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Geotechnical & Geo-Environmental Desk Study

On a Site at

‘Caulton’s Field’, Littleworth Drove, Deeping St. Nicholas, Lincolnshire

For

Trustees of D W Dennis Settlement

Project: 15763/D1/1

Original. 29th February 2016

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1.0 INTRODUCTION

1.1 This report describes a geotechnical & geo-environmental desk study of a site at 'Caulton's Field', Littleworth Drove, Deeping St. Nicholas, Lincolnshire, carried out for our Client, Trustees of D W Dennis Settlement.

1.2 The objectives of this desk study have been to obtain information relating to the geotechnical and geo-environmental conditions pertaining to the site and its surroundings and to produce a preliminary assessment of these factors in relation to the proposed development.

1.3 We have been advised that the consideration is being given to the development of the site with residential houses, private gardens and associated infrastructure. It is assumed in the production of this report that ground levels across the site will remain generally unchanged. If the assumptions made above are not the case then the recommendations presented within this report may require some amendment.

1.4 This desk study has been produced on behalf of the Client, Trustees of D W Dennis Settlement, and no responsibility is accepted to any third party for all or any part. This report should not be relied upon or transferred to any other parties without the express written authorisation of BSP. If any unauthorised third party comes into possession of this report, they rely on it at their own risk and the authors owe them no duty of care or skill.

1.5 The findings and opinions conveyed from this desk study are based on information obtained from a variety of sources, as detailed within this report, which BSP believes are reliable. Nevertheless, BSP cannot and does not guarantee the authenticity or reliability of the information it has obtained from these sources, and used in the production of this report.

1.6 The site plans and drawings enclosed in this report should not be scaled off.

1.7 We would recommend that the preliminary geotechnical and geo-environmental assessments within this report are confirmed by an appropriate intrusive investigation, prior to any irrevocable actions being taken.

2.0 SITE DESCRIPTION

2.1 Site Location & Access

2.1.1 The site which is approximately 3.19 hectares in size and rectangular in shape, is located on the north-western side of Littleworth Drove (A1175), Deeping St. Nicholas, Lincolnshire, (see Drg. No's J1438/01 and J1438/02). The Ordnance Survey grid reference for the approximate centre of the site is TF2120 1577.

2.1.2 For the purpose of the site walkover, (undertaken 21st January 2016) access to the site was gained directly from Littleworth Drove, which was present immediately beyond the south-easternmost site boundary.

2.2 Site Description

2.2.1 At the time of the site walkover, the site generally comprised an approximately flat lying rough grassed field, with brambly vegetation, shrubs and small trees present around the margins. A couple of trees were also present in the central area of the site. Furthermore, a dilapidated open fronted barn generally comprising masonry walls and a broken corrugated asbestos sheet style roof, a pile of brick rubble and a discarded agricultural machine were present in the south-eastern area of the site.

2.2.2 An approximately 1m deep drain / ditch was present along the north-eastern boundary of the site with water ponded in various places along its length. A shallow depression overgrown with rushes was also present in the south-western area of the site.

2.2.3 The north-eastern, south-eastern and south-western boundaries of the site were generally defined by overgrown hedgerows and trees. The north-western and central-eastern boundaries of the site were generally defined by post and wire mesh and post and rails fences.

2.2.4 A railway line was present immediately to the north-west of the site, with agricultural land beyond. Residential housing and associated infrastructure was generally present to the north-east, south-east and south-west of the site.

3.0 DESK STUDY

3.1 Historical Maps

3.1.1 Extracts of historical maps of the site area, included as part of a pack of the 'Envirocheck' information obtained from the Landmark Information Group Ltd., have been reviewed to obtain an indication of the history of the site and its environs. These 'Envirocheck' historical maps, which include extracts of both old County Series and Ordnance Survey (OS) maps are reproduced in Appendix A of this Report. The maps are dated between 1887 & 2015 and include extracts from 1:2,500, 1:10,560 and 1:10,000 scale original maps. The Envirocheck plans produced from the historical maps are typically a montage of extracts, taken from the original old County Series and Ordnance Survey (OS) maps of approximately the same publication dates.

3.1.2 Before discussing the information presented on the historical maps, the reader's attention is brought to the fact that due to the various methods used to project the curve of the earth's surface onto a flat map, the superimposed site area appears to be 'shifted' slightly to the north and east on some of the earlier landmark historical plans reviewed.

3.1.3 The historical maps dated 1887 to 1958 indicate that the site generally comprised an undeveloped field, presumably used for agriculture. However, the historical maps from that period, (1887 – 1958) indicate that the southern area of the site generally comprised a group of buildings, surrounded by paddocks / smaller fields. The southernmost of those buildings is identified as 'Elmtree House'. The more northern buildings are considered likely to have comprised an associated group of barns, or similar. Furthermore, the historical maps dated 1887 – 1952 indicate that a 'pump' was present in the southern area of the site, adjacent to Elmtree House.

3.1.4 The maps dated 1975 – 1995 no longer identify Elmtree House and /or the smaller fields / paddocks in the southern area of the site. The maps from that period (1975 – 1995) indicate that a smaller building / barn and an access track was present in the southern area of the site. In addition, the maps from that period (1975-1995) indicate that several of the smaller barns in the south-eastern area of the site had been demolished / dismantled.

3.1.5 The maps dated 2006 – 2015 indicate that a single barn and short access track remained in the south-eastern area of the site.

3.1.6 In addition, all of the maps indicate that drains were present along the north-eastern margin of the site and in the western margin of the site.

3.1.7 The historical maps dated 1887 – 2015 indicate that the area to the north-east, south-east and south-west of the site generally comprised residential housing, farms / farmsteads and associated infrastructure. In addition, the maps dated 1888 – 1904 indicate that a smithy was present 120m to the north-east of the site. All of the maps indicate that a railway line was present to the north-west of the site with undeveloped fields beyond. The latter are indicated to have been crossed by a network of drains.

3.2 Geology, Hydrogeology & Hydrology

3.2.1 The following publication of the British Geological Survey (BGS) has been reviewed with respect to the strata underlying the site:

- BGS map, Sheet 144 Spalding Solid and Drift Edition, Scale 1:50,000, dated 1992.

3.2.2 The published geological map indicates that the natural strata beneath the site comprises Barroway Drove Beds from the Quaternary, underlain by Oxford Clay from the Jurassic.

3.2.3 The Barroway Drove Beds are described as older marine alluvium and salt marsh deposits comprising silty clay with occasional peat. The Oxford Clay is described as generally comprising grey, locally fossiliferous mudstones with nodular limestones.

3.2.4 In addition to the natural strata described above, Made Ground may be locally present, associated with the historic development / previous usage of the site.

3.2.5 The extract of the Groundwater Vulnerability Map included within the 'Landmark' pack of information indicates that the strata underlying the site is a Non Aquifer.

3.2.6 The historic County Series maps and contemporary Ordnance Survey information do not identify any named surface watercourses within 250m of the site. Drains are, however, present along the north-eastern margin and in the western area of the site.

3.3 Mining

3.3.1 The site is located in an area where a Coal Authority Mining Search is not required.

3.4 'Landmark' Environmental Database Report

3.4.1 A search and review has been undertaken of information held on the Landmark 'Envirocheck' database, which provides information on the environmental setting of the site. A copy of the 'Envirocheck' report is reproduced in Appendix B of this report, with the salient points summarised below:

- The Envirocheck report does not identify any landfills, licensed waste management facilities and / or registered waste treatment or disposal sites within 250m of the subject site.
- The Envirocheck report identifies 5 'Discharge Consents' within 250m of the site. The consents are located 18m to the east of the site, (2 entries), 156m to the south of the site (2 entries) and 168m to the east of the site. The discharge for all 5 consents is indicated to comprise Sewage Discharge – Final/Treated Effluent.

- The Envirocheck report identifies a single 'Pollution Incident to Controlled Waters' within 250m of the site. The incident is located 229m to the south of the site and is identified as 'Category 2 – Significant Incident'.
- The Envirocheck report does not identify any Contemporary Trade Directory Entries and / or Fuel Station Entries within 250m of the site.
- The Envirocheck report indicates that the site is generally located in an area identified where 'Flooding from Rivers or Sea without Defences' (Zone 3) can occur. In addition, the eastern area of the site is located in an area where 'Extreme Flooding from Rivers or Sea without Defences' (Zone 2) can occur.

3.5 Radon

3.5.1 The Envirocheck Report advises that No Radon protection measures are required in the construction of new dwellings at the site.

4.0 PRELIMINARY CONCEPTUAL SITE MODEL

4.1 Introduction

4.1.1 Current policy in the United Kingdom for the control and treatment of potential / actual contamination on development sites is based on a 'suitable for use' principle. In effect this means that where the contamination that may be present on a site is deemed to pose an unacceptable risk to human health or the environment, appropriate remedial or mitigation measures should be provided, appropriate to the intended form of development. The current practice with respect to the assessment of the risks posed by potentially contaminated land in the England & Wales is to consider possible Source – Pathway – Receptor (Target) linkages between any contaminant sources on, or in the vicinity of, the site and sensitive potential targets (site users, controlled waters, etc.). This Source – Pathway – Receptor approach whilst common to all developments must be tailored to the conditions and environment of the specific site by use of a 'Conceptual Site Model'. At a preliminary (eg. Phase 1 Desk Study) stage, the Conceptual Site Model may be limited to a qualitative assessment only, but with more information from future intrusive investigations, it may be appropriate to develop more detailed quantitative models.

4.2 Preliminary Conceptual Site Model

4.2.1 Potential Contaminant Sources

From the desk study researches, potential contaminant sources affecting the site can be split between on site and off site sources and further divided between current and historical land uses. On this basis, the following potential contaminant sources could be considered.

- On Site Sources - Current/Recent and Historical Land Uses;
  - Possible contamination associated with any Made Ground on the site. - Potentially a range of metals, Poly Aromatic Hydrocarbons (PAH) & asbestos.

- Off-site sources - Current/Recent and Historical Land Uses;
  - No additional sources of contamination identified.

4.2.2 Potential Receptors / Targets

Again these may be On-Site or Off-Site, Animal / Human (End Users) or Environmental (Controlled waters, etc.) Receptors / Targets.

- Human & Animal On-site & Off-site;
  - Construction Workers, End Users, Members of the Public, Users & Occupiers of adjacent premises.
  - Local wildlife.

- Environmental, On-site & Off-site:
  - Ground-waters - The strata underlying the site is a Non Aquifer.
  - Surface-waters – Drains are present on the site. No named surface watercourses within 250m of the site.

4.2.3 Pathways

Migration pathways between the above potential contaminant sources and receptor targets could include, with respect to the various human and environmental receptors / targets:

- Pathways to Animal / Human Targets:
  - On-site (Construction Workers, End Users and members of the Public)
    - Dermal contact.
    - Ingestion of soils.
    - Inhalation of dusts, etc.
  - Off-site
    - Inhalation of dusts, etc.
- Pathways to environmental Receptors / Targets:
  - In ground migration/leaching to ground waters – The strata underlying the site is a Non Aquifer.
  - Surface water run-off - Drains are present on the site. No named surface watercourses within 250m of the site.

5.0 PRELIMINARY GEOTECHNICAL & GEO-ENVRONMENTAL ASSESSMENT

5.1 Preliminary Geo-Environmental Assessment

5.1.1 It is considered that the previous usage of the site indicated by the historical maps as undeveloped fields and residential housing / farmstead are unlikely to have resulted in gross contamination of the site.

5.1.2 However, Made Ground is likely to be locally present on the site, associated with the historical usage and development of the site and adjacent areas. That Made Ground may incorporate un-natural 'alien' materials. Alien materials may also have become entrained into the topsoil at the site during ploughing and cultivation, etc. The inclusion of those alien fragments has the potential to render the Made Ground and perhaps some of the topsoil unsuitable to be retained at near surface horizons in proposed gardens and soft landscaping areas, based on aesthetic grounds. Furthermore, the Made Ground and 'entrained' topsoil has the potential to contain concentrations of some metals, PAH's & asbestos, etc. which might exceed the published Soil Guideline Values / assessment criteria for the proposed residential end usage of the site. In view of the above, we would recommend that an allowance is made for the removal of Made Ground and any 'entrained' topsoil from the site for appropriate disposal off-site at a suitably licensed recycling / waste management facility.

5.2 Preliminary Geotechnical Assessment

5.2.1 The published geological information indicates that the natural strata underlying the site comprises Barroway Drove Beds underlain by Oxford Clay. The Barroway Drove Beds are indicated to generally comprise silty clay with occasional peat and may not provide a suitable bearing strata for traditional strip / trench fill foundations to be used for 2 storey houses at the site. As such, it is recommended that at this stage allowances are made for using piles and ground beams, (or similar) for the proposed residential development at the site.

5.2.2 Where the Barroway Drove Beds are present at the formation of proposed roads, etc., it is considered that a CBR value of 2% is likely to prove appropriate for design.

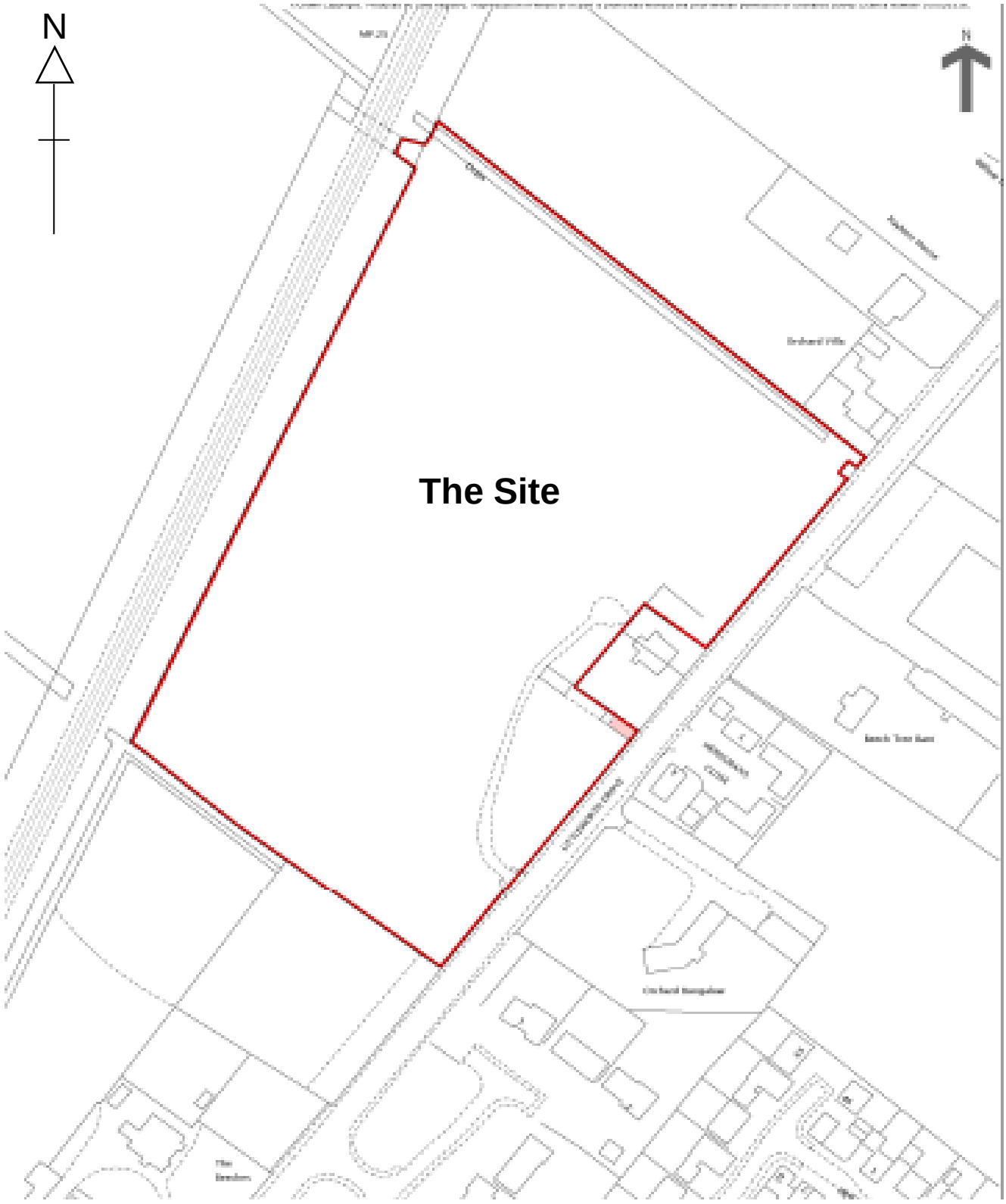
5.2.3 It is anticipated that the predominantly silty clays and peats of the Barroway Drove Beds are likely to have poor in-situ permeability. Furthermore, the standing water in the drain along the north-eastern boundary of the site and the presence of drains separating the fields to the north-west of the site indicate that groundwater is likely to be present at shallow depth beneath the site. In view of that anticipated poor permeability of the near surface strata and the likely shallow ground water beneath the site, it is considered that soakaways are unlikely to be viable at the site.

DRAWINGS



Drawing Title: **Site Location**		**J1438/01**	
		Scale at A4: NTS	
Project: **Caultons Field, Littleworth Drove, Deeping St. Nicholas**		Drawn: MJH	Approved: MJH
Client: **Trustees of D W Dennis Settlement**		Date: 08/02/2016	Date: 08/02/2016

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Drawing Title **Site Plan**		**J1438/02**	
		Scale at A4: NTS	
Project **Caultons Field, Littleworth Drove, Deeping St. Nicholas**		Drawn MJH	Approved MJH
Client **Trustees of D W dennis Settlement**		Date 08/02/2016	Date 08/02/2016

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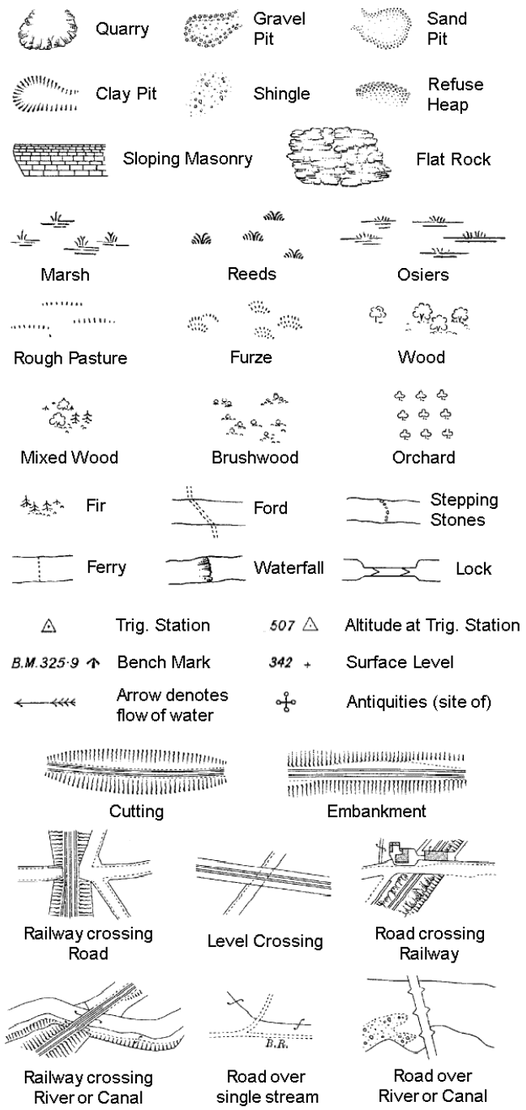
APPENDICES

Appendix A

Landmark Historical Maps

Historical Mapping Legends

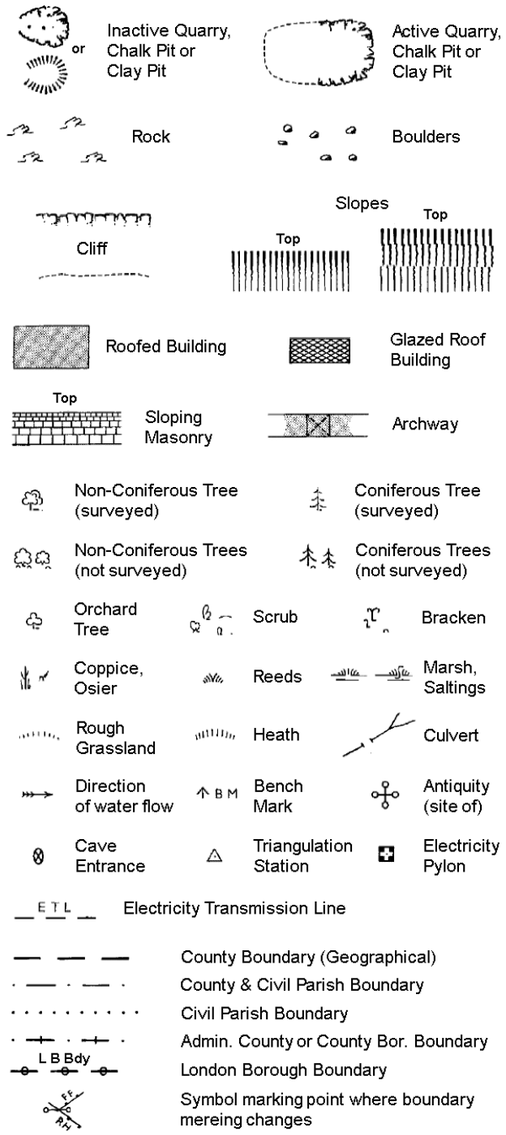
Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



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

B P B S	Boundary Post or Stone	P.C.B	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	St.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R	Mooring Post or Ring	W	Well

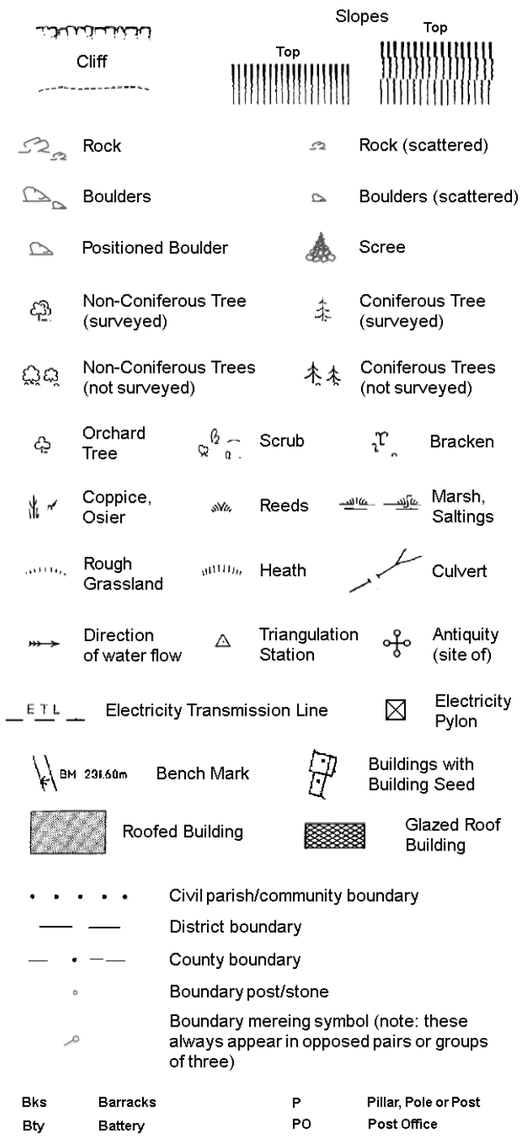
Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



County Boundary (Geographical)
County & Civil Parish Boundary
Civil Parish Boundary
Admin. County or County Bor. Boundary
L B Bdy
London Borough Boundary
Symbol marking point where boundary mereing changes

BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

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



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

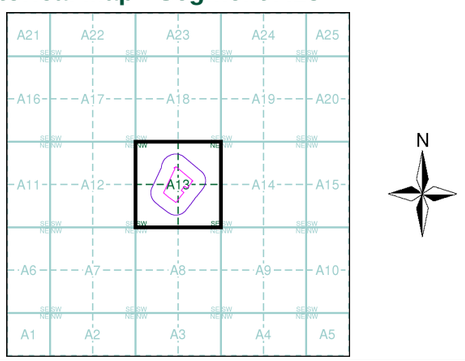
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lincolnshire	1:2,500	1888	2
Lincolnshire	1:2,500	1904	3
Ordnance Survey Plan	1:2,500	1975 - 1976	4
Large-Scale National Grid Data	1:2,500	1995	5

Historical Map - Segment A13



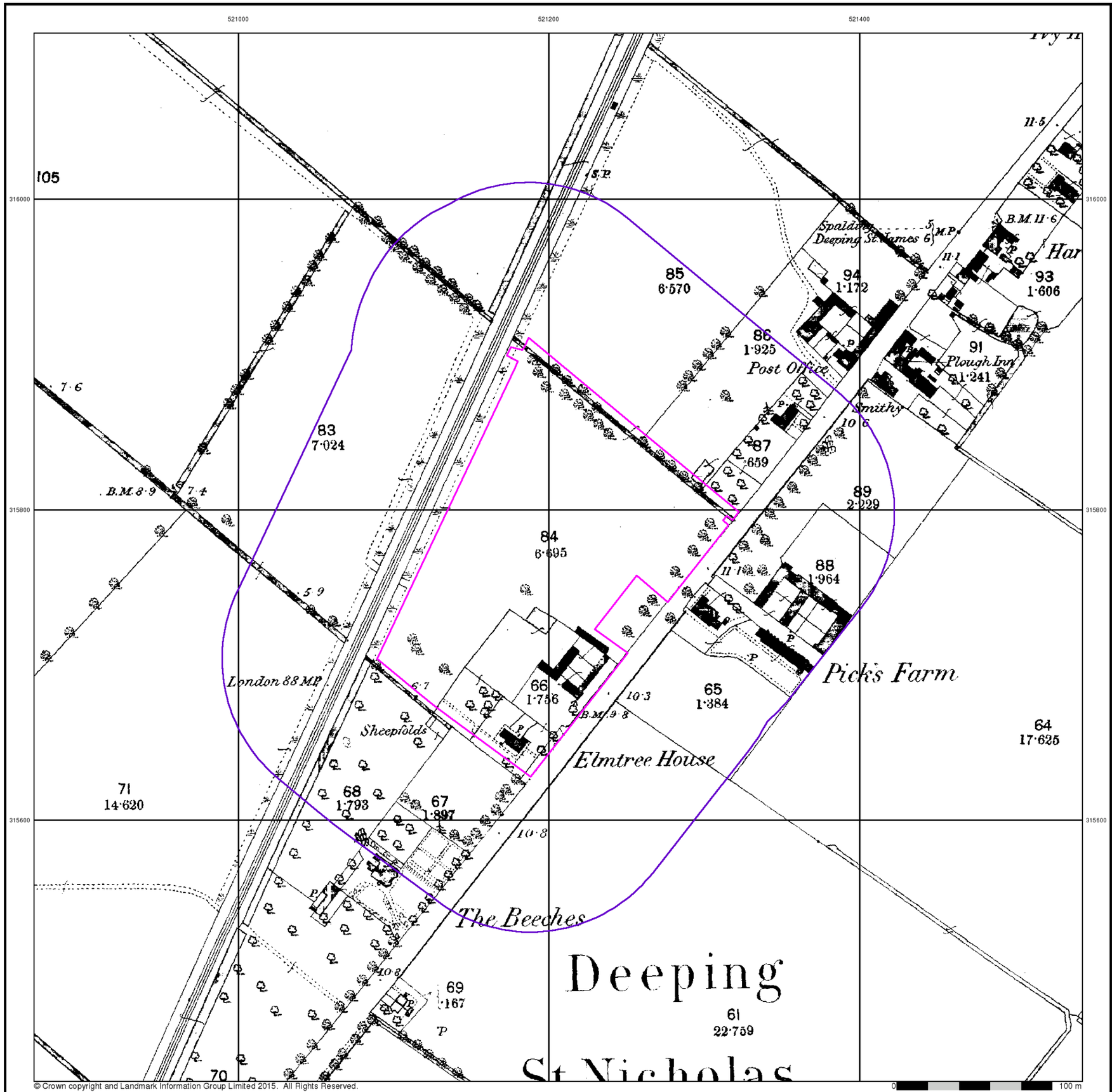
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National Grid Reference:	521200, 315770
Slice:	A
Site Area (Ha):	3.19
Search Buffer (m):	100

Site Details

Caultons Field, Deeping St. Nicholas, SPALDING, Lincolnshire

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Web: www.envirocheck.co.uk



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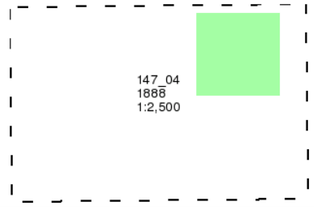
Lincolnshire

Published 1888

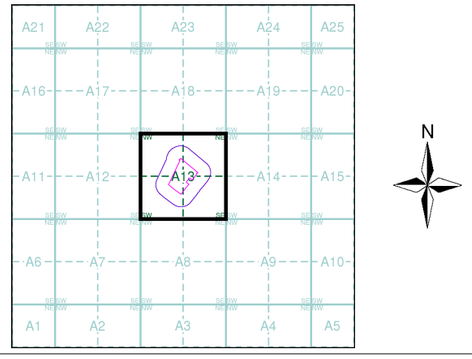
Source map scale - 1:2,500

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



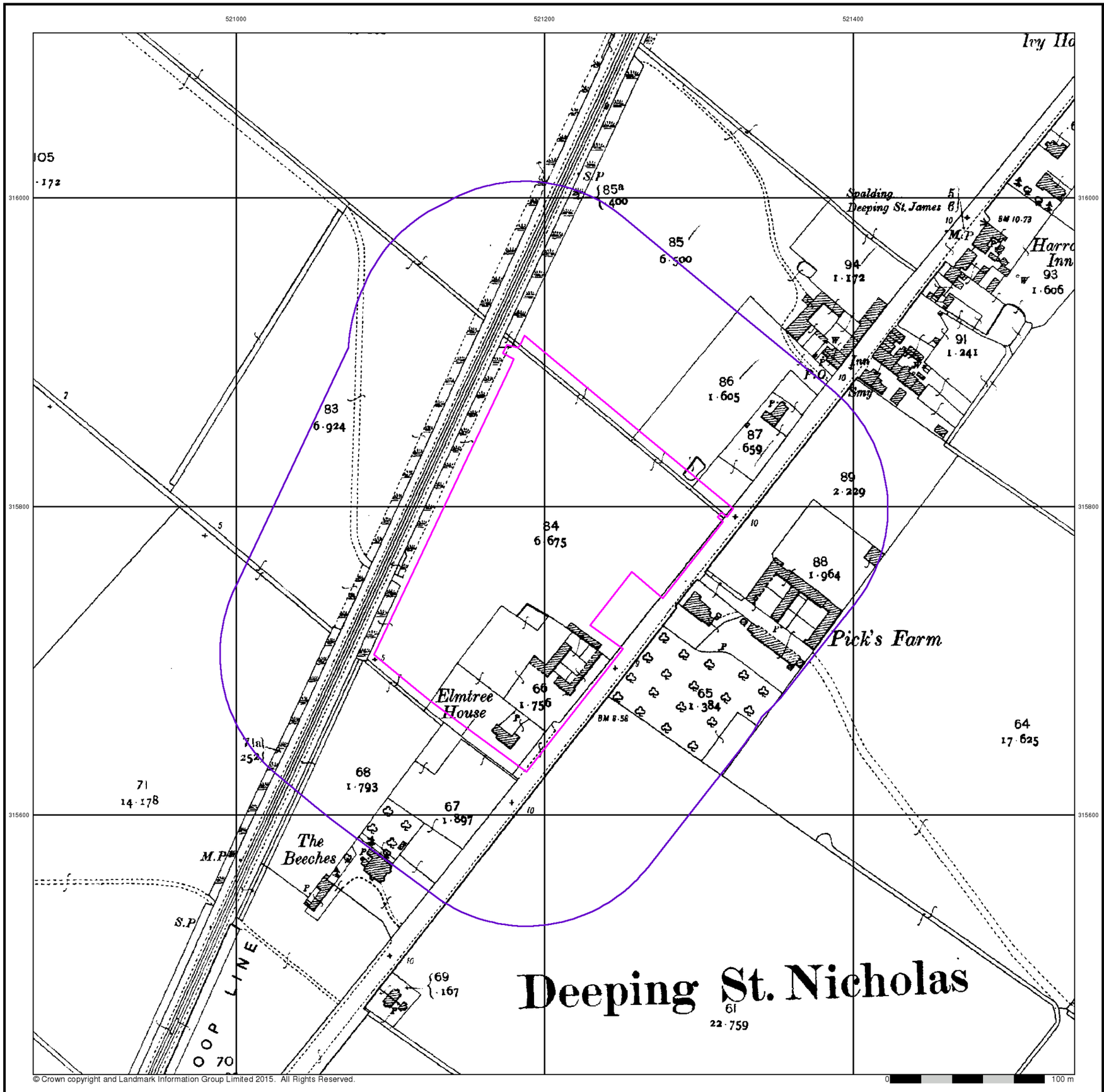
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Slice:	A
Site Area (Ha):	3.19
Search Buffer (m):	100

Site Details

Caultons Field, Deeping St. Nicholas, SPALDING, Lincolnshire

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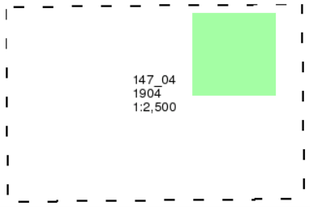
Lincolnshire

Published 1904

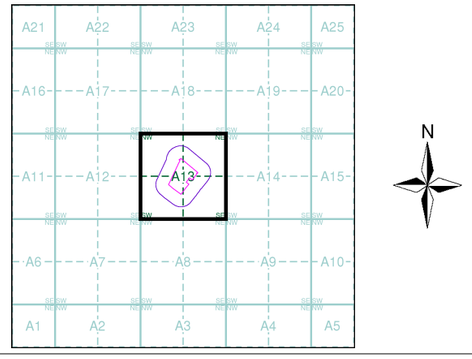
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



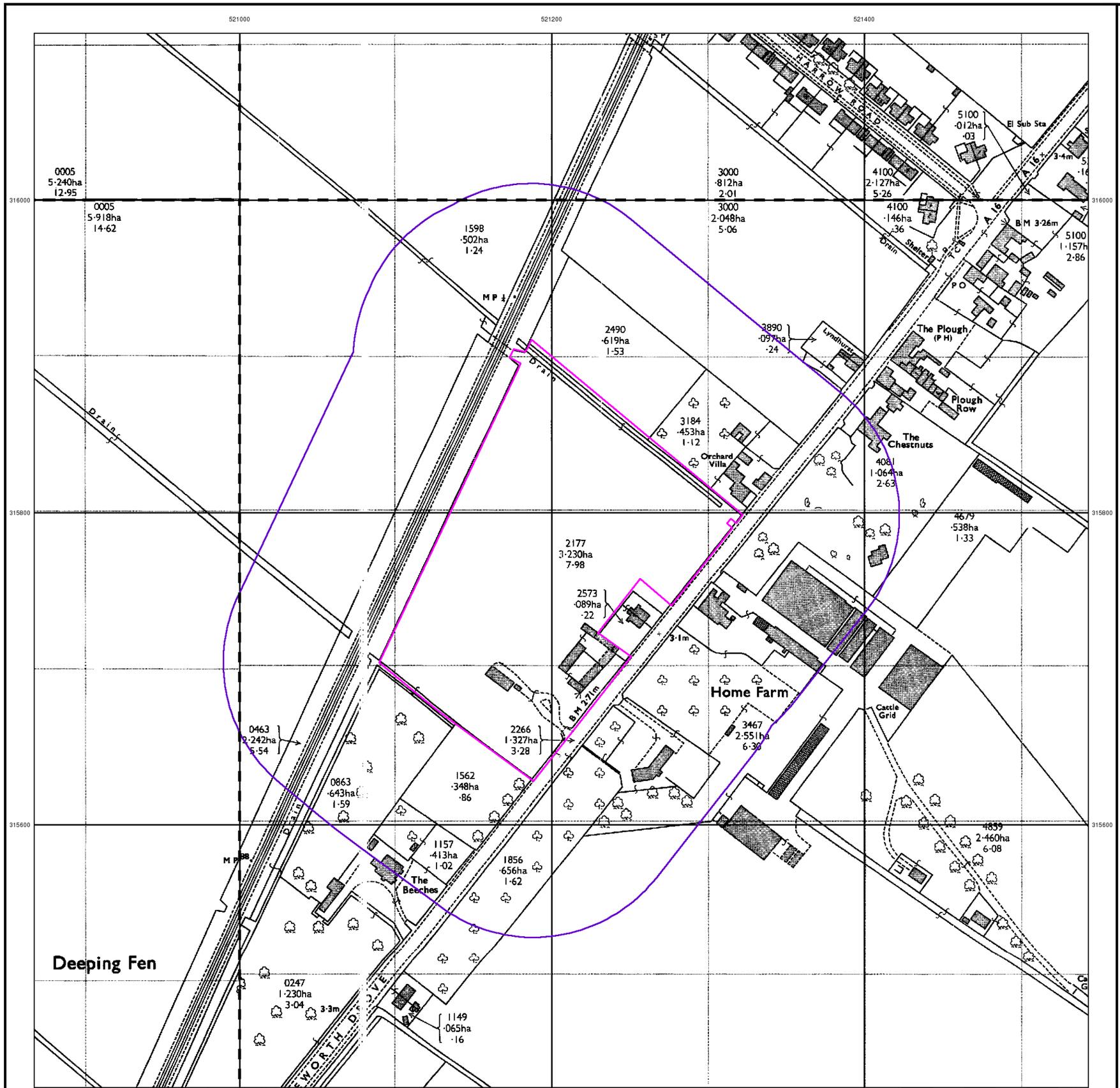
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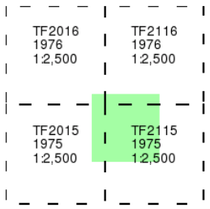
Ordnance Survey Plan

Published 1975 - 1976

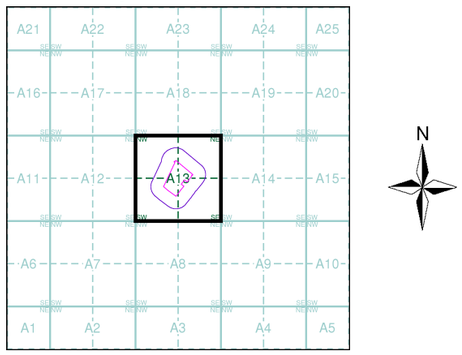
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

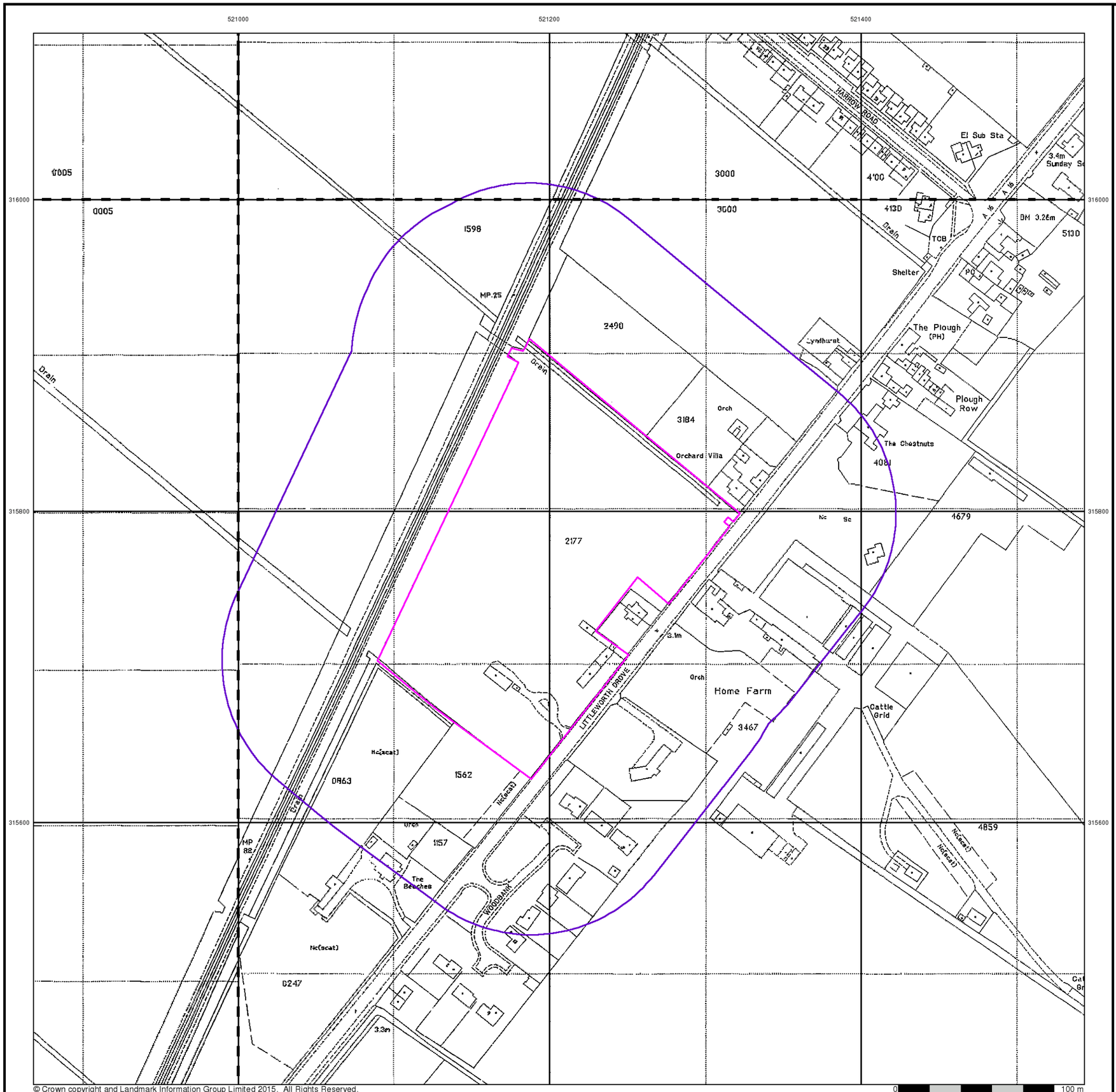
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Customer Ref:	J1438
National Grid Reference:	521200, 315770
Slice:	A
Site Area (Ha):	3.19
Search Buffer (m):	100

Site Details

Caultons Field, Deeping St. Nicholas, SPALDING, Lincolnshire

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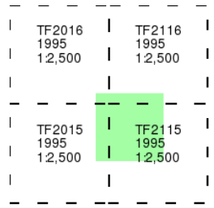
Large-Scale National Grid Data

Published 1995

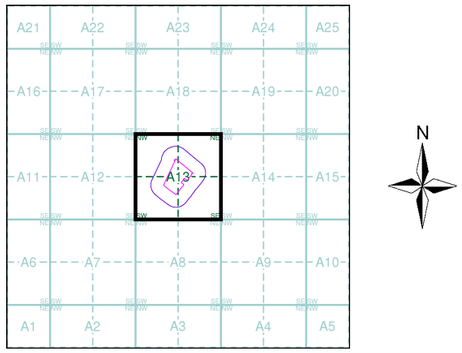
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

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

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Disused Pit or Quarry
Refuse or Slag Heap
Lake, Loch or Pond
Dunes
Boulders
Coniferous Trees
Non-Coniferous Trees
Orchard
Scrub
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Electricity Transmission Line
Pole
Sloping Masonry
Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
Siding, Tramway or Mineral Line
Narrow Gauge
Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

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

1:10,000 Raster Mapping

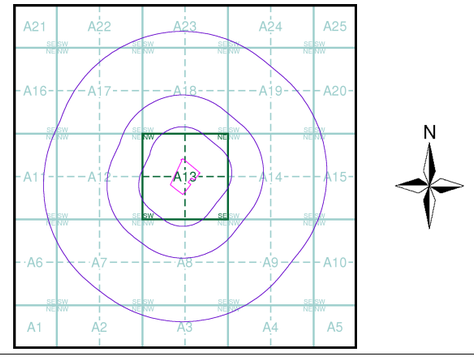
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
MHW(S) Mean high water (springs)
MLW(S) Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m Bench mark (where shown)
Triangulation station
Point feature (e.g. Guide Post or Mile Stone)
Pylon, flare stack or lighting tower
Site of (antiquity)
Glasshouse
General Building
Important Building

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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lincolnshire	1:10,560	1887	2
Lincolnshire	1:10,560	1906	3
Lincolnshire	1:10,560	1906	4
Lincolnshire	1:10,560	1952	5
Ordnance Survey Plan	1:10,000	1958	6
Ordnance Survey Plan	1:10,000	1975 - 1979	7
Ordnance Survey Plan	1:10,000	1979	8
Ordnance Survey Plan	1:10,000	1980 - 1983	9
10K Raster Mapping	1:10,000	2006	10
VectorMap Local	1:10,000	2015	11

Historical Map - Slice A



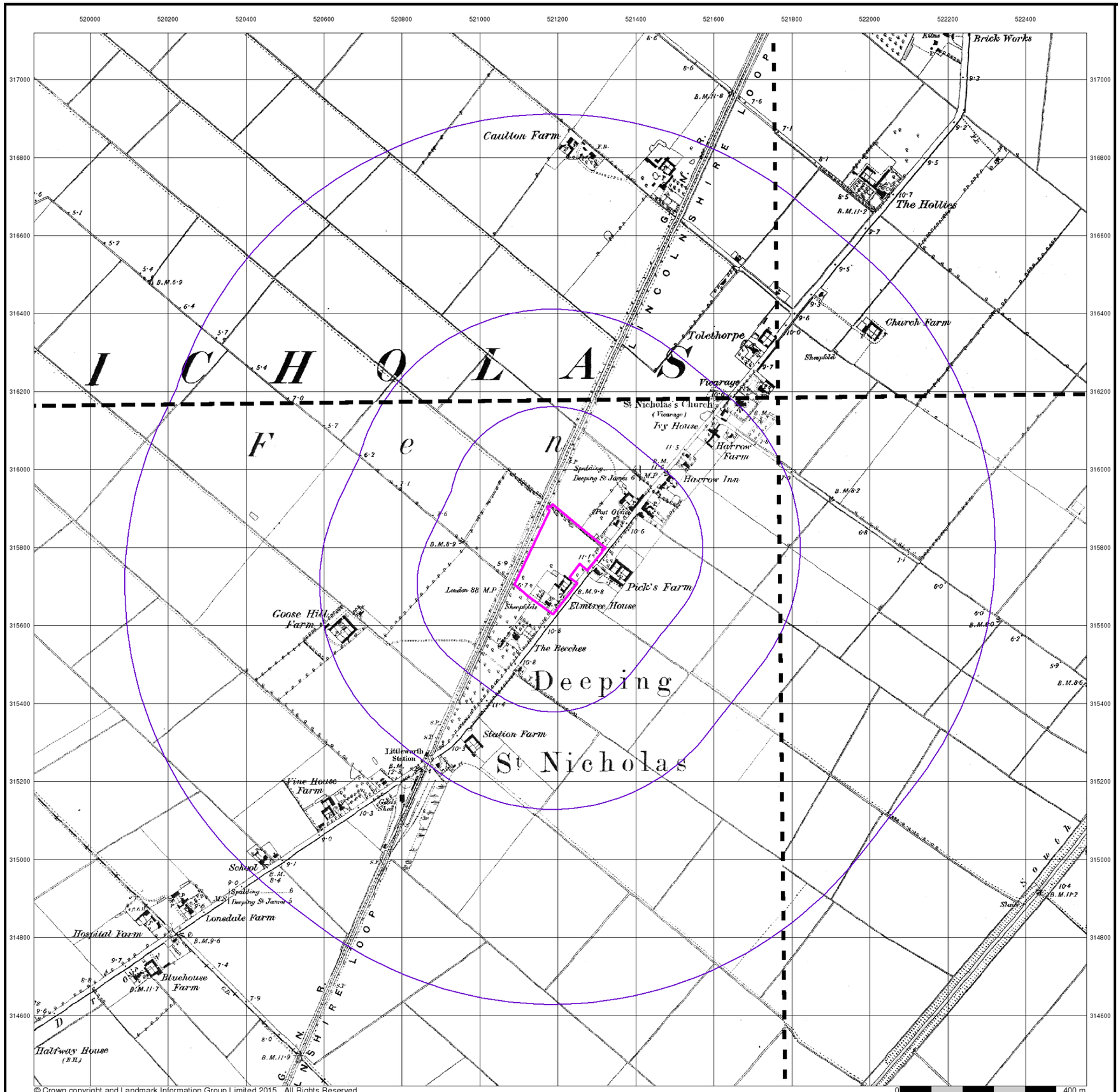
Order Details

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Customer Ref: J1438
National Grid Reference: 521200, 315770
Slice: A
Site Area (Ha): 3.19
Search Buffer (m): 1000

Site Details

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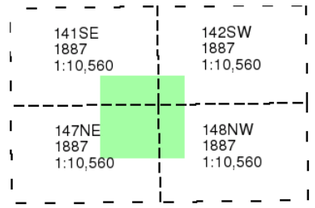
Lincolnshire

Published 1887

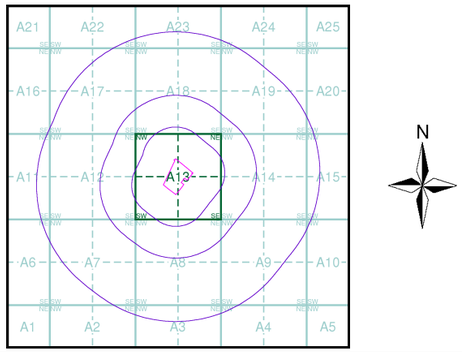
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

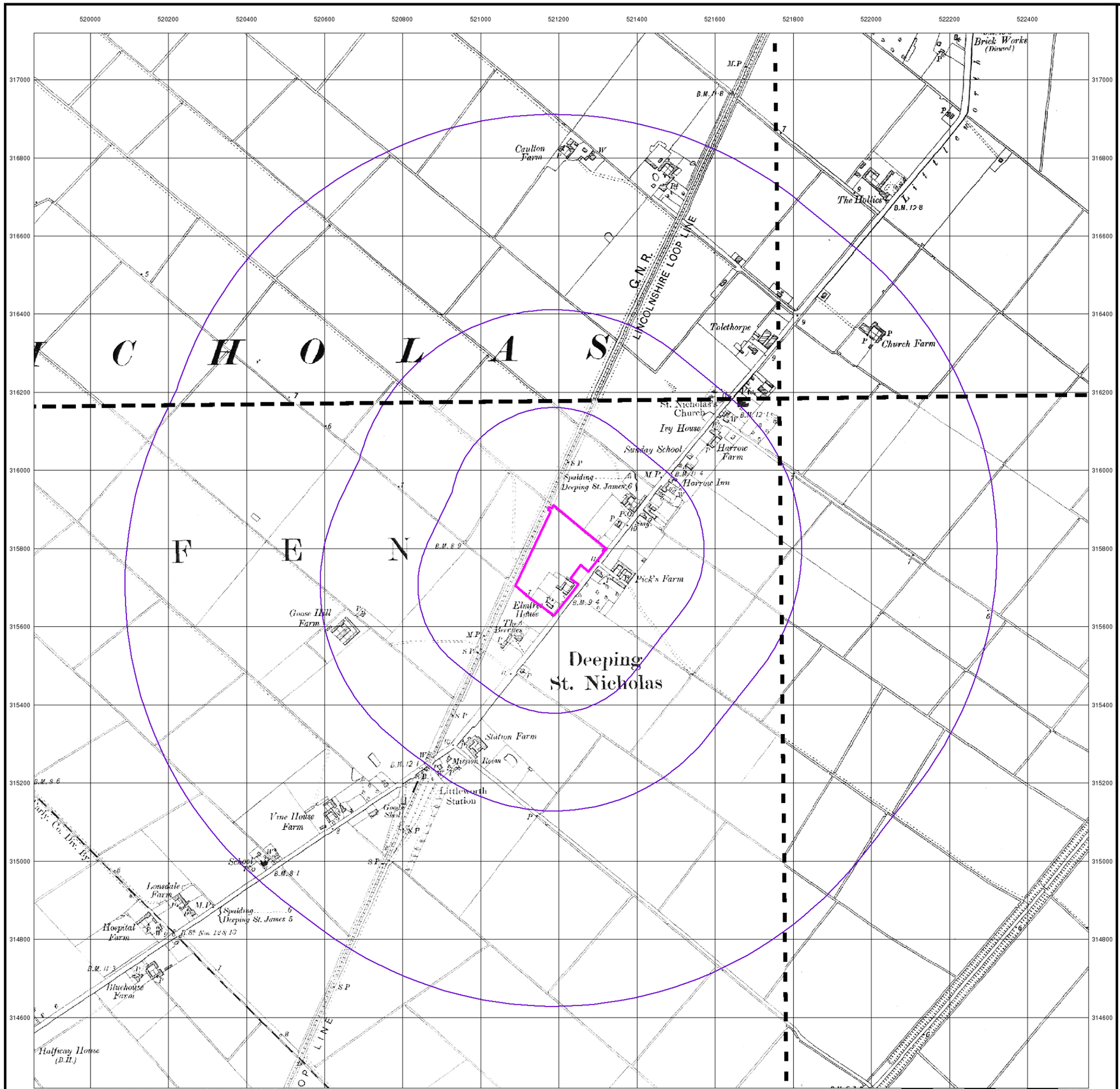
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Site Details

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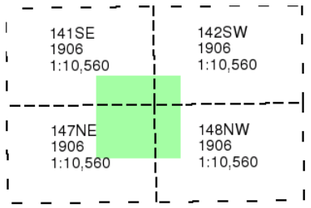
Lincolnshire

Published 1906

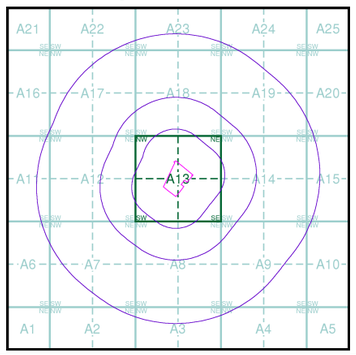
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

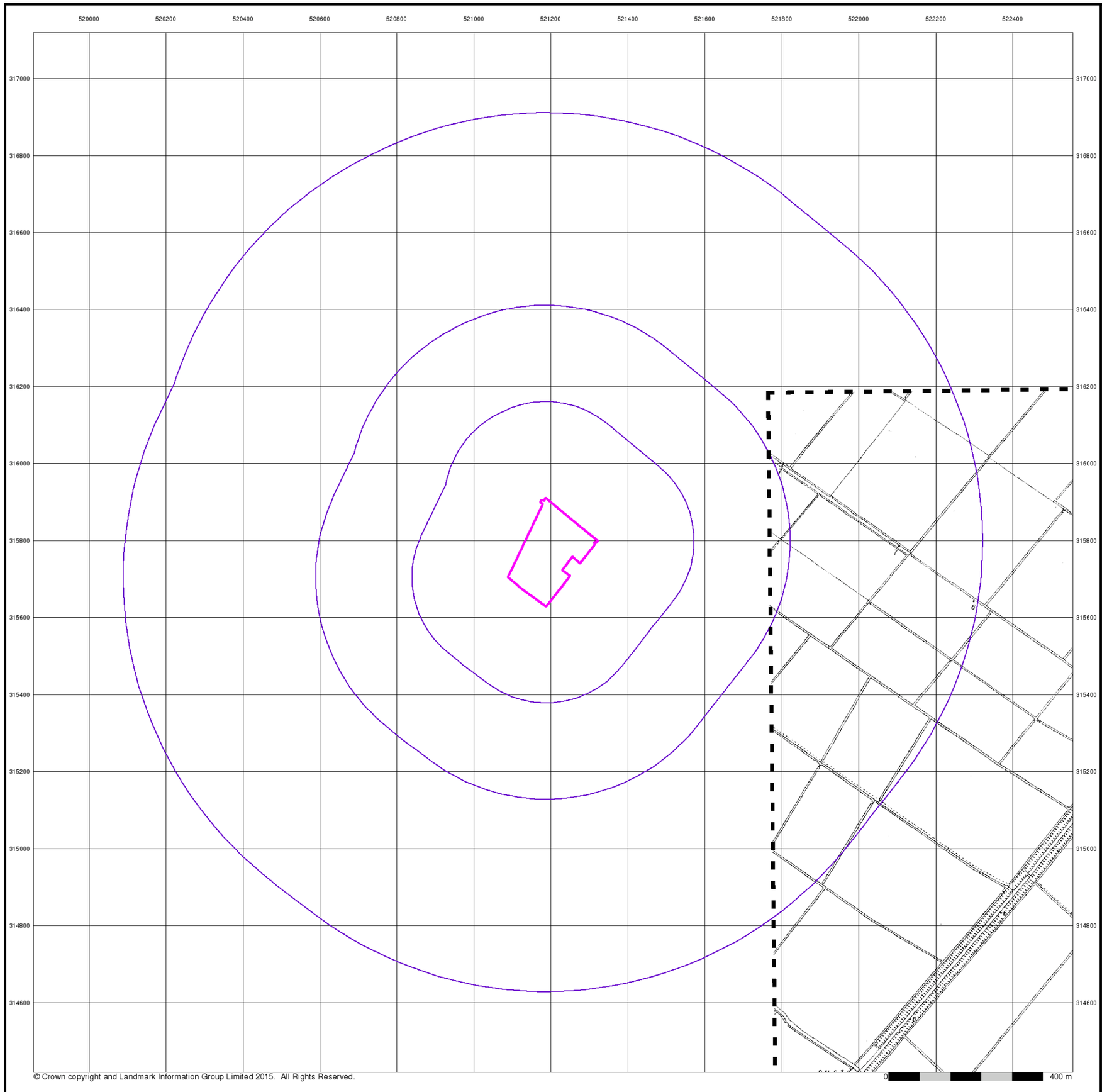
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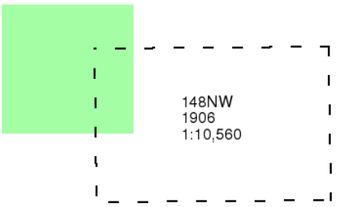
Lincolnshire

Published 1906

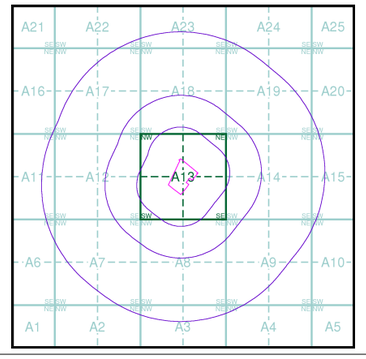
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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

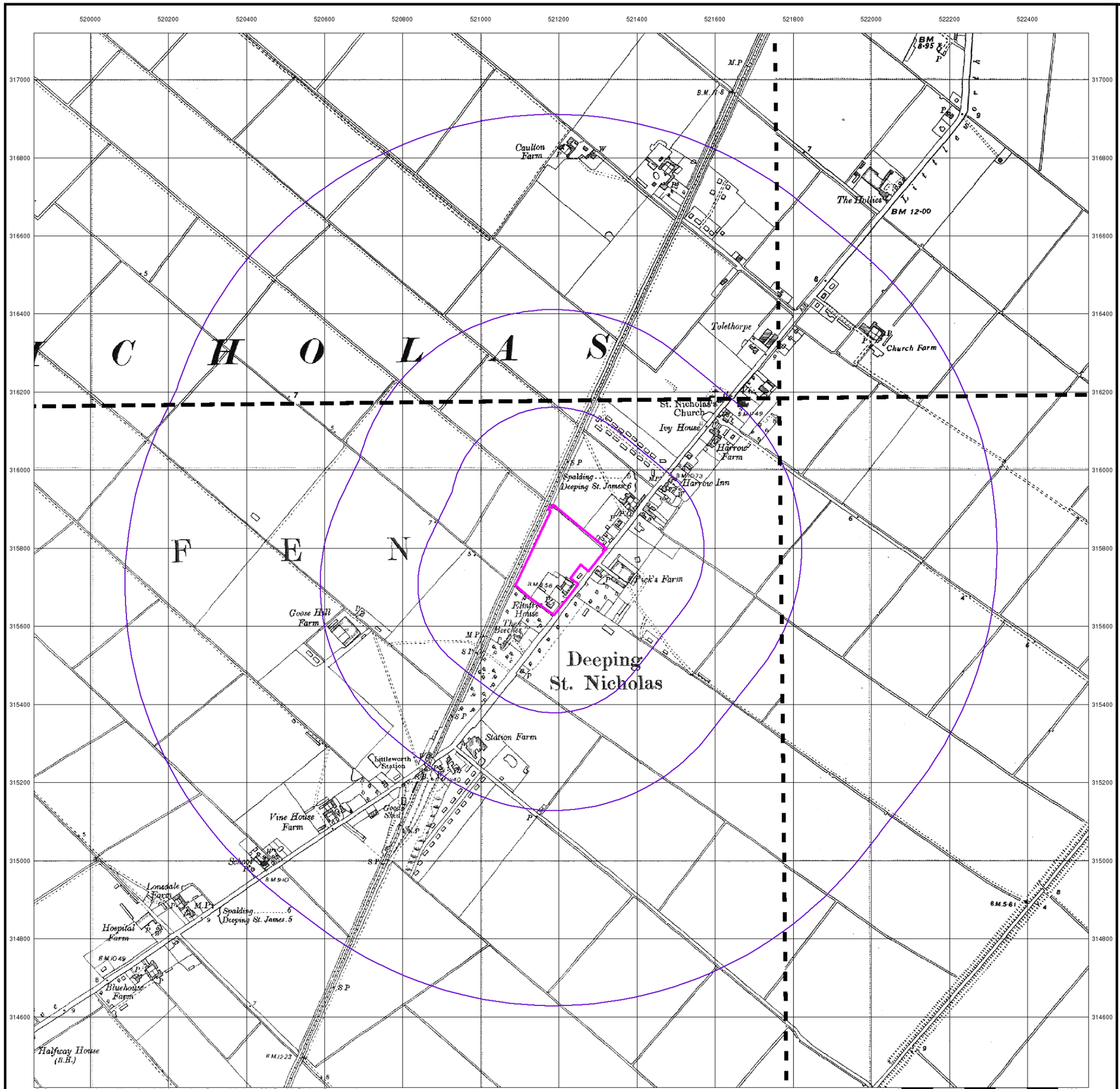
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Site Details

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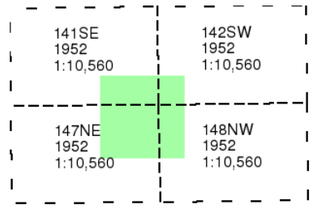
Lincolnshire

Published 1952

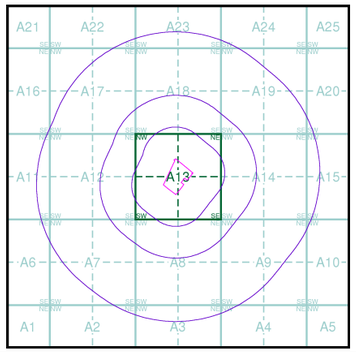
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



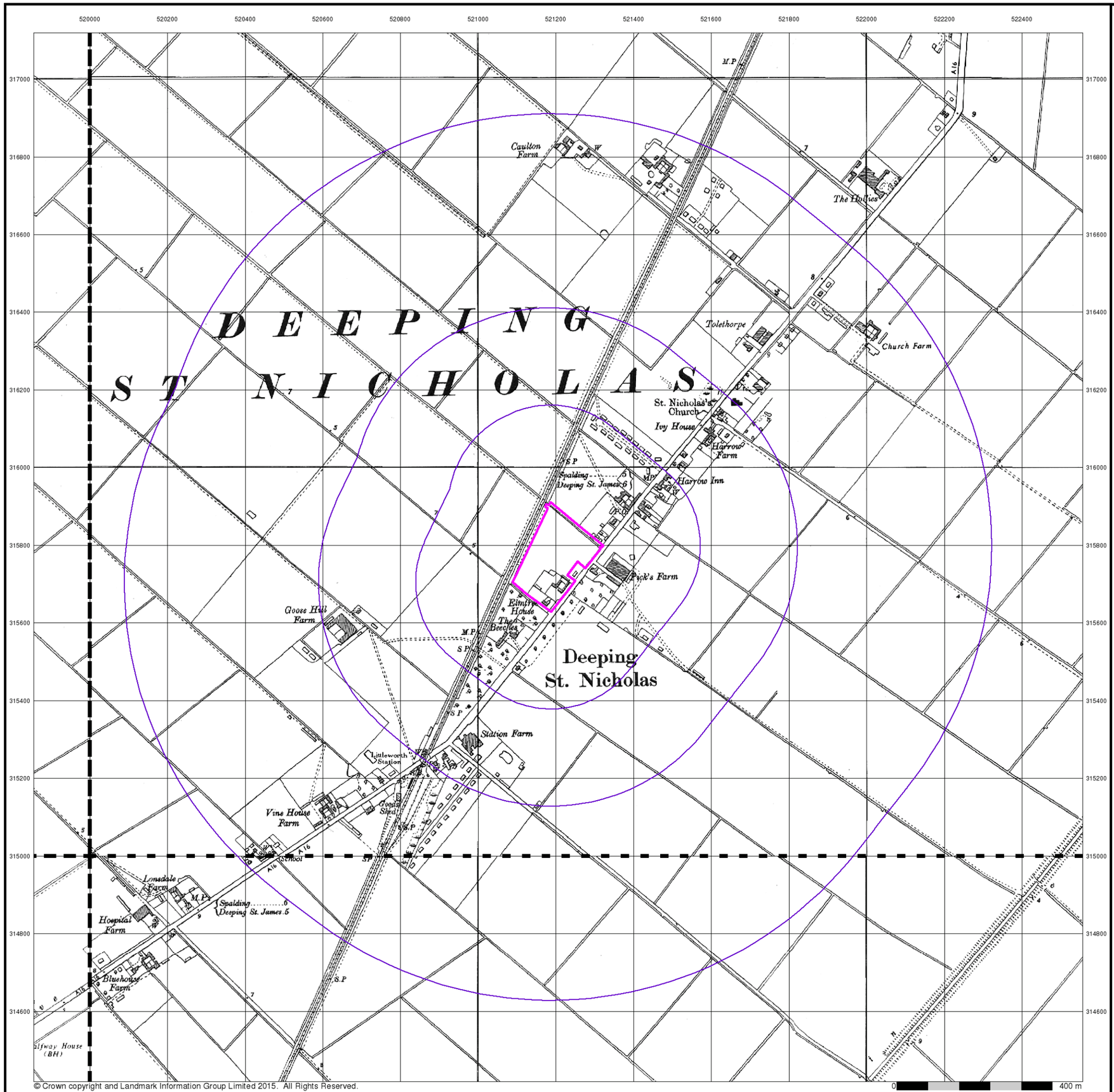
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Ordnance Survey Plan

Published 1958

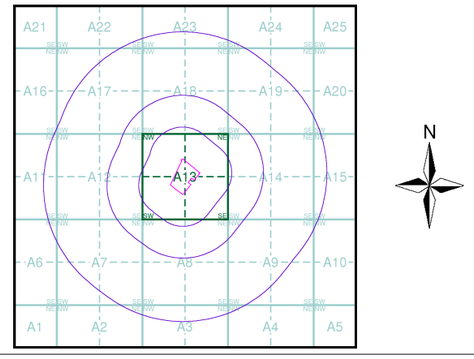
Source map scale - 1:10,000

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Map Name(s) and Date(s)

TF11NE 1958 1:10,560	TF21NW 1958 1:10,560
TF11SE 1958 1:10,560	TF21SW 1958 1:10,560

Historical Map - Slice A



Order Details

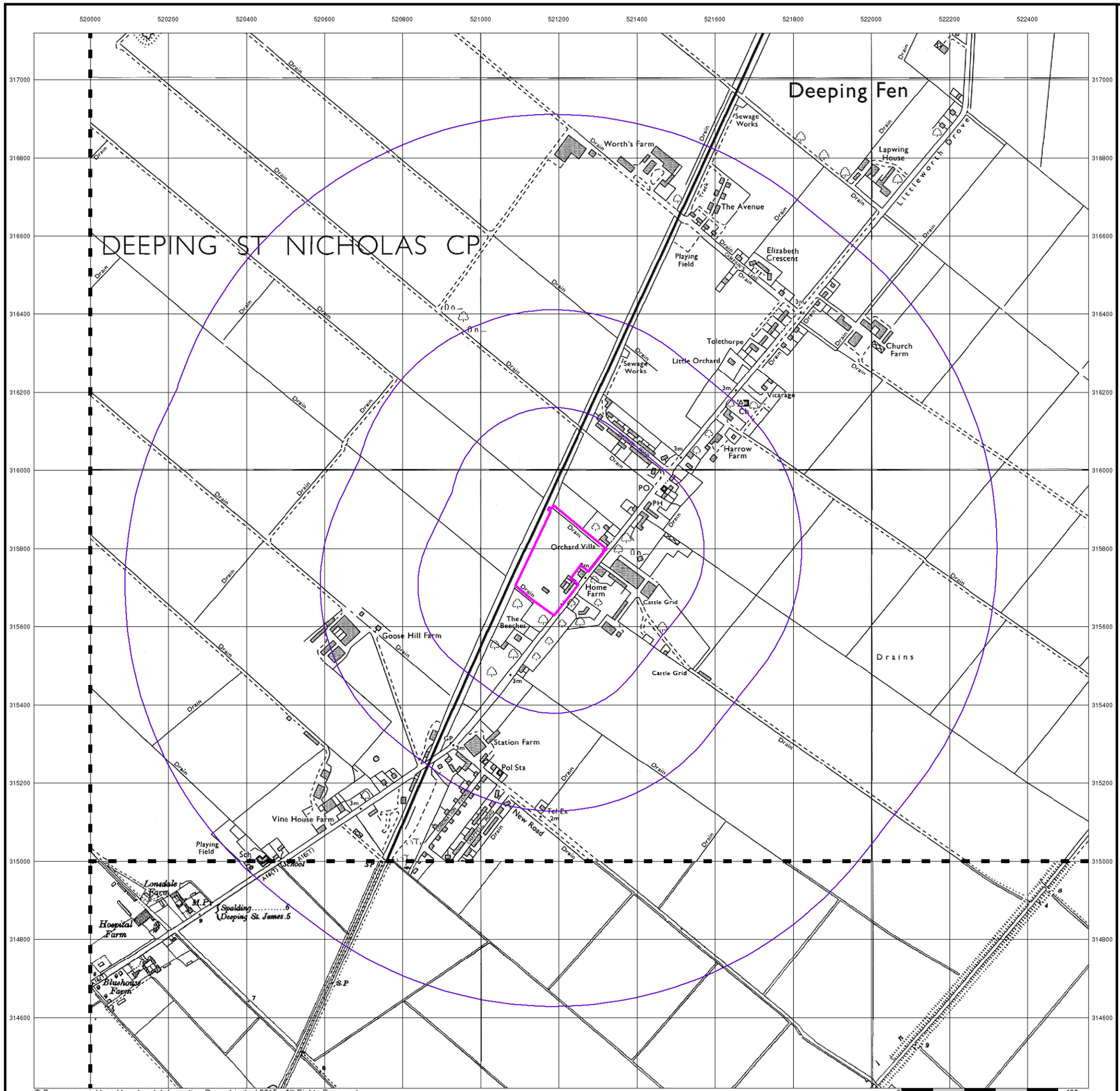
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Ordnance Survey Plan

Published 1975 - 1979

Source map scale - 1:10,000

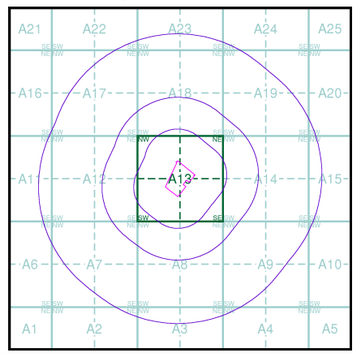
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

TF21NW
1979
1:10,000

TF21SW
1975
1:10,560

Historical Map - Slice A



Order Details

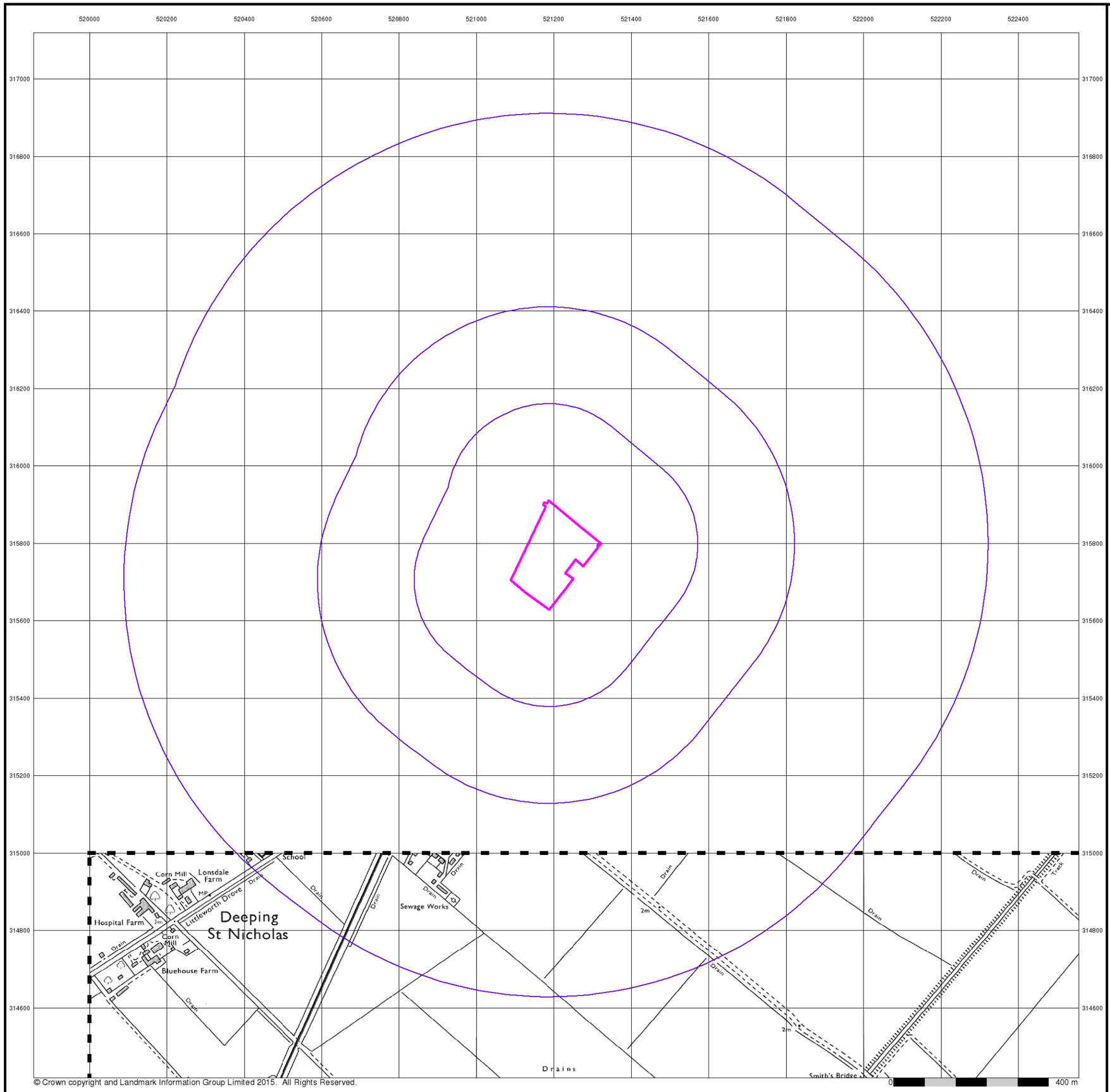
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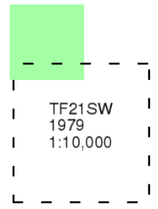
Ordnance Survey Plan

Published 1979

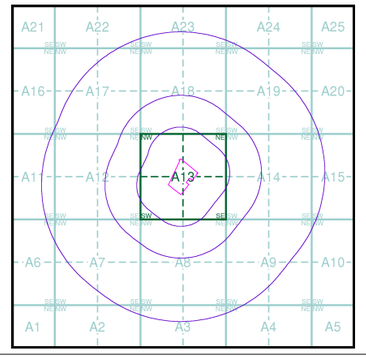
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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

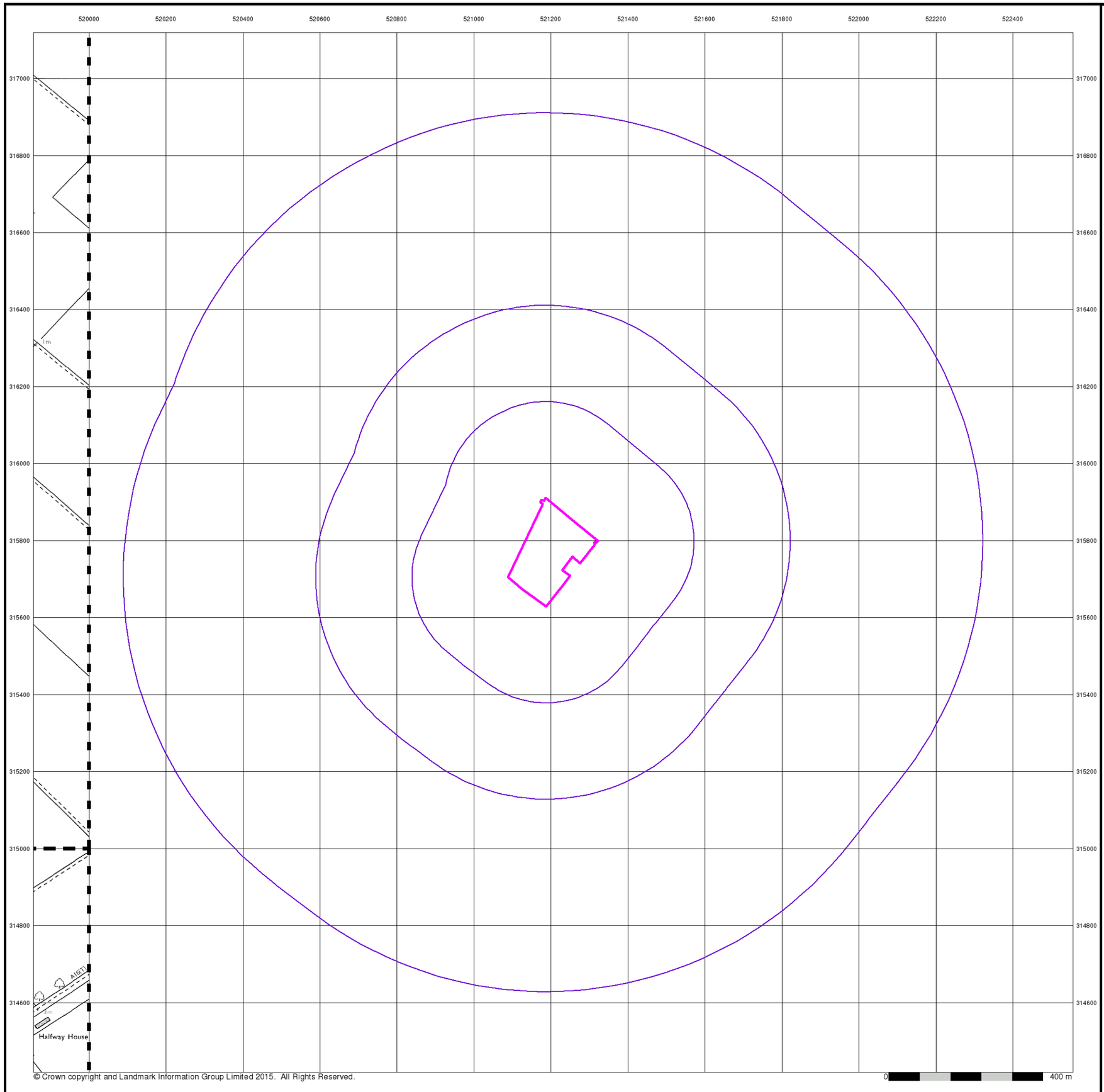
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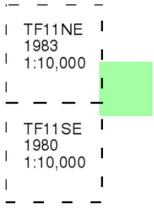
Ordnance Survey Plan

Published 1980 - 1983

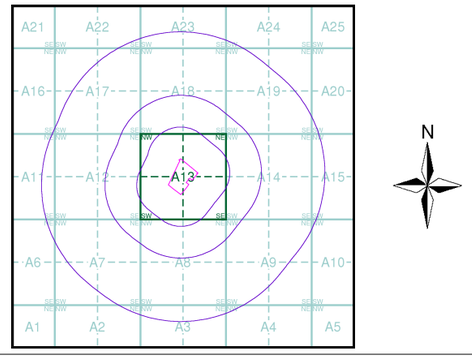
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

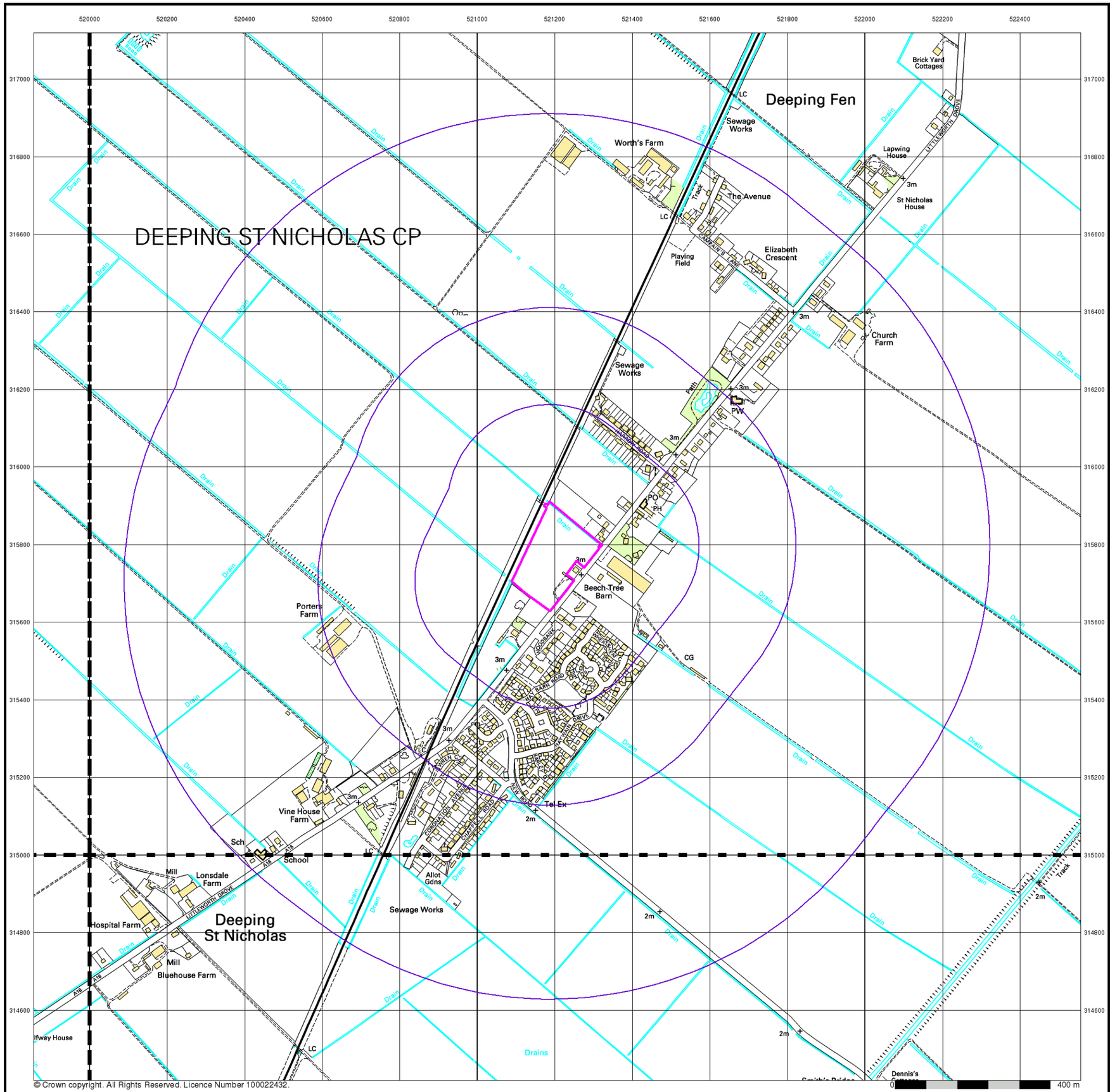
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Customer Ref:	J1438
National Grid Reference:	521200, 315770
Slice:	A
Site Area (Ha):	3.19
Search Buffer (m):	1000

Site Details

Caultons Field, Deeping St. Nicholas, SPALDING, Lincolnshire

Landmark® Information Group

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Web: www.envirocheck.co.uk



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10k Raster Mapping

Published 2006

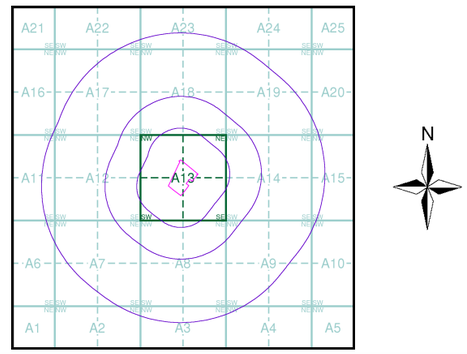
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

TF11NE 2006 1:10,000	TF21NW 2006 1:10,000
TF11SE 2006 1:10,000	TF21SW 2006 1:10,000

Historical Map - Slice A



Order Details

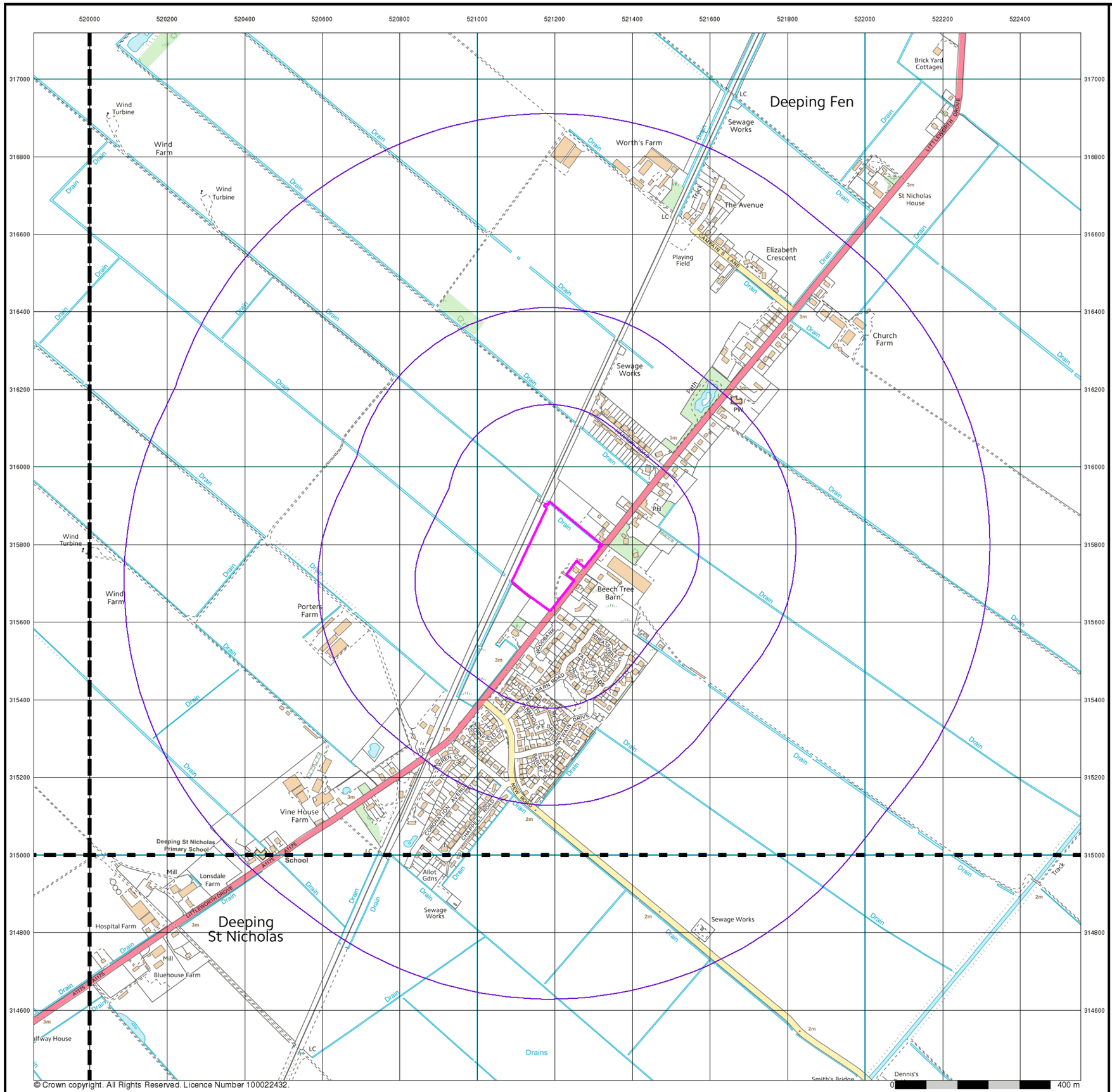
Order Number:	77480314_1_1
Customer Ref:	J1438
National Grid Reference:	521200, 315770
Slice:	A
Site Area (Ha):	3.19
Search Buffer (m):	1000

Site Details

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VectorMap Local

Published 2015

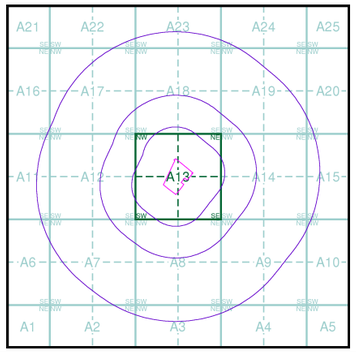
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

TF11NE 2015 Variable	TF21NW 2015 Variable
TF11SE 2015 Variable	TF21SW 2015 Variable

Historical Map - Slice A



Order Details

Order Number:	77480314_1_1
Customer Ref:	J1438
National Grid Reference:	521200, 315770
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Site Area (Ha):	3.19
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