal Mining in Heywood*' (<https://www.heywoodhistory.com>) indicates that origins of coal mining in the area date back to the reign of Elizabeth I, who granted John Blackwell the right to mine in the Cheesden Valley to the north of Heywood in 1580.

In the 17th Century, small communities known as folds were allowed to have their own mines, and the many folds in the valleys around Heywood were dotted with small pits. The earlier miners dug for coal seams lying close to the surface, while deeper shafts were dug with the onset of increased industrialisation.

There were at least 20 pits/tunnels along the Cheesden Valley, and an outcrop of the Holcombe Brook seam is still visible. The decline of coal mining in Heywood occurred around 1898, when the Ashworth Colliery closed.

The Consultants Coal Mining Report does not identify the occurrence of either shallow or deep underground coal mining on site and there is no other evidence of any underground coal workings being present within the site area

4.2 Mine entries

As detailed in Section 3.6.1 there is one recorded mine entry approximately 50m to the east of the subject site, with three further shafts between 100m and 200m to the east of the site, as shown on the plan from the Interactive Viewer, provided in Appendix C.

4.3 Colliery processes

There is no evidence of any colliery buildings, structures or related features being present within the site area and no further consideration of this issue is required.

5 MITIGATION STRATEGY

Aspects of coal mining discussed in this CMRA, which may pose a risk to the proposed development of the site, are covered in turn below.

5.1 Underground coal workings

There are no records of potential historical underground coal workings in shallow or deep coal seams beneath the site.

A mine entry is recorded approximately 50m to the east of the site, but there are no records to suggest that any shallow or deep workings extend in the direction of the site.

5.2 Mine entries

There are no known mine entries located within the site boundary. The nearest mine entry being recorded located at approximately 50m to the east of the site. The departure for this shaft is 10m and therefore not considered to cause ground stability issues on the site itself.

5.3 Further assessment

The CMRA completed in the preceding sections has provided a full assessment of the information available relating to the coal mining history of the site and surrounding area and has demonstrated that the coal mining risks associated with development of the site are minimal. No further work is therefore required in relation to coal mining issues.

6 CONCLUSIONS

This document provides an assessment of the coal mining risks associated with the site, based on available coal mining and historical records. The site itself does not appear to have been subjected to historical mining; however, mining activities have occurred off-site to the east. Shallow underground mining has been carried out to the east of the site, with workings extending away from the site boundary.

The assessment has shown that the closest mine shaft to the site is approximately 50m to the east, and there are no recorded shafts or other workings on-site or close enough to the site to have the potential to result in future ground stability issues.

On the basis of the findings of this CMRA, there is no requirement for an intrusive investigation relating to coal mining issues.

REFERENCES

British Geological Survey, 2021. Onshore GeoIndex, accessed August 2021 (<http://mapapps2.bgs.ac.uk/geoindex/home.html>), various datasets.

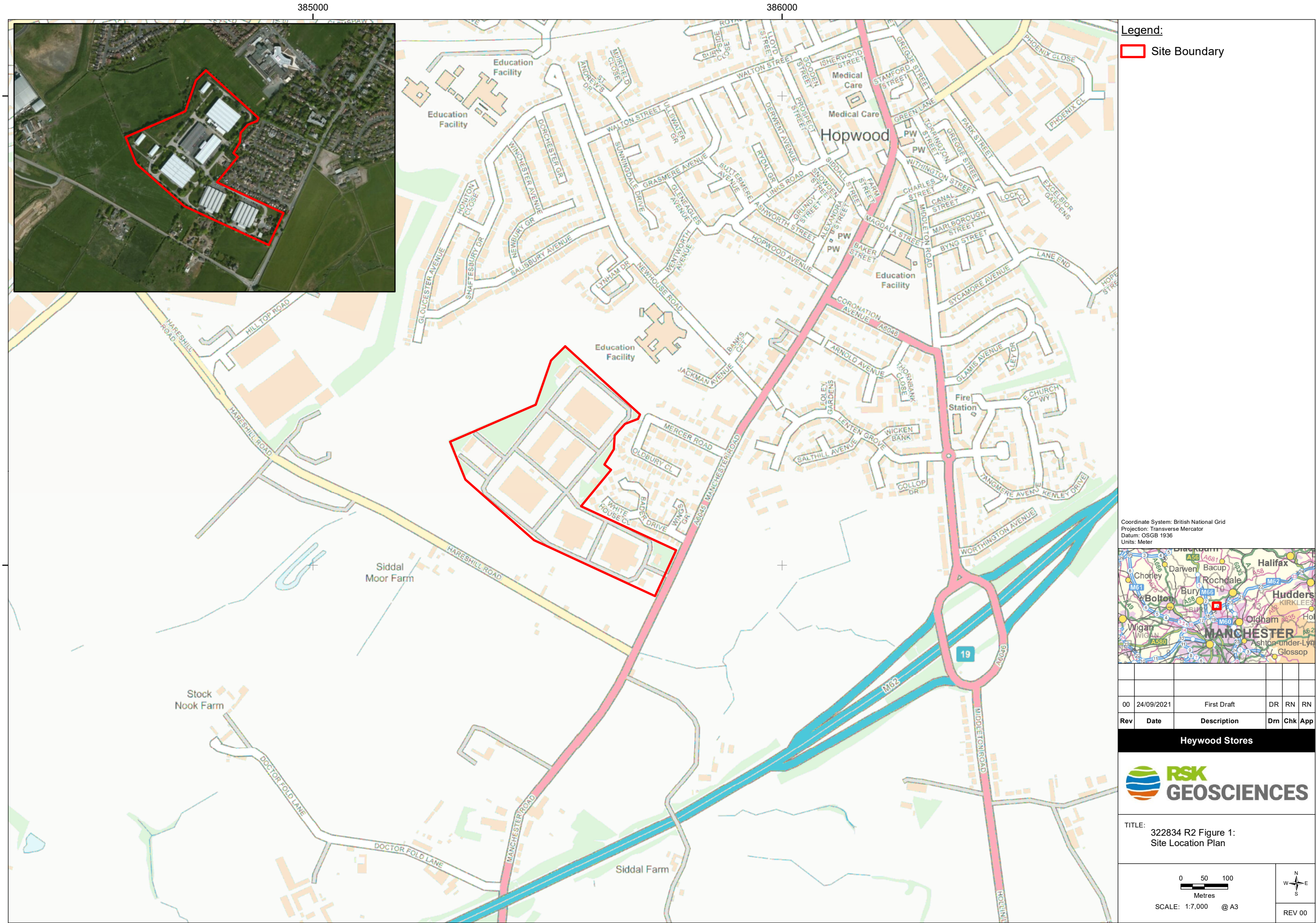
British Geological Survey, County Series six inch to one mile scale, Manchester sheet 88SW, 1874

British Geological Survey, Geological Map Series 1:50,000 scale (Bedrock), Manchester sheet 85, 2010

Consultants Coal Mining Report, The Coal Authority, reference 51002560837001, dated 21 July 2021

Envirocheck, 2021. Envirocheck report for Heywood Stores, report reference 281815927_1_1, dated 12 July 2021.

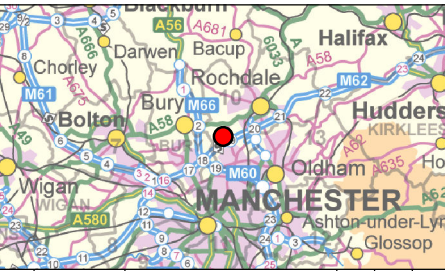
FIGURES





Legend:
 Site Boundary

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter



00	24/09/2021	First Draft	DR	RN	RN
Rev	Date	Description	Drn	Chk	App

Heywood Stores



TITLE: 322834 R2 Figure 2:
Site Boundary Plan

02040

Metres

SCALE: 1:2,250 @ A3

N
W
E
S

REV 00



Legend:

- Site Boundary
- Disused Mine Shaft
- Geological Fault

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

00	24/09/2021	First Draft	DR	RN	RN
Rev	Date	Description	Drm	Chk	App

Heywood Stores

TITLE: 322834 R2 Figure 3:
Summary of Findings from
Coal Authority Report

050100

Metres

SCALE: 1:4,000 @ A3

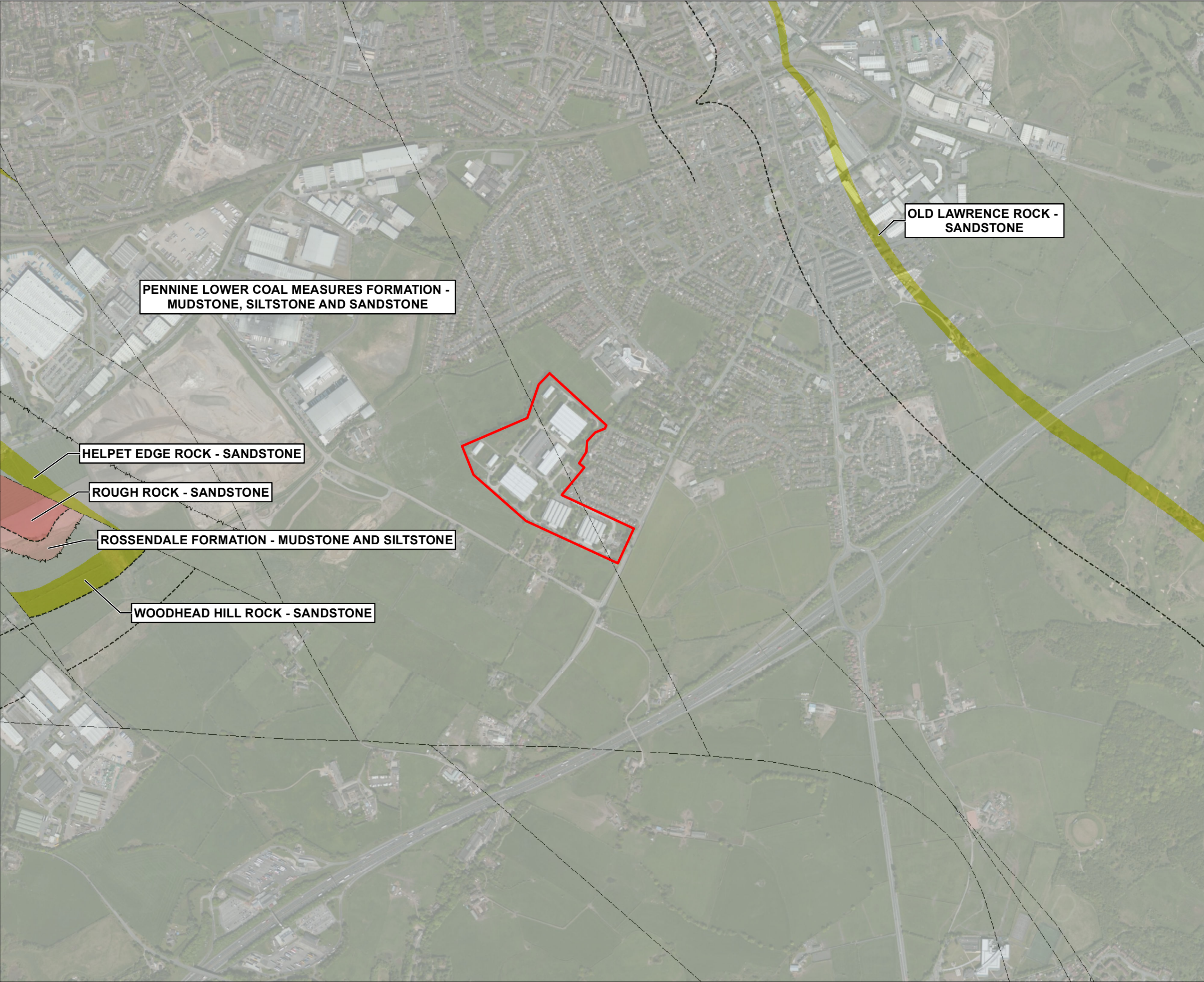
N

W

E

S

REV 00



Legend:

- Site Boundary
- ■ ■ Coal Seams
- - - Geological Faults
- M - Marine Band

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

00	07/10/2021	First Draft	DR	RN	RN
Rev	Date	Description	Drm	Chk	App
Heywood Stores					
TITLE: 322834 R2 Figure 4: 1:50,000 Geological Map					
0 100 200 Metres SCALE: 1:10,000 @ A3			 REV 00		

APPENDIX A

RSK SERVICE CONSTRAINTS

1. This report and the site investigation carried out in connection with the report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) for Telereal Trillium (the "Client") in accordance with the terms of a contract between RSK and the Client, dated 5 May 2021. The Services were performed by RSK with the reasonable skill and care ordinarily exercised by an environmental consultant at the time the Services were performed. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the Client.
2. Other than that, expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services.
3. Unless otherwise agreed in writing, the Services were performed by RSK exclusively for the purposes of the Client. RSK is not aware of any interest of or reliance by any party other than the Client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent or condone any party other than the client relying upon the Services. Should this report or any part of this report, or otherwise details of the Services or any part of the Services be made known to any such party, and such party relies thereon that party does so wholly at its own and sole risk and RSK disclaims any liability to such parties. **Any such party would be well advised to seek independent advice from a competent environmental consultant and/or lawyer.**
4. It is RSK's understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of or reliance upon the report in those circumstances by the client without RSK's review and advice shall be at the client's sole and own risk. Should RSK be requested to review the report after the date of this report, RSK shall be entitled to additional payment at the then existing rates or such other terms as agreed between RSK and the client.
5. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the report in the future shall be at the Client's own and sole risk. Should RSK be requested to review the report in the future, RSK shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between RSK and the client.
6. The observations and conclusions described in this report are based solely upon the Services which were provided pursuant to the agreement between the Client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out or required by the contract between the client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, RSK did not seek to evaluate the presence on or off the site of asbestos, invasive plants, electromagnetic fields, lead paint, heavy metals, radon gas or other radioactive or hazardous materials, unless specifically identified in the Services.
7. The Services are based upon RSK's observations of existing physical conditions at the Site gained from a visual inspection of the site together with RSK's interpretation of information, including documentation, obtained from third parties and from the Client on the history and usage of the site, unless specifically identified in the Services or accreditation system (such as UKAS ISO 17020:2012 clause 7.1.6):

- a. The Services were based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely.
- b. The Services were limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the visual inspection.
- c. The Services did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services.

RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK and including the doing of any independent investigation of the information provided to RSK save as otherwise provided in the terms of the contract between the Client and RSK.

8. The intrusive environmental site investigation aspects of the Services are a limited sampling of the site at pre-determined locations based on the known historic / operational configuration of the site. The conclusions given in this report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the properties of the materials adjacent and local conditions, together with the position of any current structures and underground utilities and facilities, and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters (as stipulated in the scope between the client and RSK, based on an understanding of the available operational and historical information) and it should not be inferred that other chemical species are not present.
9. Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for setting out and should be considered indicative only.
10. The comments given in this report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of tests made in the field and in the laboratory. However, there may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account. In particular, it should be noted that there may be areas of made ground not detected due to the limited nature of the investigation or the thickness and quality of made ground across the site may be variable. In addition, groundwater levels and ground gas concentrations and flows, may vary from those reported due to seasonal, or other, effects and the limitations stated in the data should be recognised.
11. Asbestos is often observed to be present in soils in discrete areas. Whilst asbestos-containing materials may have been locally encountered during the fieldworks or supporting laboratory analysis, the history of brownfield and demolition sites indicates that asbestos fibres may be present more widely in soils and aggregates, which could be encountered during more extensive ground works.
12. Unless stated otherwise, only preliminary geotechnical recommendations are presented in this report and these should be verified in a Geotechnical Design Report, once proposed construction and structural design proposals are confirmed.

APPENDIX B

THE COAL AUTHORITY CONSULTANTS COAL MINING REPORT



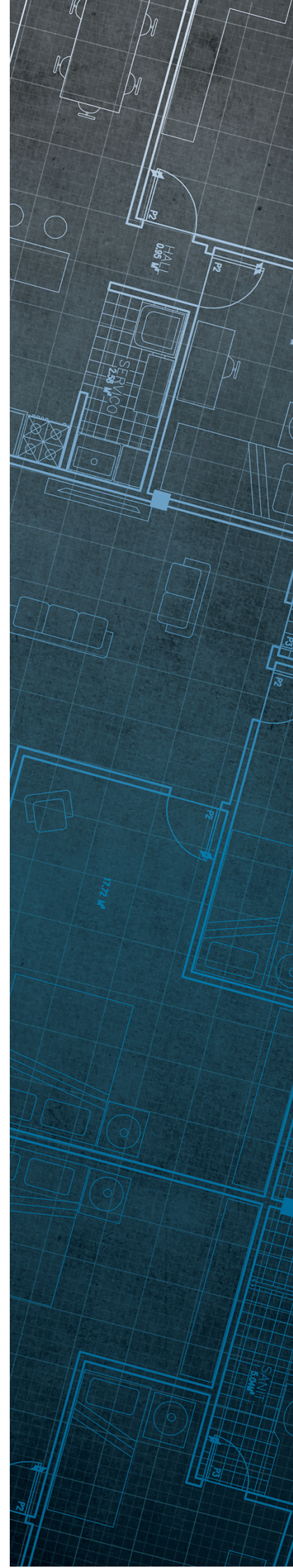
The Coal
Authority

Consultants Coal Mining Report

1 Wings Grove
Heywood
Rochdale
OL10 2QR

Date of enquiry:	20 July 2021
Date enquiry received:	20 July 2021
Issue date:	21 July 2021

Our reference:	51002560837001
Your reference:	322834



Consultants

Coal Mining Report

This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

Client name

RSK ENVIRONMENT LIMITED

Enquiry address

1 Wings Grove
Heywood
Rochdale
OL10 2QR

How to contact us

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

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

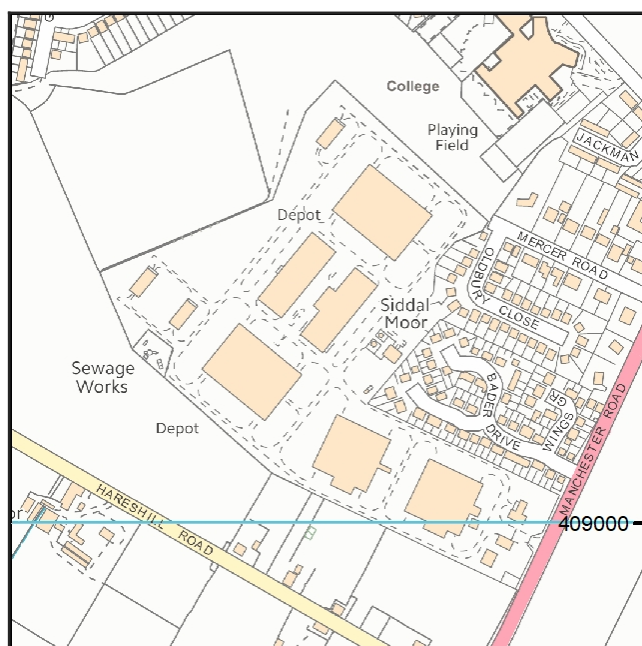
www.groundstability.com

 @coalauthority

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Approximate position of property



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Section 1 – Mining activity and geology

Past underground mining

No past mining recorded.

Probable unrecorded shallow workings

None.

Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

Mine entries

Entry type	Reference	Grid reference	Treatment description	Mineral	Conveyancing details
Shaft	385408-002	385797 408986		Coal	

Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

16820	4609	
-------	------	--

Please contact us on 0345 762 6848 to determine the exact abandoned mine plans you require based on your needs.

Outcrops

No outcrops recorded.

Geological faults, fissures and breaklines

Please refer to the 'Summary of findings' map (on separate sheet) for details of any geological faults, fissures or breaklines either within or intersecting the enquiry boundary.

Faults under or close to the property recorded.

Opencast mines

None recorded within 500 metres of the enquiry boundary.

Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

Site investigations

None recorded within 50 metres of the enquiry boundary.

Remediated sites

None recorded within 50 metres of the enquiry boundary.

Coal mining subsidence

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

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

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

Mine gas

None recorded within 500 metres of the enquiry boundary.

Mine water treatment schemes

None recorded within 500 metres of the enquiry boundary.

Section 3 – Licensing and future mining activity

Future underground mining

None recorded.

Coal mining licensing

None recorded within 200 metres of the enquiry boundary.

Court orders

None recorded.

Section 46 notices

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

Withdrawal of support notices

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

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

Payments to owners of former copyhold land

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

Section 4 – Further information

Based on the responses in this report, no further information has been highlighted.

Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **call us on 0345 762 6848** or **email us at groundstability@coal.gov.uk**.

Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

Opencast mines

Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

Coal Authority managed tips

Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

Site investigations

Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

Remediated sites

Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

Coal mining subsidence

Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

Mine gas

Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission.

Mine water treatment schemes

Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

Future underground mining

Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

Coal mining licensing

Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

Court orders

Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

Section 46 notices

Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

Withdrawal of support notices

Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

Payment to owners of former copyhold land

Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

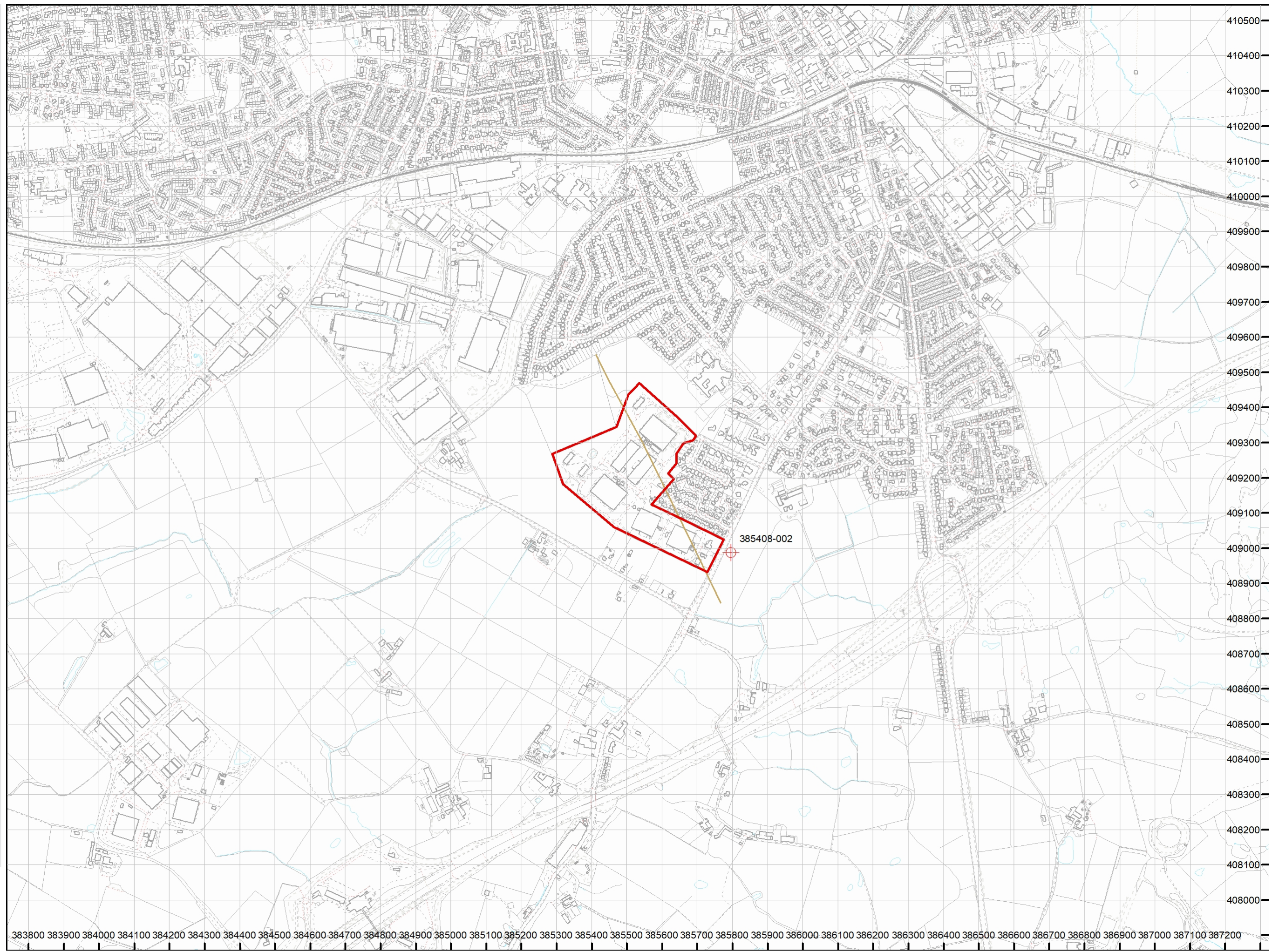
The map highlights any specific surface or subsurface features within or near to the boundary of the site.

Key

- Approximate position of the enquiry boundary shown 
- Disused mine shaft 
- Geological faults 

How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)
www.groundstability.com



APPENDIX C

BGS BOREHOLE RECORD AND INTERACTIVE VIEWER INFORMATION



SD80NE 219

		CABLE PERCUSSION RECORD SHEET				Borehole No. BH3						
		Location Manchester Road Sewer, Heywood Client: Rochdale MBC				Project Ref.:		Sheet 1 of 1				
Job No.: 8458		Equipment and methods Light Cable Percussion				Drilled by L.B						
		Casing Diameter (mm) 150				Ground level 136.11 m AOD						
		Casing Depth (m) 4.20				Co-ordinates E N						
						Date 26-10-95						
CASING DEPTH (m)	WATER DEPTH (m)	Field Records	SAMPLES / TESTS			Description	Depth & Thickness (m)	Reduced Level (m AOD)	Strata Legend			
			Depth (m) from	to	SAMPLE Type & No					SPT N Value Cu		
1.20	NIL	-(26-10)- 35	1.20	1.65	U 1	59	MADE GROUND (50mm of tarmac over setts)	(0.15) 0.15	135.960			
							MADE GROUND (Concrete)	(0.25) 0.40	135.710			
							MADE GROUND (Ash & clay)	(0.80)				
1.60	NIL	80	1.90	1.90	D 1		Firm mottled brown/grey slightly sandy CLAY with a little fine to coarse mudstone gravel	1.20	134.910			
							2.20	2.65	U 2			
							2.90	2.90	D 2			
3.00	NIL	125	3.20	3.65	U 3			(2.80)				

4.00	NIL		4.20 4.20	4.65 4.65	B 1 S 1	65	Grey highly weathered MUDSTONE	4.00	132.110	
4.20	NIL		5.20 5.20	5.65 5.65	B 2 S 2	60		(2.70)		
4.20	NIL		6.20	6.65	S 3	95				
		-(31-10)-					Borehole Complete	6.70	129.410	
Remarks 1) Service pit dug 1.00m x 1.00m x 1.20m. 2) No groundwater encountered during drilling. 3) Piezometer installed with tip at 6.70m and seal from 0.50m to 1.50m.										
									Logged by	Date
									GL	24-11
									Checked by	
									Approved by	

Table per 10/93 Rev B

SD80NE219

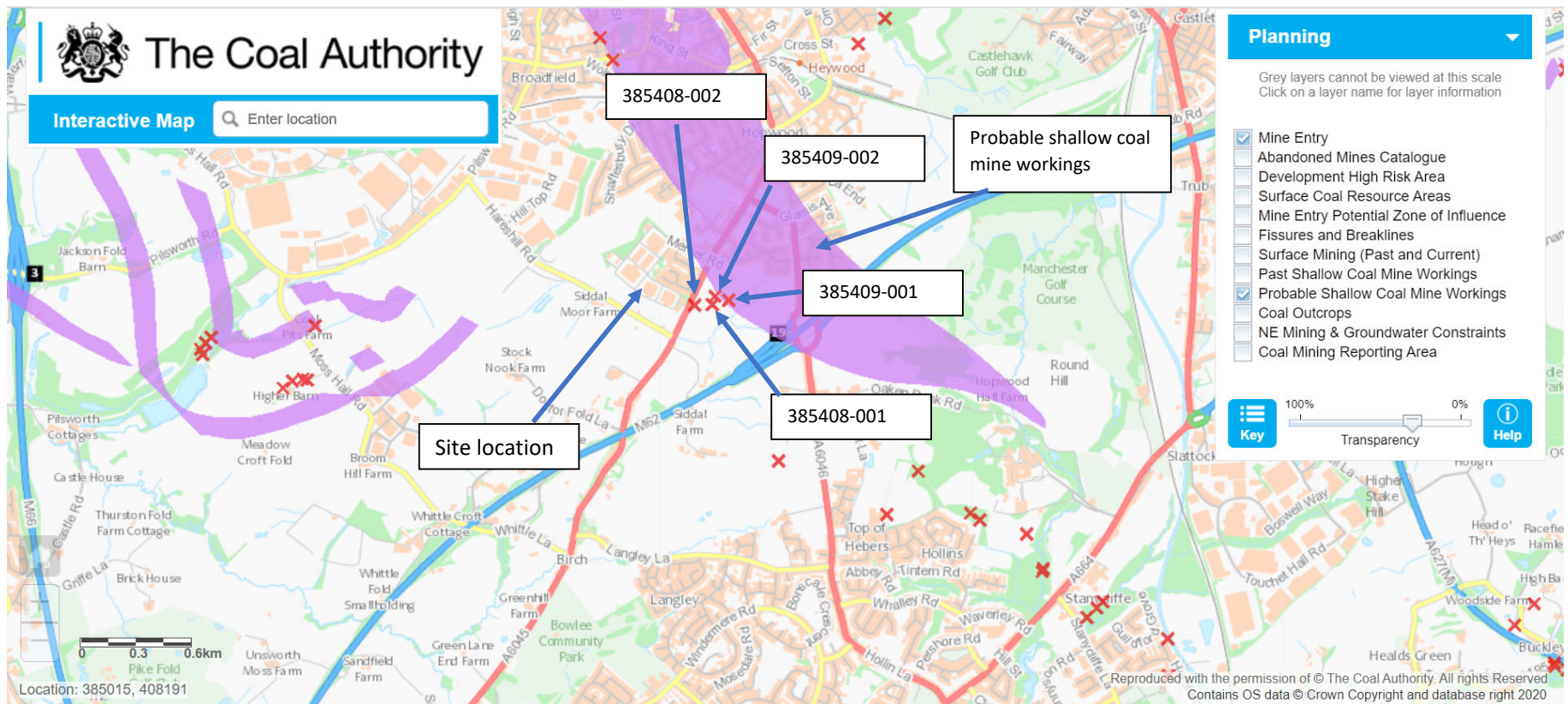
Scale 1:50 Field Records Column RHS Blows to drive U100s

FIG No.

Coal Authority Interactive Map Viewer Information

Data from interactive map showing four mine shafts (red crosses) and area of probable shallow coal workings (purple shading). Table 4 provides further details of the mine shafts.

Mine shaft 385408-002 is located approximately 50m from the site boundary, and is also discussed in Table 3.



APPENDIX D

HISTORICAL PLANS

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

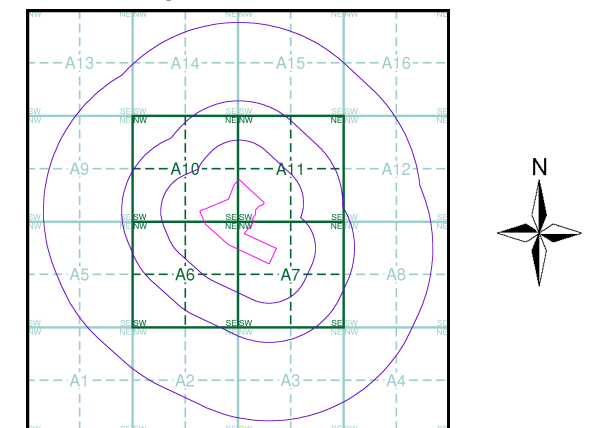
	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, 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



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1848 - 1851	2
Lancashire And Furness	1:10,560	1894	3
Lancashire And Furness	1:10,560	1910	4
Lancashire And Furness	1:10,560	1923 - 1932	5
Lancashire And Furness	1:10,560	1932	6
Lancashire And Furness	1:10,560	1938	7
Ordnance Survey Plan	1:10,000	1955 - 1956	8
Ordnance Survey Plan	1:10,000	1965 - 1968	9
Ordnance Survey Plan	1:10,000	1974 - 1977	10
Ordnance Survey Plan	1:10,000	1983 - 1988	11
Ordnance Survey Plan	1:10,000	1993	12
10K Raster Mapping	1:10,000	1999	13
Street View	Variable		14

Historical Map - Slice A



Order Details

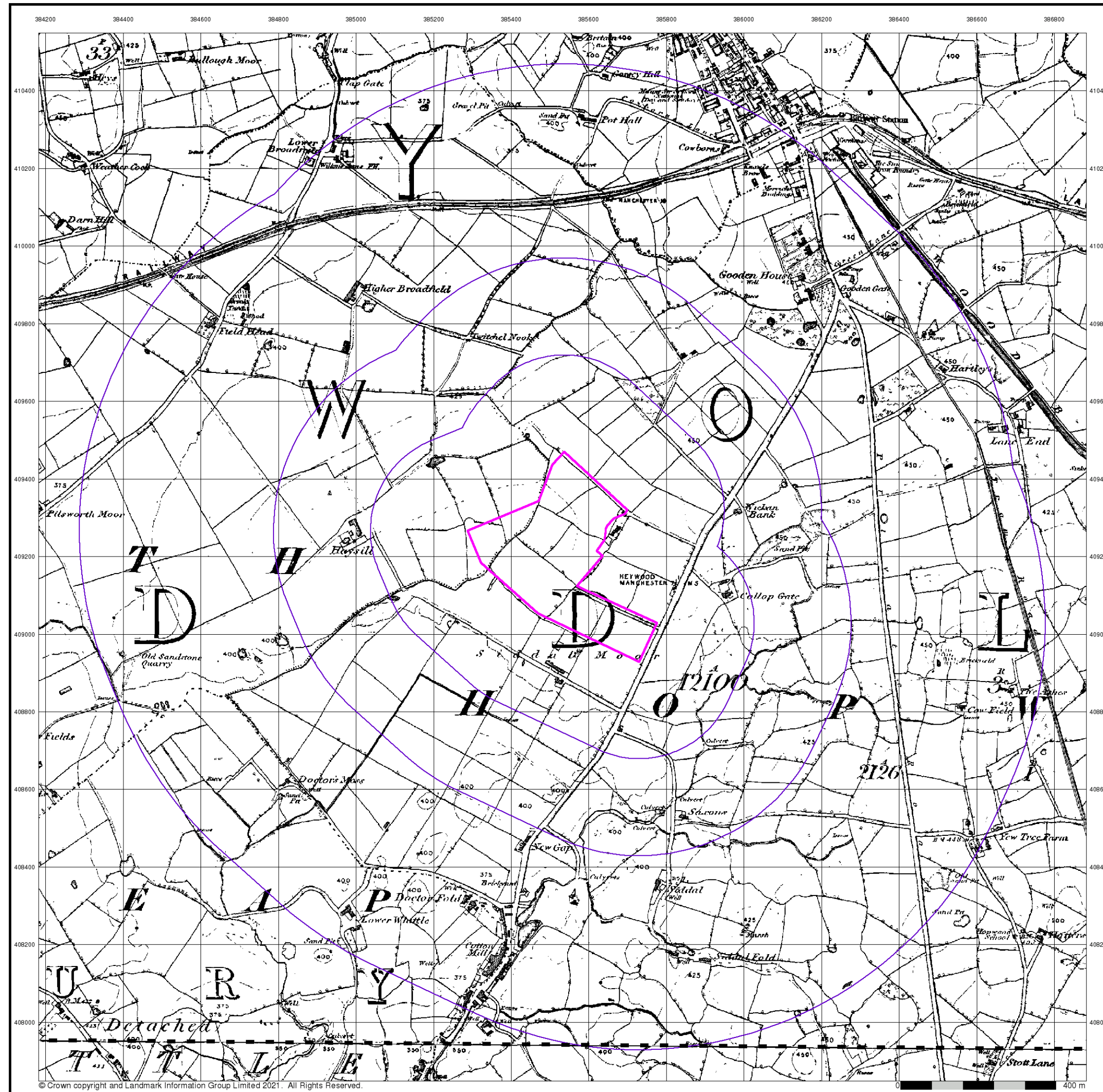
Order Number: 281815927_1_1
Customer Ref: 322834
National Grid Reference: 385560, 409190
Slice: A
Site Area (Ha): 11.19
Search Buffer (m): 1000

Site Details

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Lancashire And Furness

Published 1848 - 1851

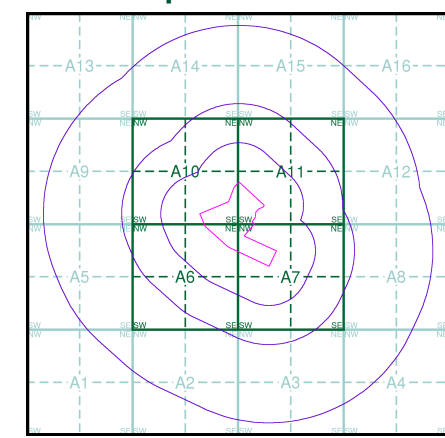
Source map scale - 1:10,560

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)

08800
1851
1:10,560
09600
1848
1:10,560

Historical Map - Slice A



Order Details

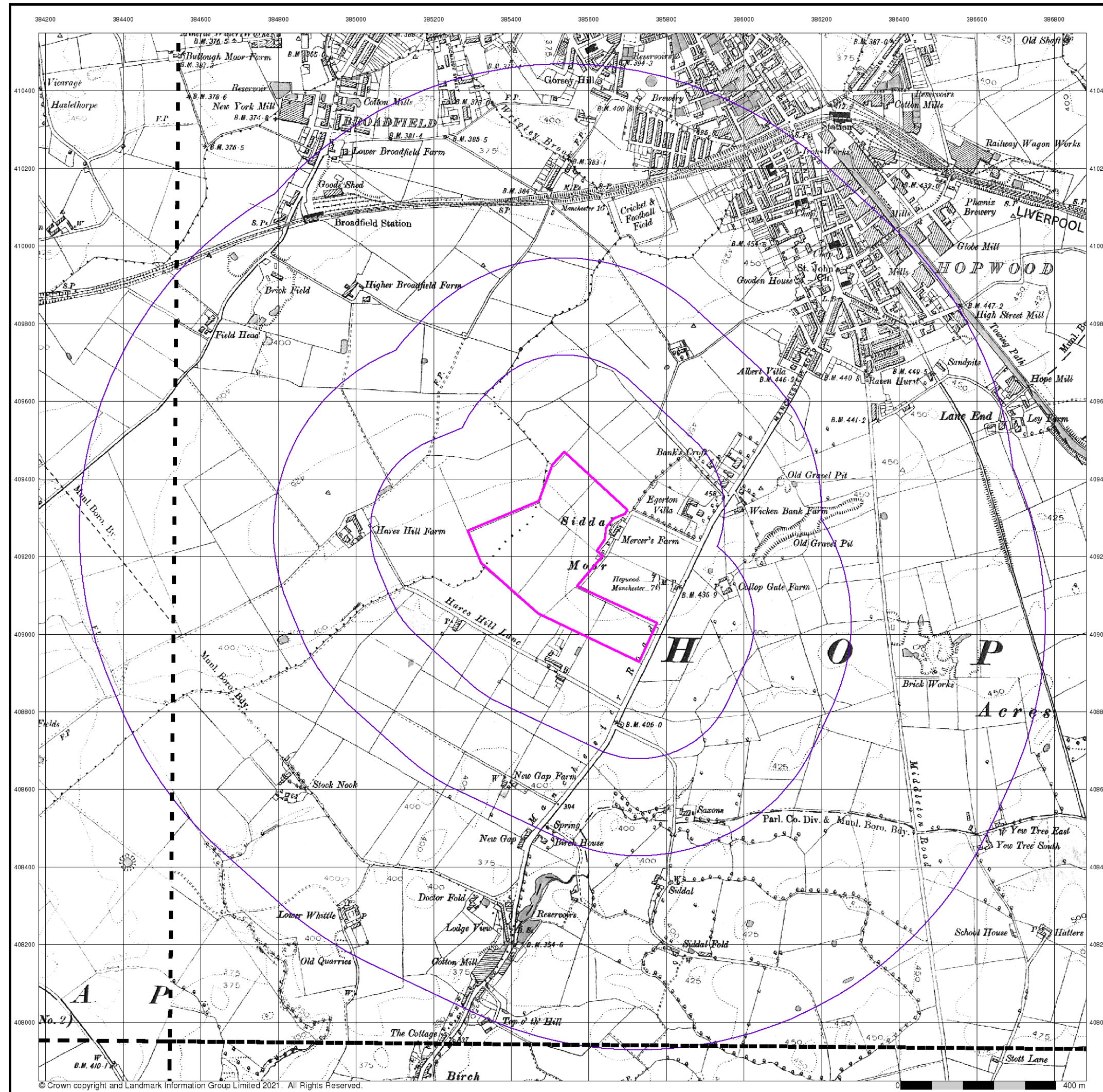
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National Grid Reference:	385560, 409190
Slice:	A
Site Area (Ha):	11.19
Search Buffer (m):	1000

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Lancashire And Furness

Published 1894

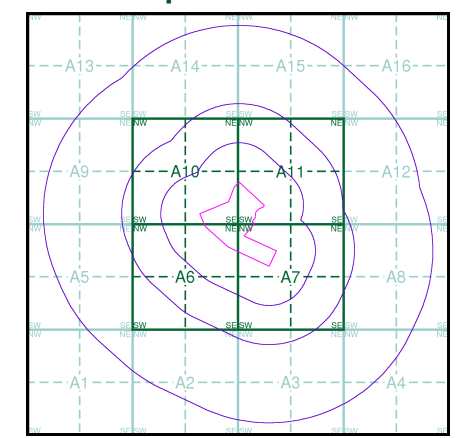
Source map scale - 1:10,560

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)

088SW 1894 1:10,560	088SE 1894 1:10,560
096NW 1894 1:10,560	096NE 1894 1:10,560

Historical Map - Slice A



Order Details

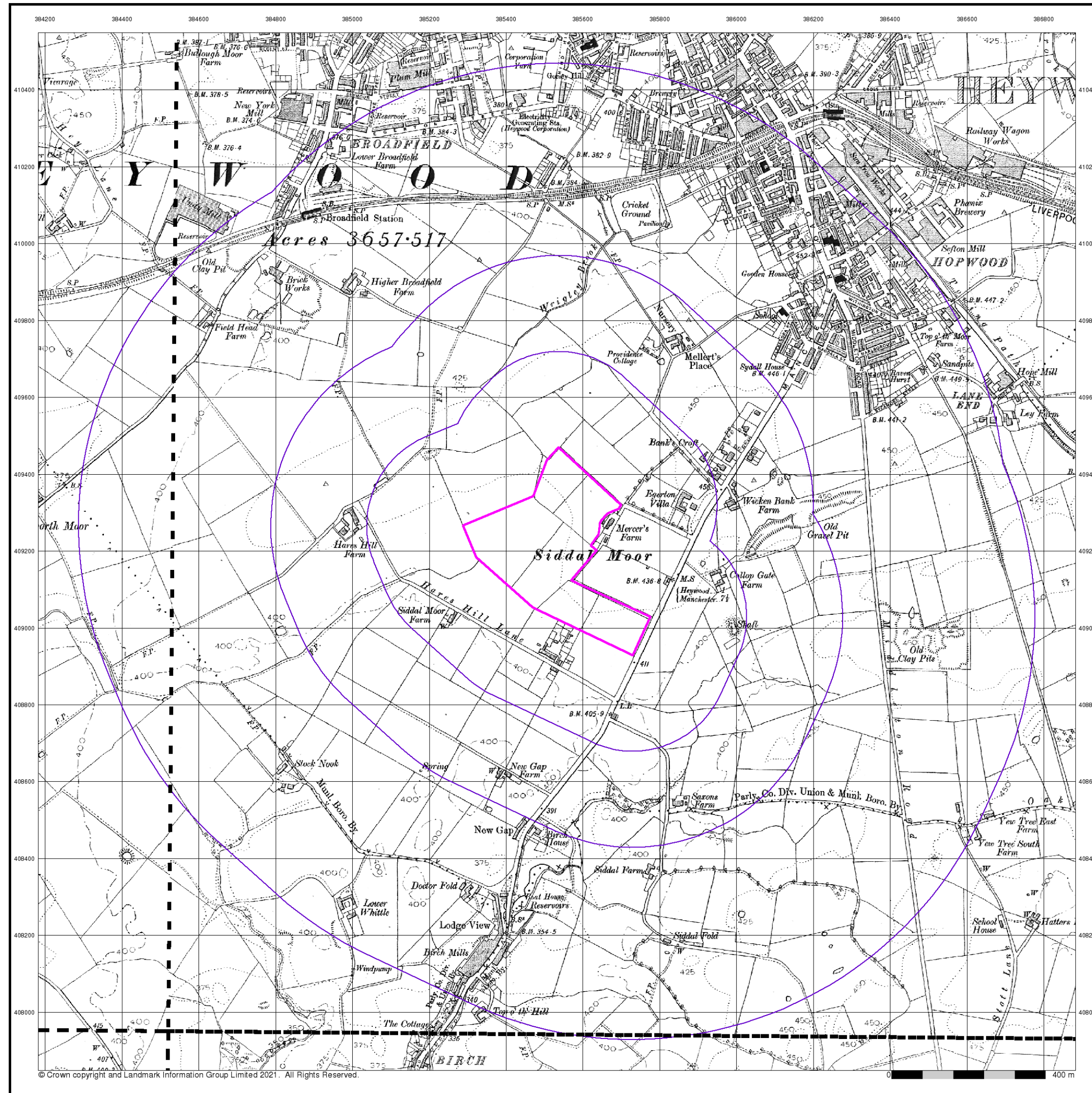
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Customer Ref: 322834
National Grid Reference: 385560, 409190
Slice: A
Site Area (Ha): 11.19
Search Buffer (m): 1000

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Lancashire And Furness

Published 1910

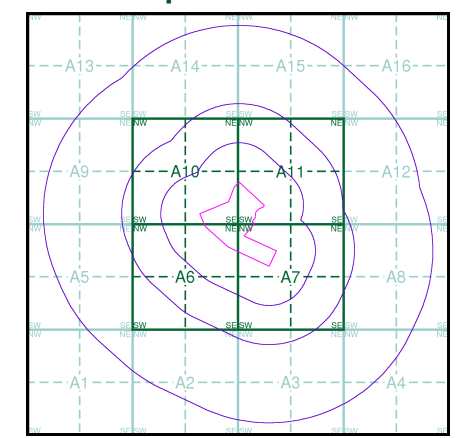
Source map scale - 1:10,560

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)

088SW 1910 1:10,560	088SE 1910 1:10,560
096NW 1910 1:10,560	096NE 1910 1:10,560

Historical Map - Slice A



Order Details

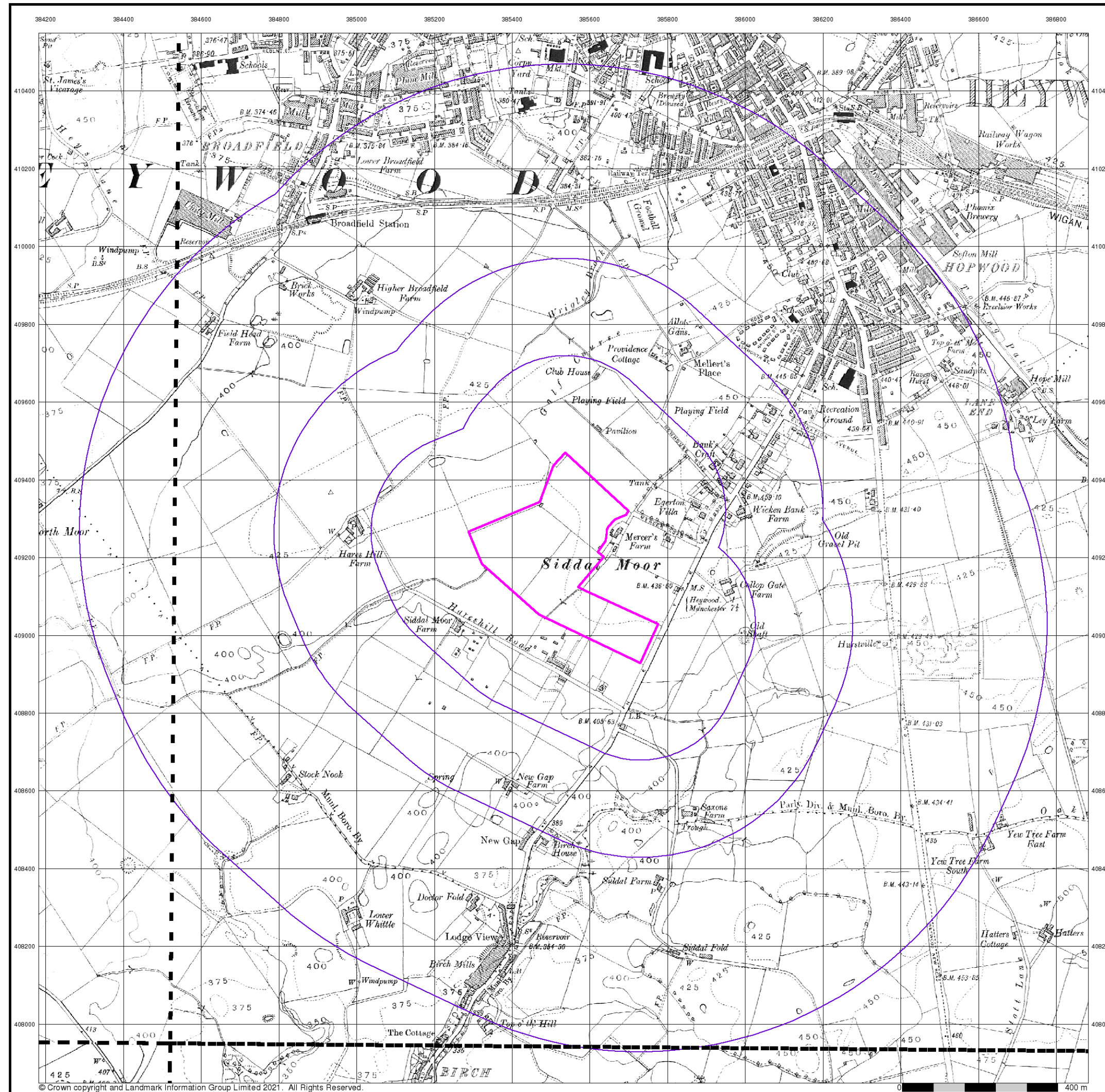
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National Grid Reference: 385560, 409190
Slice: A
Site Area (Ha): 11.19
Search Buffer (m): 1000

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Lancashire And Furness

Published 1923 - 1932

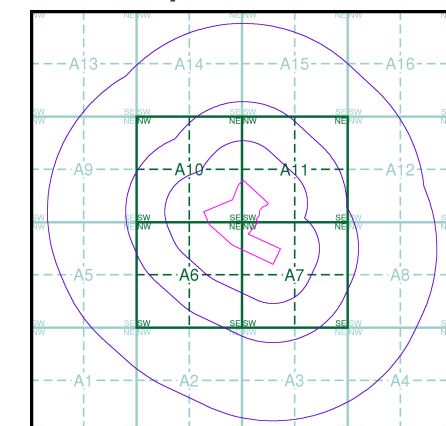
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. 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)

088SW 1931 1:10,560	088SE 1932 1:10,560
096NW 1923 1:10,560	096NE 1923 1:10,560

Historical Map - Slice A



Order Details

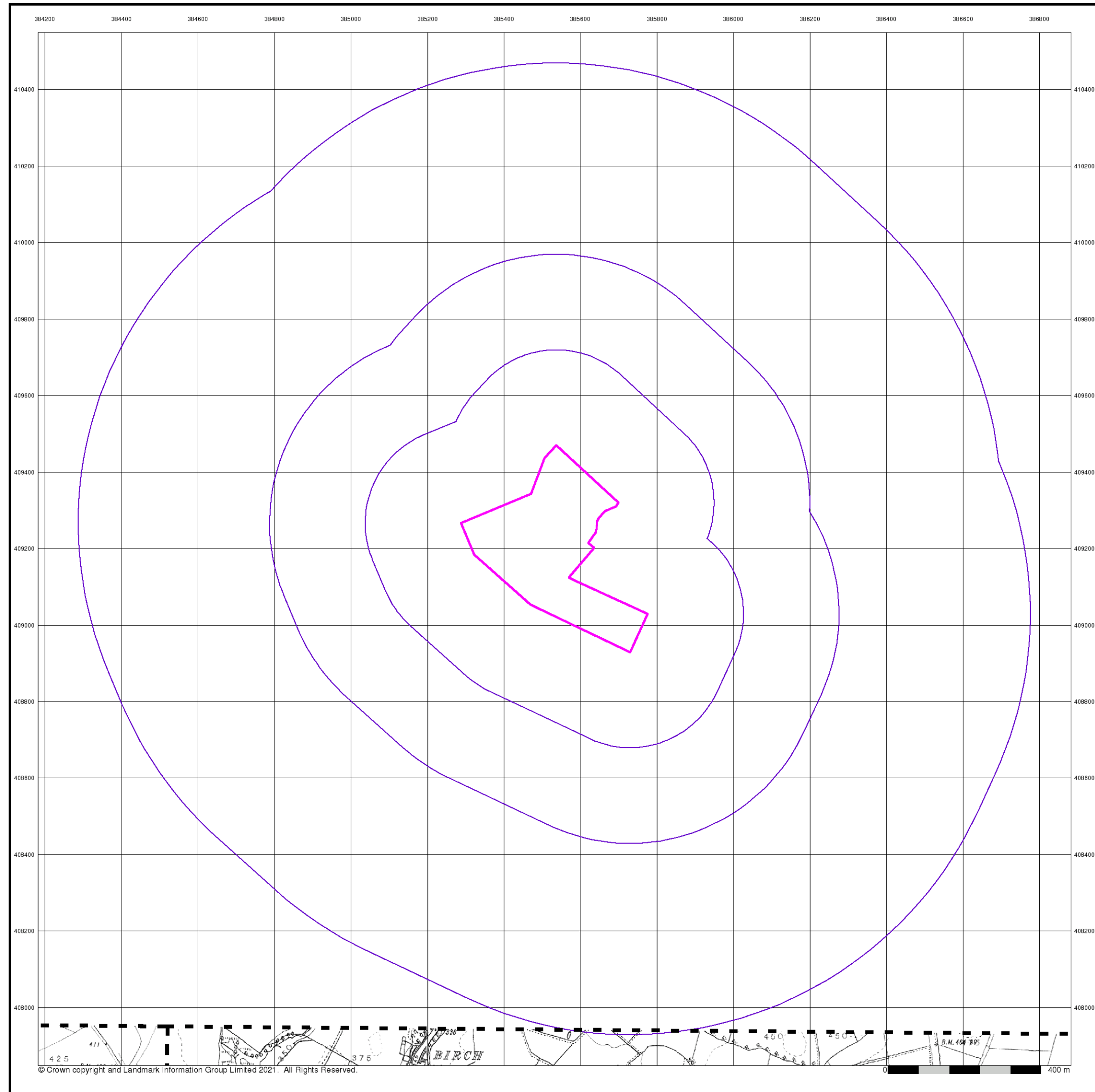
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Customer Ref: 322834
National Grid Reference: 385560, 409190
Slice: A
Site Area (Ha): 11.19
Search Buffer (m): 1000

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Lancashire And Furness

Published 1932

Source map scale - 1:10,560

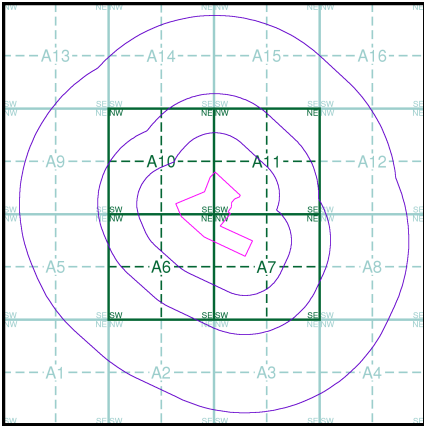
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

Map Name(s) and Date(s)



096NW 1932 1:10,560	096NE 1932 1:10,560
---------------------------	---------------------------

Historical Map - Slice A



Order Details

Order Number:	281815927_1_1
Customer Ref:	322834
National Grid Reference:	385560, 409190
Slice:	A
Site Area (Ha):	11.19
Search Buffer (m):	1000

Site Details

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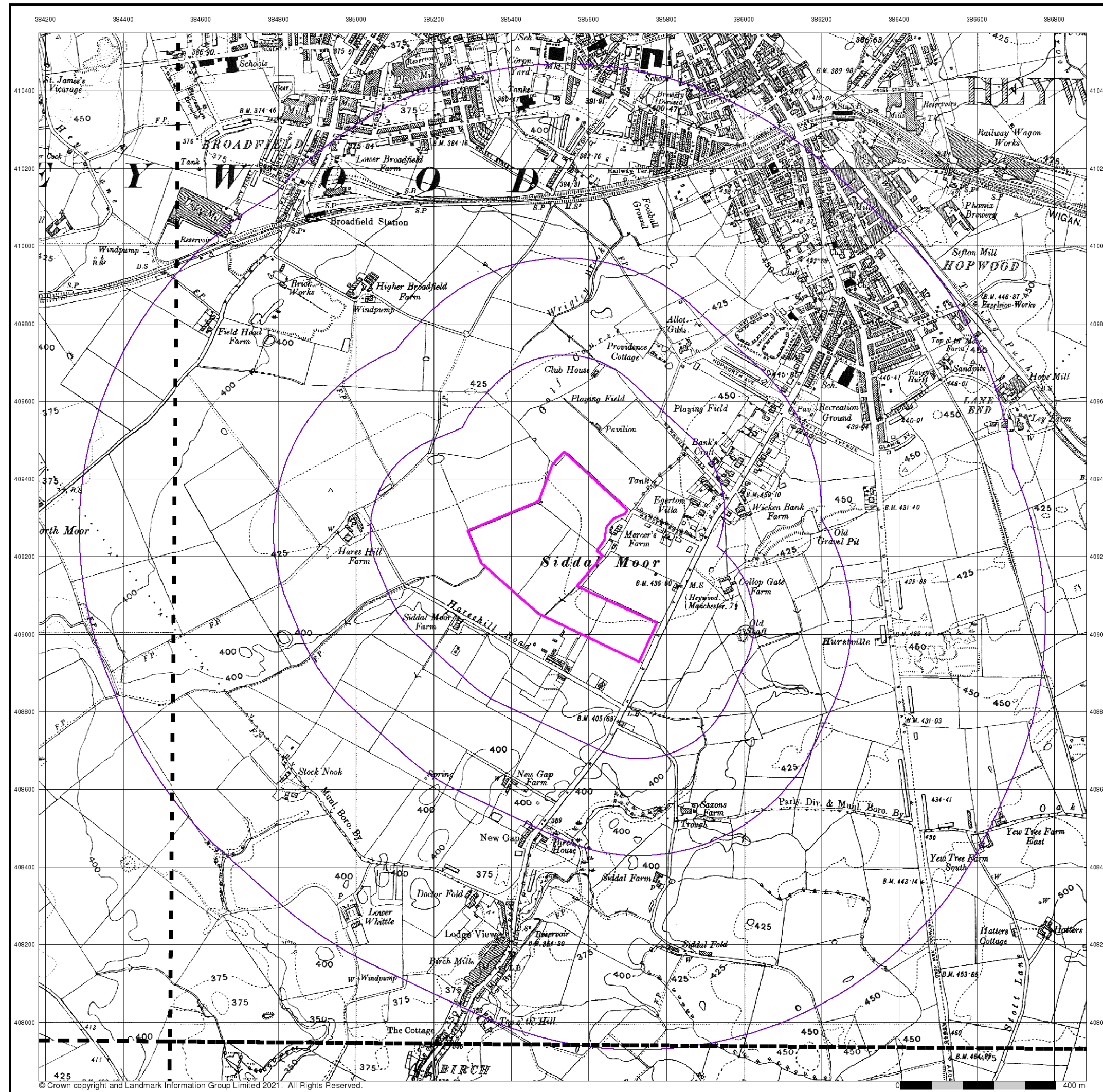


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0 400 m

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Lancashire And Furness

Published 1938

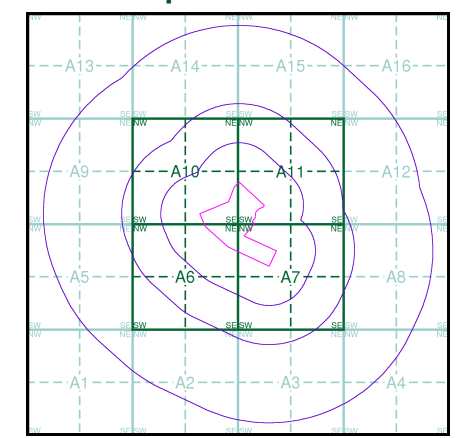
Source map scale - 1:10,560

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

Map Name(s) and Date(s)

088SW 1938 1:10,560	088SE 1938 1:10,560
096NW 1938 1:10,560	096NE 1938 1:10,560

Historical Map - Slice A



Order Details

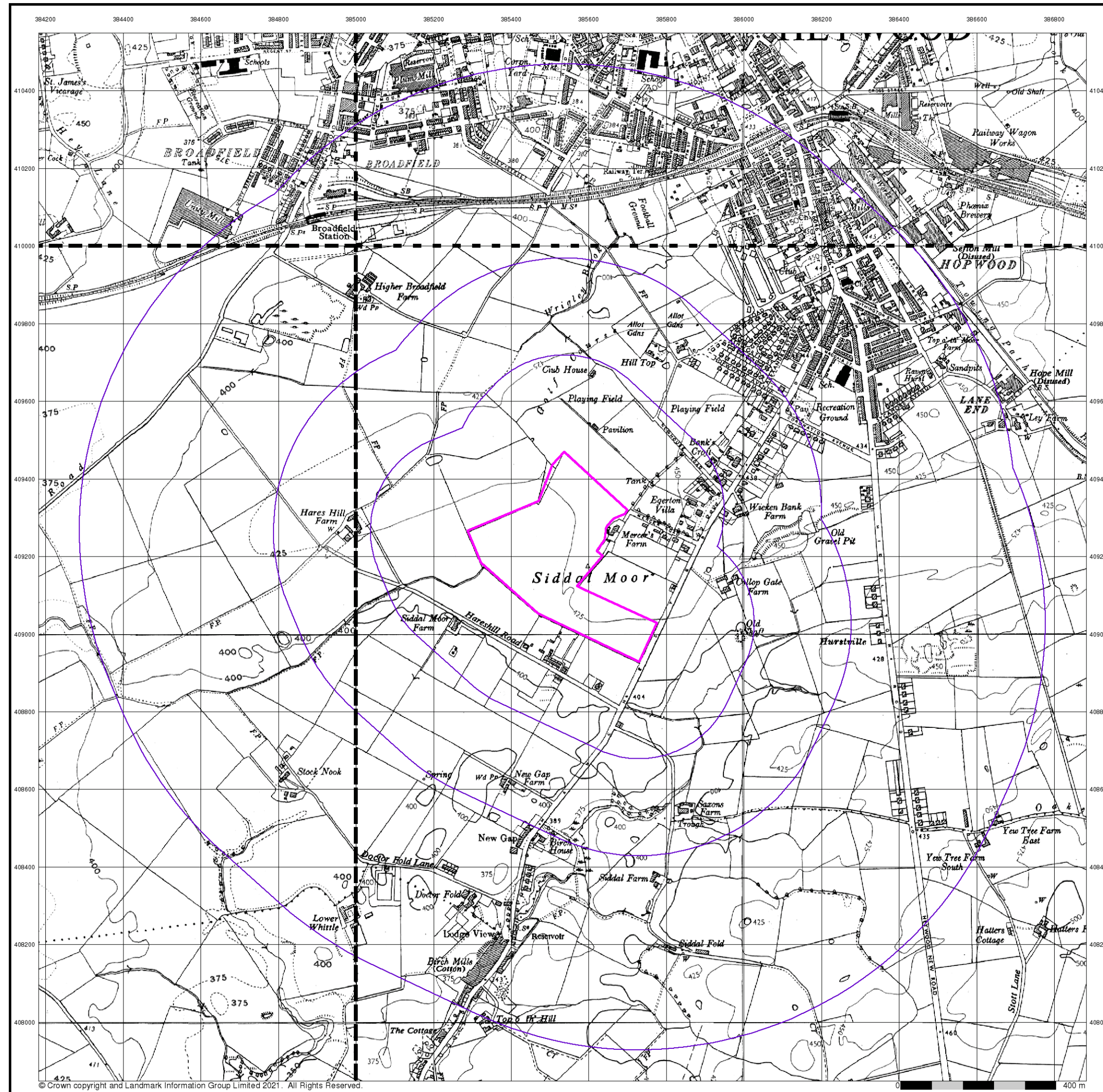
Order Number: 281815927_1_1
Customer Ref: 322834
National Grid Reference: 385560, 409190
Slice: A
Site Area (Ha): 11.19
Search Buffer (m): 1000

Site Details

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Ordnance Survey Plan

Published 1955 - 1956

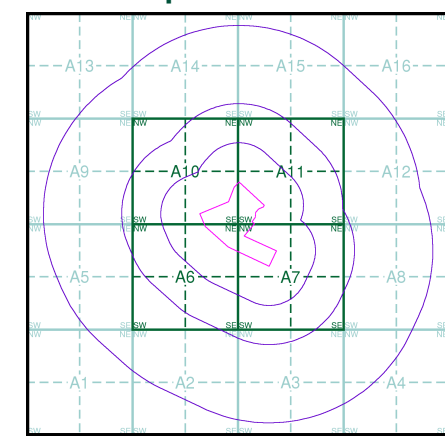
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

Table with 2 columns: Map Name and Date. Rows include SD81SW 1956 1:10,560, SD81SE 1956 1:10,560, SD80NW 1955 1:10,560, and SD80NE 1956 1:10,560. The SD80NE cell is highlighted in green.

Historical Map - Slice A



Order Details

Order Number: 281815927_1_1
Customer Ref: 322834
National Grid Reference: 385560, 409190
Slice: A
Site Area (Ha): 11.19
Search Buffer (m): 1000

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Ordnance Survey Plan

Published 1965 - 1968

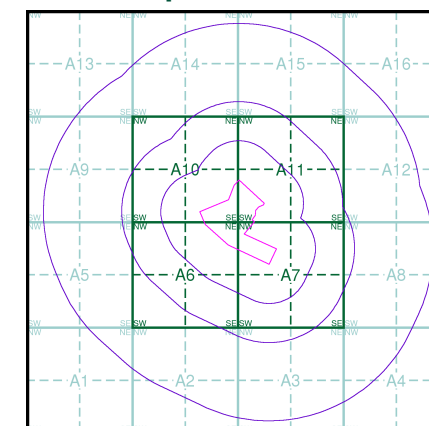
Source map scale - 1:10,000

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)

SD81SW	SD81SE
1967	1968
1:10,560	1:10,560
SD80NW	SD80NE
1965	1965
1:10,560	1:10,560

Historical Map - Slice A



Order Details

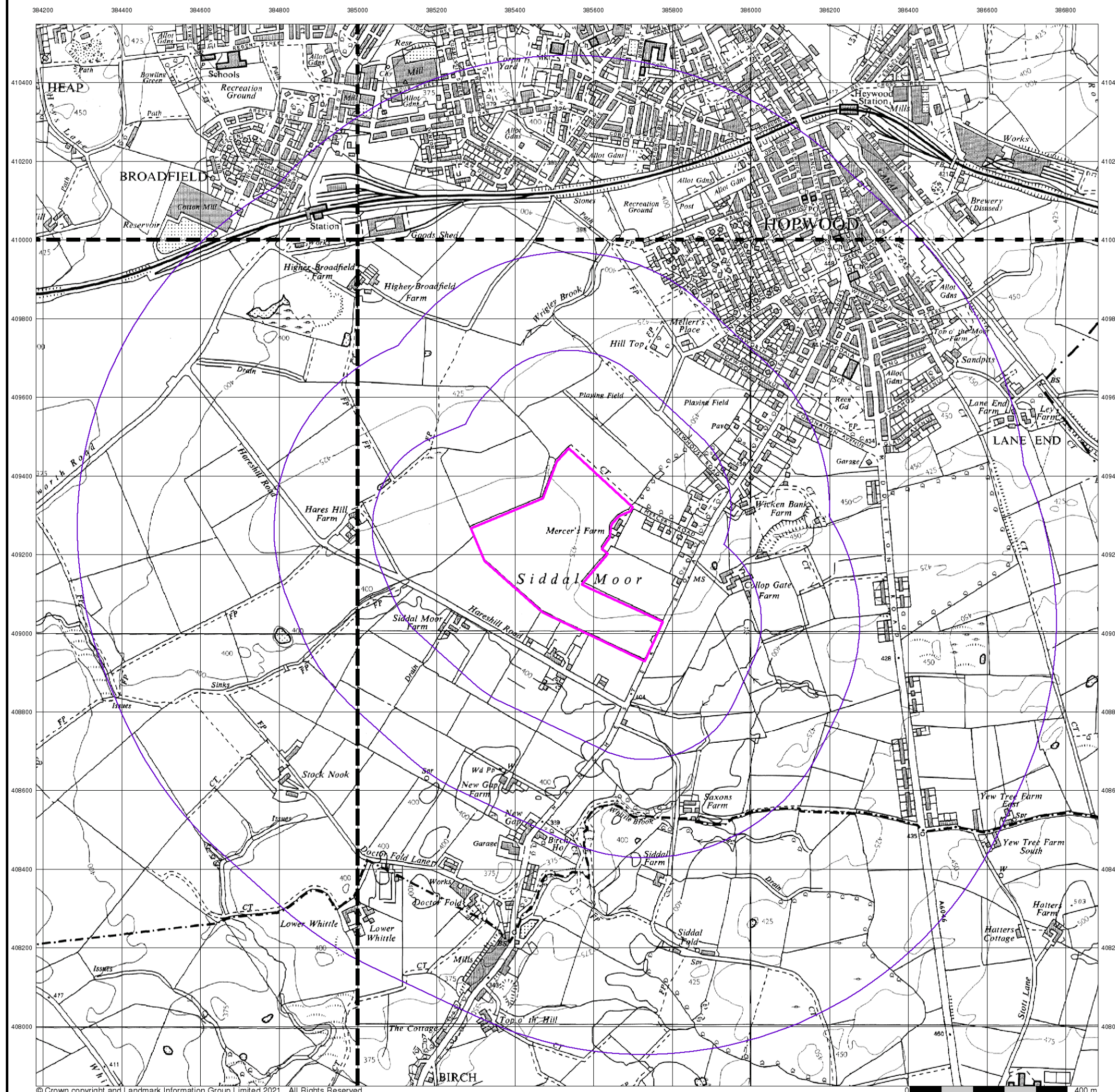
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Customer Ref: 322834
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Slice: A
Site Area (Ha): 11.19
Search Buffer (m): 1000

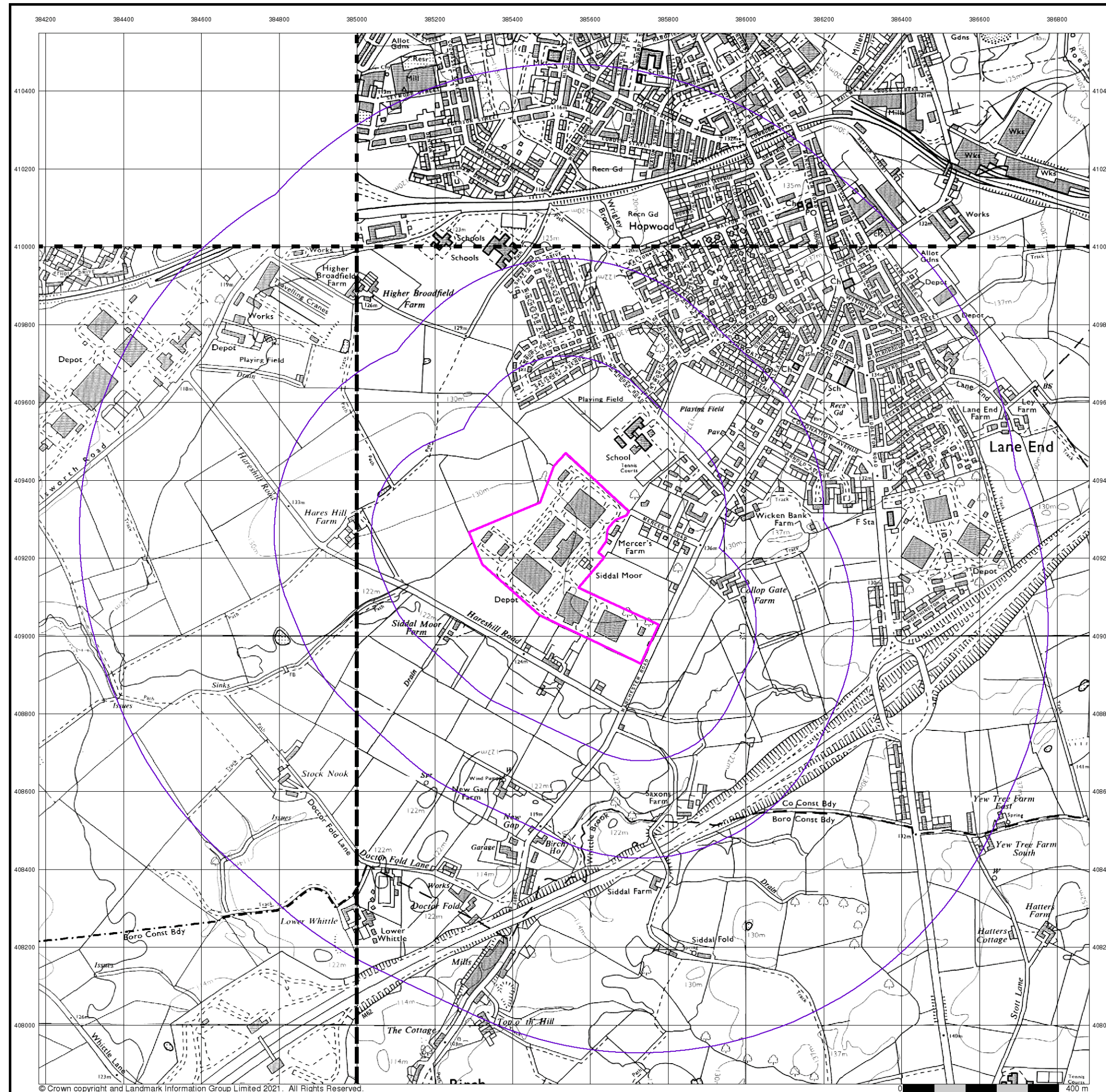
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Ordnance Survey Plan

Published 1974 - 1977

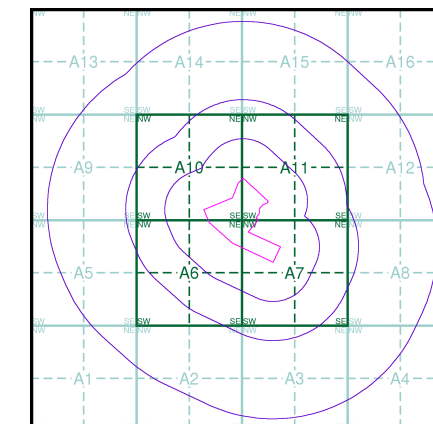
Source map scale - 1:10,000

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)

SD81SE	1977	1:10,000
SD80NW	1974	1:10,000
SD80NE	1977	1:10,000

Historical Map - Slice A



Order Details

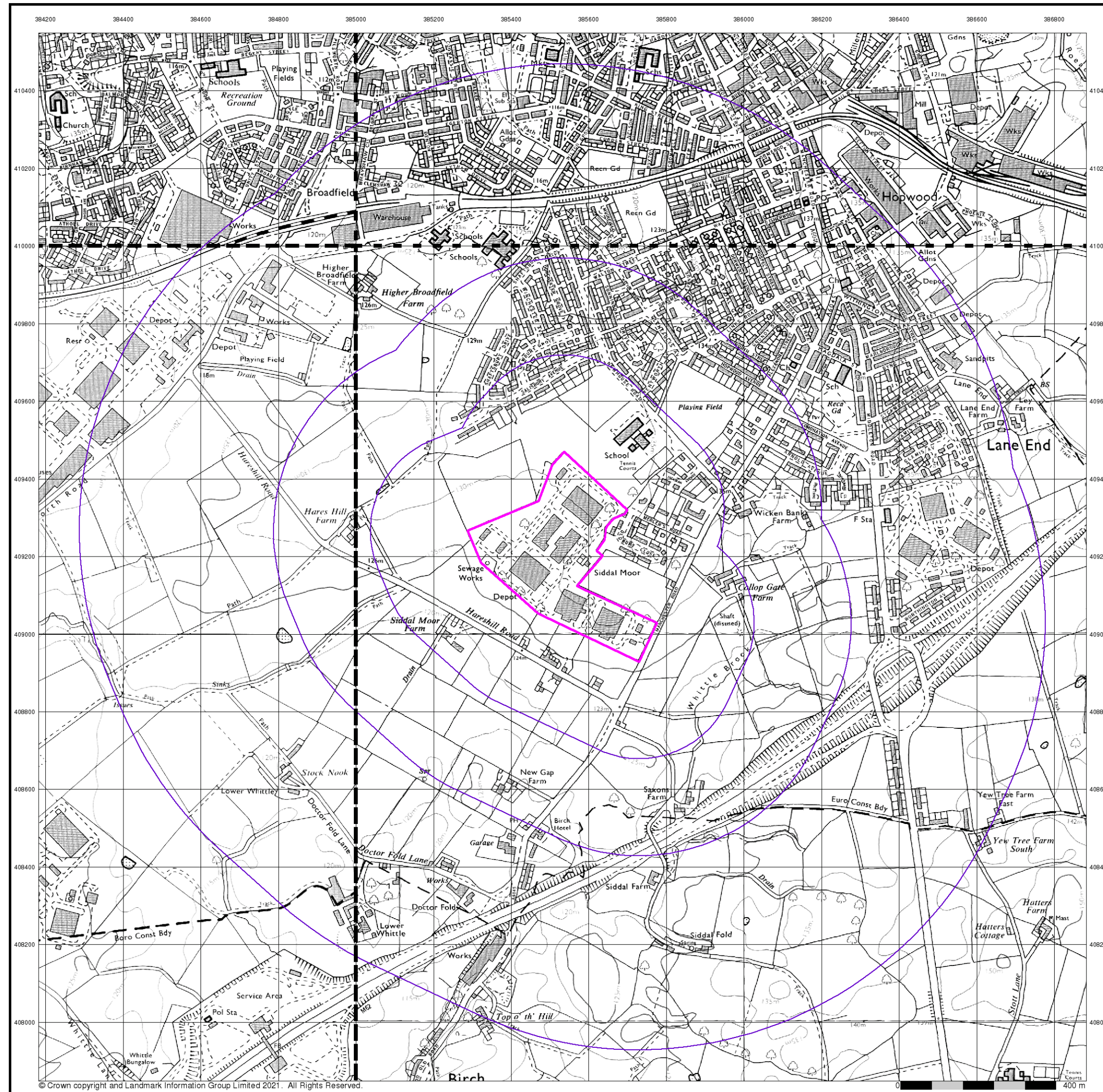
Order Number: 281815927_1_1
Customer Ref: 322834
National Grid Reference: 385560, 409190
Slice: A
Site Area (Ha): 11.19
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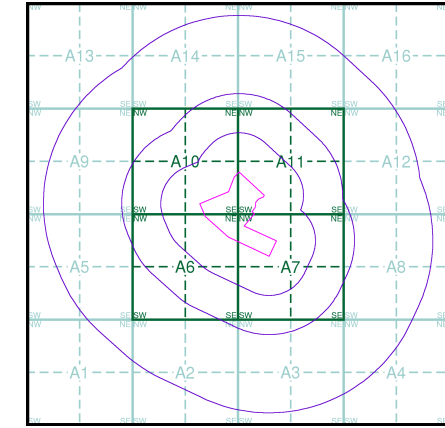
Ordnance Survey Plan
Published 1983 - 1988
Source map scale - 1:10,000

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)

SD81SW	SD81SE
1984	1988
1:10,000	1:10,000
SD80NW	SD80NE
1983	1984
1:10,000	1:10,000

Historical Map - Slice A



Order Details

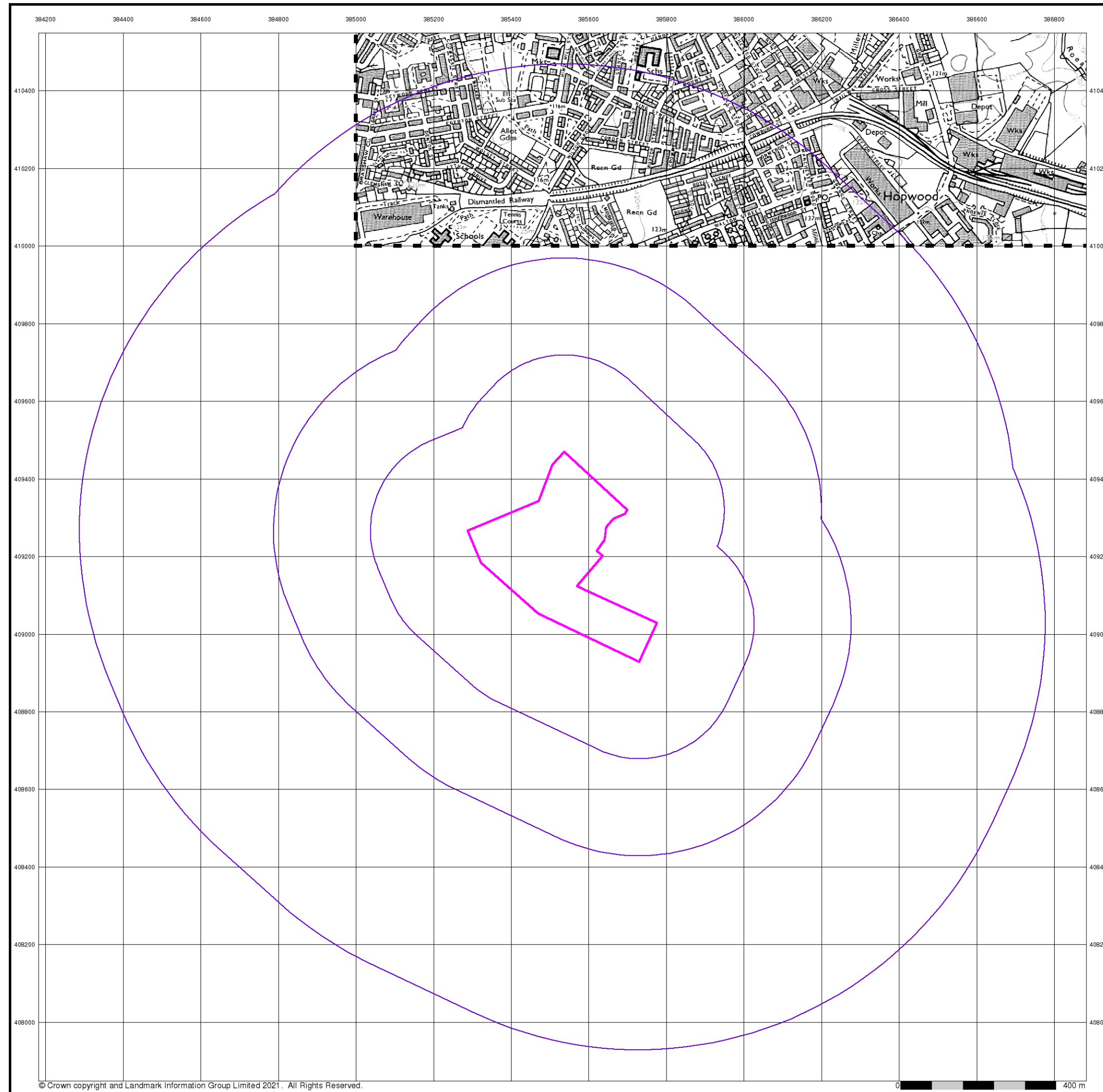
Order Number: 281815927_1_1
Customer Ref: 322834
National Grid Reference: 385560, 409190
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Site Area (Ha): 11.19
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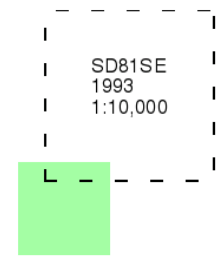
Ordnance Survey Plan

Published 1993

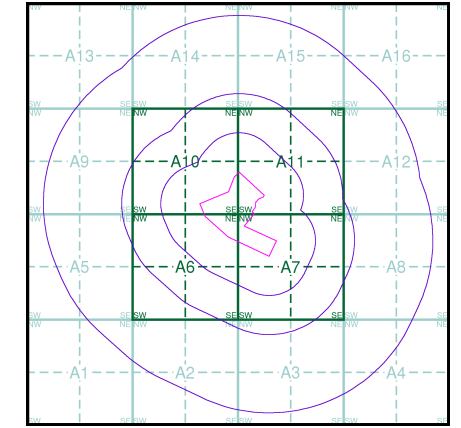
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

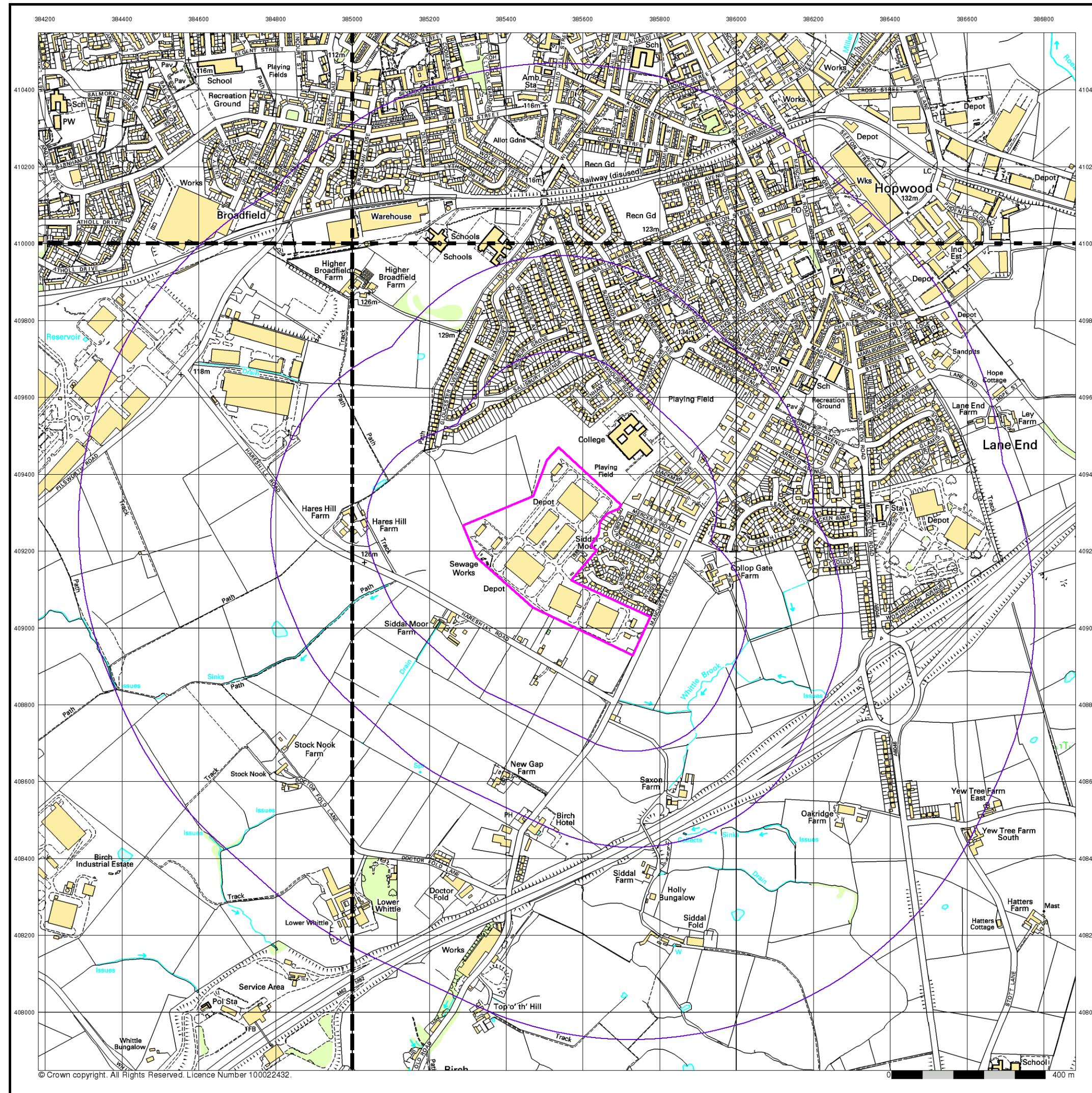
Order Number: 281815927_1_1
Customer Ref: 322834
National Grid Reference: 385560, 409190
Slice: A
Site Area (Ha): 11.19
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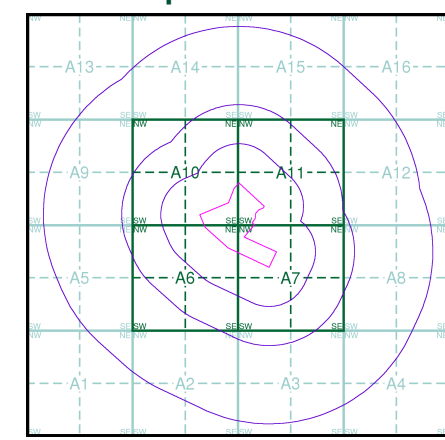
10k Raster Mapping
Published 1999
Source map scale - 1:10,000

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)

SD81SW	SD81SE
1999	1999
1:10,000	1:10,000
SD80NW	SD80NE
1999	1999
1:10,000	1:10,000

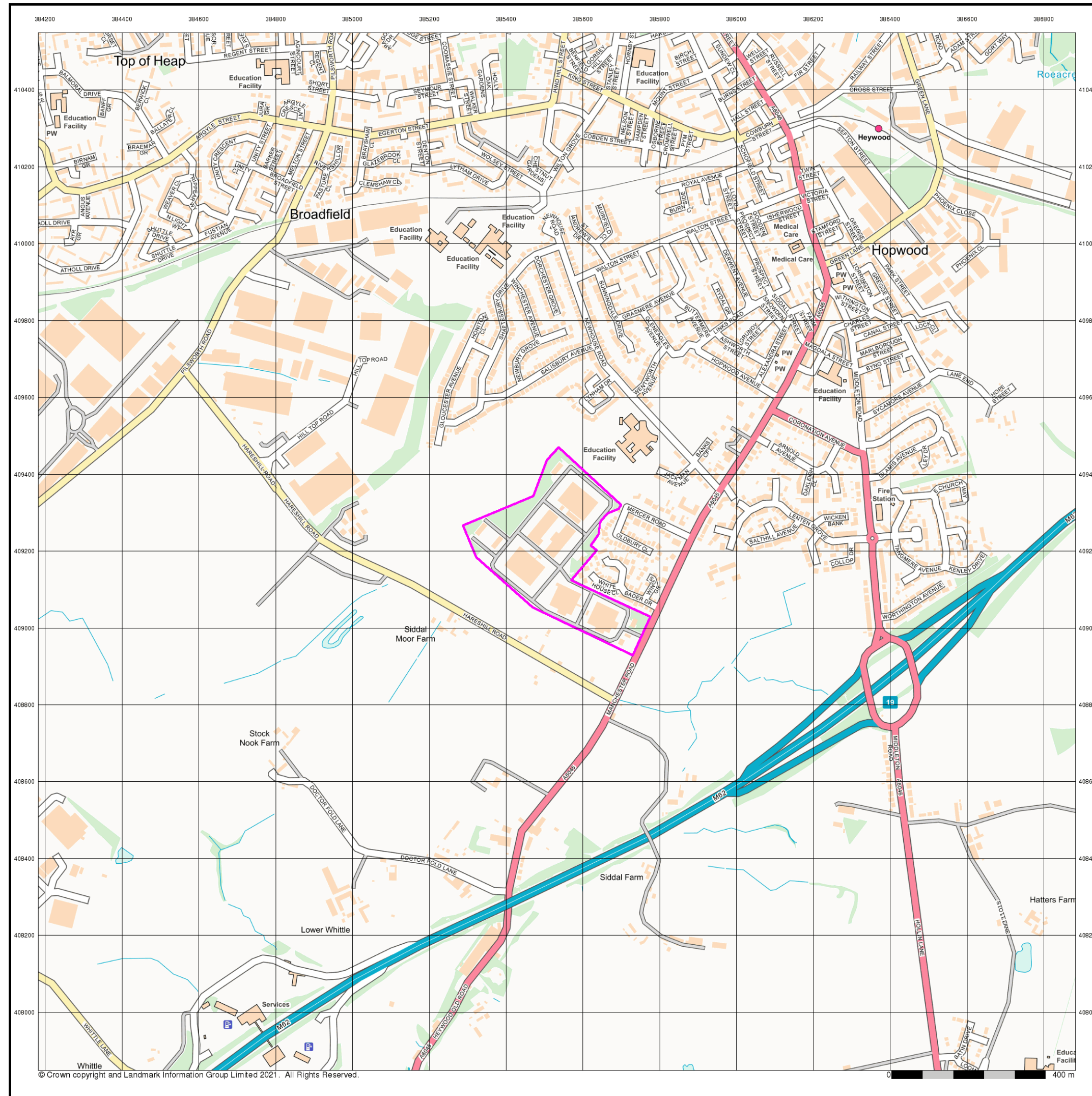
Historical Map - Slice A



Order Details
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Street View

Published 2021

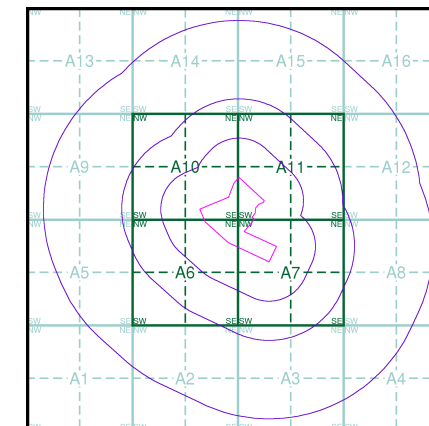
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Street View Map - Slice A



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