

RWE

MASDAR 

**RWE Renewables UK Dogger Bank
South (West) Limited**

**RWE Renewables UK Dogger Bank
South (East) Limited**

Dogger Bank South Offshore Wind Farms

Environmental Statement

Volume 7

**Appendix 22-10 Additional Assessment of Airborne and
Satellite Remote Sensing Data and Map Regression
Analysis for Archaeology**

June 2024

Application Reference: 7.22.22.10

APFP Regulation: 5(2)(a)

Revision: 01

Unrestricted



Company:	RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited	Asset:	Development
Project:	Dogger Bank South Offshore Wind Farms	Sub Project/Package:	Consents
Document Title or Description:	Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology		
Document Number:	004300166-01	Contractor Reference Number:	PC2340-RHD-ON-ZZ-AX-Z-0082

COPYRIGHT © RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited, 2024. All rights reserved.

This document is supplied on and subject to the terms and conditions of the Contractual Agreement relating to this work, under which this document has been supplied, in particular:

LIABILITY

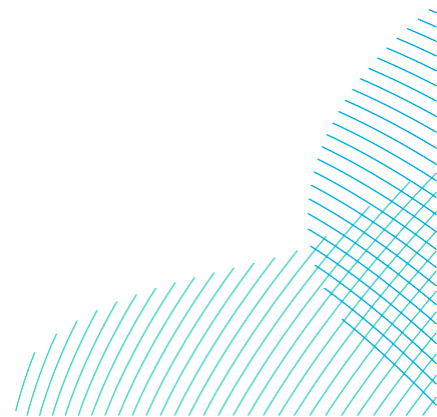
In preparation of this document RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited has made reasonable efforts to ensure that the content is accurate, up to date and complete for the purpose for which it was contracted. RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited makes no warranty as to the accuracy or completeness of material supplied by the client or their agent.

Other than any liability on RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited detailed in the contracts between the parties for this work RWE Renewables UK Dogger Bank South (West) Limited and RWE Renewables UK Dogger Bank South (East) Limited shall have no liability for any loss, damage, injury, claim, expense, cost or other consequence arising as a result of use or reliance upon any information contained in or omitted from this document.

Any persons intending to use this document should satisfy themselves as to its applicability for their intended purpose.

The user of this document has the obligation to employ safe working practices for any activities referred to and to adopt specific practices appropriate to local conditions.

Rev No.	Date	Status/Reason for Issue	Author	Checked by	Approved by
01	June 2024	Final for DCO Application	RHDHV	RWE	RWE



Contents

22.10	Additional Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology.....	9
22.10.1	Introduction	9
22.10.2	Aims and Objective	10
22.10.3	Sources of Data.....	10
22.10.4	Interpretation and Mapping Summary.....	10
22.10.5	Environment.....	10
22.10.6	Topography and Land Use.....	10
22.10.7	Topography and Land Use Conclusion.....	11
22.10.8	Geology.....	11
22.10.9	Soils.....	11
22.10.10	Geology and Soils Conclusion	12
22.10.11	Previously Recorded ('Baseline') Heritage Assets.....	12
22.10.12	Queries Regarding Specific HHER Recorded Heritage Assets.....	13
22.10.13	Baseline Heritage Assets Conclusion.....	15
22.10.14	Results of the Airborne and Satellite Remote Sensing Data Analysis.....	15
22.10.15	Prehistoric and Roman Features.....	21
22.10.16	Undated Features.....	23
22.10.17	Medieval – Post Medieval Features.....	23
22.10.18	Modern, including World War II (WWII), features.....	24
22.10.19	Conclusion of the Airborne and Satellite Remote Sensing Data Analysis.....	25
22.10.20	Map Regression Analysis	25
22.10.21	17th-19th Century Mapping.....	25
22.10.22	Tithe Maps	25
22.10.23	Enclosure maps and awards.....	25
22.10.24	Historic Ordnance Survey Maps.....	26
22.10.25	Map Regression Conclusion.....	31



Tables

Table 22-10-1 Gazetteer of sites recorded from airborne remote sensing and LiDAR data sources	16
Table 22-10-2 Tithe and Enclosure Maps	26
Table 22-10-3 OS maps which were used for this assessment.....	27

Plates

Plate 22-10-1 Features within and around APS_109	22
Plate 22-10-2 Former RAF Catfoss, underlying and overlying features, APS_105 (Google Earth, 2005, Getmapping plc).....	24
Plate 22-10-3 1854-55 1st Edition OS map, HHER records and modern Google Road background, Area 1	28
Plate 22-10-4 OS 1st Edition 1854-55 map showing boundaries in Area 5 between Nunkeeling and Catfoss.....	29

Figures

Figure 22-10-1 Site Location	33
Figure 22-10-2 Historic England Aerial Photographs.....	33
Figure 22-10-3 Humber Historic Environment Record Aerial Photograph Coverage.....	33
Figure 22-10-4 Cambridge University Collection of Aerial Photography Coverage.....	33
Figure 22-10-5 National Mapping Programme Project Coverage	33
Figure 22-10-6 LiDAR Coverage.....	33
Figure 22-10-7 Onshore Development Area Geology.....	33
Figure 22-10-8 Onshore Development Area Soils.....	33
Figure 22-10-9 Mapbook Index	33
Figure 22-10-10 Mapbook	33
Figure 22-10-11 Parish Index for Tithe and Inclosure Maps	33
Figure 22-10-12 Molescroft Enclosure Map 1803	33
Figure 22-10-13 Routh Tithe Map 1845	33
Figure 22-10-14 Catwick Tithe Map 1844.....	33
Figure 22-10-15 Ordnance Survey Mapping 1854 - 1855.....	33
Figure 22-10-16 Ordnance Survey Mapping 1892 - 1895.....	33
Figure 22-10-17 Ordnance Survey Mapping 1908 - 1911	33

Unrestricted

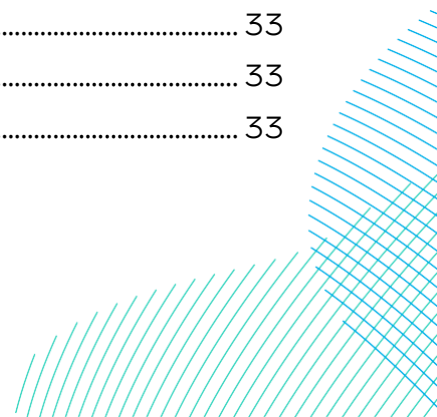
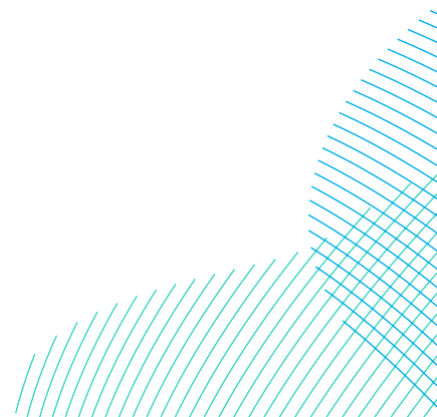
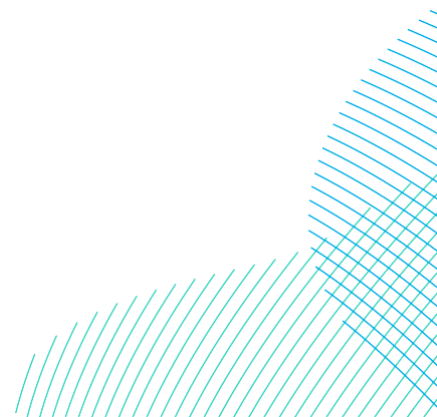


Figure 22-10-18 Ordnance Survey Mapping 1951-1956.....	33
Figure 22-10-19 Ordnance Survey Mapping 1973 - 1982.....	33
Figure 22-10-20 Ordnance Survey Mapping 1988 - 1993.....	33
Figure 22-10-21 Ordnance Survey Mapping 1995	33



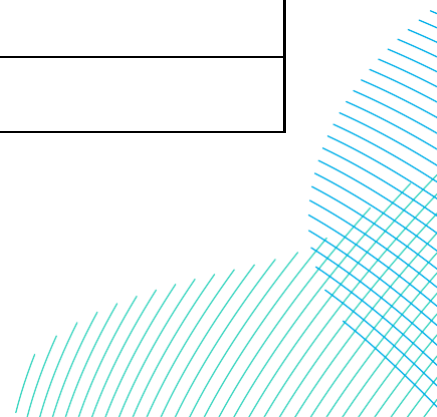
Glossary

Term	Definition
Cropmark	Places where crops grow differentially over buried features such as ditches banks and walls and reveal the pattern of past sites and landscape in the colour and density of their growth.
Earthwork	Upstanding ditched and embanked features which show from the air via their shadows or via the differential topography revealed by visualised LiDAR data.
Soilmark	Places where differently coloured and toned soil which is part of buried features which are being directly brought to the surface by ploughing or erosion and are visible in contrast to the surrounding soil.

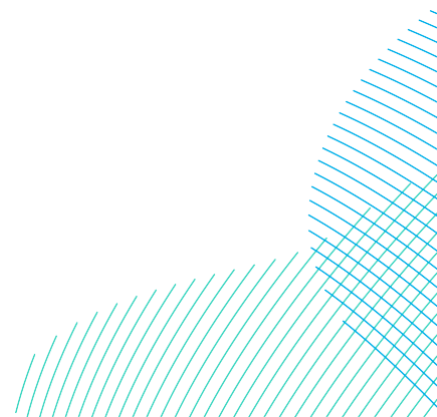


Acronyms

Term	Definition
APS	Air Photo Services Ltd
ArcGIS	Artificial Intelligence Geographic Information System
ASCII	American Standard Code for Information Interchange
CRS	Coordinate Reference System
CSV	Comma Separated Value file
CUCAP	Cambridge University Collection of Aerial Photography
DEM	Digital Elevation Model
DSM	Digital Surface Model
DTM	Digital Terrain Model
DXF	Drawing Exchange Format
EA	Environment Agency
EPSG	European Petroleum Survey Group
GIS	Geographic Information System
HER	Historic Environment Record
HRO	Humber Records Office
LiDAR	Light Detection And Ranging
NA	The National Archives
NFOW	North Falls Offshore Windfarm Ltd
NGR	National Grid Reference
NLP	National LiDAR Programme



Term	Definition
NMP	(Historic England) National Mapping Programme
OS	Ordnance Survey
MonUID	EHER site reference
QGIS	Quantum Geographic Information System
RVT	Relief Visualisation Toolbox
SLRM	Simple Local Relief Model
WWI	World War One (1914-1918)
WWII	World War Two (1939 - 1945)



22.10 Additional Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology

22.10.1 Introduction

1. Air Photo Services Ltd (APS) have been commissioned by Royal HaskoningDHV on behalf of RWE to undertake an assessment of airborne remote sensing and satellite imagery data alongside historic map regression analysis. This report presents the methodology and results as a baseline survey for the within the Onshore Development Area of the Dogger Bank South (DBS) East and DBS West Offshore Wind Farms (the Projects).
2. This report supplements **Appendix 23-3 (Volume 7 application ref 7.23.23.3)** and presents interpretation and mapping over five additional areas (designated as **Areas 1-5** in this report) which are adjacent and additional to the original Onshore Development Area assessment area. All methodology, source types, limitations, metadata and bibliographic references are presented in **Appendix 23-3 (Volume 7 application ref 7.23.23.3)**.
3. **Figure 22-10-1** shows the additional Onshore Development Area boundaries (correct at the time of writing). These five areas are:
 - 1: To the south of the A1035 and east of the modern settlement at Routh;
 - 2 and 3: To the north of the A1035 and the modern town of Beverley at Molesworth Carrs;
 - 4: To the southeast of the modern road A1035 and east of the A165; and
 - 5: To the west of Nunkeeling, northeast of Catfoss Industrial estate (formerly Royal Air Force (RAF) Catfoss, a World War II (WWII) defensive airfield) and north of Catfoss village.
4. This report represents the work undertaken by APS between July 2022 and August 2023.

22.10.2 Aims and Objective

5. The aims and objectives of the work are in accordance with those set out in **Volume 7, Appendix 23-3 (application ref 7.23.23.3)**.

22.10.3 Sources of Data

6. The sources of data which were used for this assessment exactly replicate those which are detailed in **Volume 7, Appendix 23-3 (application ref 7.23.23.3)** section 10 and discussed in Annex A to that report.

22.10.4 Interpretation and Mapping Summary

7. The interpretation and mapping *criteria* and methods are set out in **Volume 7, Appendix 23-3 (application ref 7.23.23.3)**.

22.10.5 Environment

8. The nature of the environment has a complex effect on both the preservation and visibility of both buried and upstanding features from the air. Many factors combine to influence very marked seasonal and temporal limitations to visibility of cropmarks, soil marks, structures and residual structures and earthworks.
9. Land use, agricultural regimes, weather, the quality and angle of sunlight, geology and soil types are all major contributing factors to the visibility of heritage assets from airborne and satellite-derived sources.

22.10.6 Topography and Land Use

10. **Areas 1-5**, which are additional parts of the Onshore Development Area, lie adjacent to the main Onshore Development Area to the west of the North Sea Coast, to the north of Beverley and southwest of Skipsea. The land is gently undulating, or level and parts are artificially drained in places via below ground field drains. The land is predominately productive arable grade farmland.
11. **Area 1** is laid to arable agricultural use. The northern part of this area borders a former sandpit which is now used for leisure purposes. An old sand pit, HHER MHU13281, is identified and mapped by the OS on the 1854-55 1st Edition 25 inch to one mile map just within the northern redline boundary of the Onshore Development Area. A sandpit is indicated textually to the immediate west of the Onshore Development Area at Humberside Historic Environment record (HHER) MHU13211.
12. **Areas 2 and 3** comprise two small land parcels of arable farmland.
13. **Area 4** is laid to arable agricultural use.

14. **Area 5** is laid to arable farmland. The southwest part of this area was used as a defensive fighter, then bomber, airfield at RAF Catfoss during WWII. The former perimeter track and dispersal hardstanding areas have been removed and the land reinstated to drained arable agricultural use.

22.10.7 Topography and Land Use Conclusion

15. The region was attractive to Prehistoric, Roman, Medieval and Post-Medieval hunters, gatherers, and farming and trading populations due to its easily traversed topography and access to coastal and riverine environmental and food resources. The region presents some optimal environments for early settlement on the slightly higher ground to the immediate west of the wildlife-rich coastal area.

22.10.8 Geology

16. The extent, type and location of the geological deposits is shown on **Figure 22-10-7**.
17. Within **Area 5**, the drift deposits (Cranfield University 2023, British Geological Survey (BGS) 2023) are chalky till.
18. Within **Area 4**, chalky till interfaces with glaciofluvial drift.
19. To the west within **Area 1** chalky till interfaces with marine alluvium and fen peat.
20. **Area 2** and **3** lie over chalky till.

22.10.9 Soils

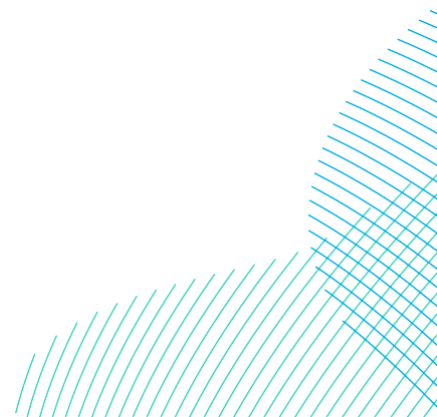
21. The extent and type of the soils are shown on **Figure 22-10-8**.
22. Chalky till beneath the western part of Area 1 gives rise to seasonally wet deep loam of the HOLDERNESS soil association. The loam interfaces with seasonally wet clay of the DOWNHOLLAND 3 soil association over marine alluvium and fen peat. These soils are artificially drained and linear below-ground drainage is visible as parallel marks in the crops in this area.
23. Chalky till beneath **Areas 2 and 3** gives rise to seasonally wet loam of the HOLDERNESS soil association.
24. The soils in **Area 4** comprise the freer draining loamy HOLDERNESS soil association in the northeast of the area which interfaces with deeper loam of the Bishampton 1 soil association in the northwest part of the area.
25. Within **Area 5**, chalky till deposits give rise to soils of the HOLDERNESS and BURLINGHAM 2 associations, which are slowly permeable loamy soils over freer draining substrate.

22.10.10 Geology and Soils Conclusion

26. The geology and soils present a mixed natural environment, some of which is well drained and favourable to the growing of arable crops and to the formation of crop marks over buried features. Other areas require more artificial drainage and are more moisture retentive. However, marks in crops are extensively and variably visible over natural, archaeological and agricultural buried features.
27. The Onshore Development Area thus presents a varied and rich natural environment for agricultural cultivation alongside the need for drainage in some of the more seasonally wet areas.

22.10.11 Previously Recorded ('Baseline') Heritage Assets

28. The additional **Areas 1-5** within the Onshore Development Area do not contain any Scheduled Monuments (SMs).
29. The Humber Historic Environment record (HHER) demonstrates that the additional Onshore Development **Areas 1-5** contain known evidence for features and landscapes which date from the prehistoric through the Medieval to modern periods.
30. Some of these known sites have been recorded previously by the Historic England (HE) National Mapping Programme (NMP) from aerial photographic sources where these data are available. They represent the remains of a buried former landscape which dates from the Iron Age to Roman periods in places, although some areas of cropmarks remain undated.
31. The region was widely farmed and settled in the Medieval period. Remains of ridge and furrow ploughing, which are now largely eroded, are recorded from 1940s aerial photos, modern aerial and satellite imagery and often as microtopography via visualised LiDAR data.
32. In later periods, the expansion of more mechanised and widespread agriculture has led to the removal of post-enclosure field boundaries, particularly in the latter part of the 20th century. Some areas of drained low-lying land and areas with post-1950s boundary loss, with some relict elements, lie among areas of bounded modern arable fields. The post-enclosure boundaries are recorded on the Tithe, Enclosure and earlier editions of the OS maps in this area and are often visible as microtopography via visualised LiDAR data, or marks in crops and soils over their former locations.



22.10.12 Queries Regarding Specific HHER Recorded Heritage Assets

33. This assessment raised queries over two features which are recorded within the HHER.
34. Adjacent to **Area 5**, a possible Roman road, HHER MHU1007, is noted but not included or mapped in this assessment. The feature is plotted as a line which extends to the NE and if extrapolated, may underlie the Onshore Development Area within **Area 5**.
35. This feature was sketch plotted onto a 1:10560 scale OS quarter sheet TA14 NW map base in 1994 from aerial photographs. This map and associated paper records were supplied for reference by the HHER. The site is drawn by hand as a straight line which aligns southwest – northeast from and to the north and northeast of the former RAF Catfoss WWII airbase which is now repurposed as Catfoss Industrial Estate. The line starts at the location of the MonUID point MHU1007, within and adjacent to an area of former hardstanding perimeter track and dispersal pads within the former airfield area, 213m outside and to the west of the boundary of the Onshore Development Area.
36. The detailed paper based HHER record sheet indicates:
‘TA 1379 4946 TA 1417 5087. Probable part of a Roman road from Bridlington to Hull mouth via Catwick. Soil mark of double ditches (7.6m – 12.2m apart) running in a straight line; makes a bend to the NE between 1379 4946 and 1398 5042. ‘
37. The HHER record indicates that the aerial photographic sources for this feature are OS 74/084 / 103-104 and 120. These photographs were taken on 26th May 1974. Frames 103 and 104 cover the site and are included within HE Archive coversearch enquiry number 140033 which was generated by APS in 2022-23. They were consulted in the HE Archive in July 2023 for this assessment. Photographs of these images, which were taken at a high resolution for mapping purposes, are held in the APS project archive. There are traces of the RAF Catfoss former perimeter track, and to the north of the airfield there are several linear features, caused by likely former ridge and furrow, agricultural field drains and the ‘envelope patterns’ caused by modern mechanised cultivation.
38. Historic aerial photographs OS74/084/ 103-104 do not show any contiguous or apparent visible crop or soilmarked evidence for a Roman road outside of or within the redline boundary of the Onshore Development Area.

39. Modern aerial and satellite images show some linear features present to the north and west of this location, but not at all on the exact alignment which was drawn in 1994. These features are parts of the modern drainage and agricultural landscape and showed clearly, alongside other features including parts of the former airfield, in 2005 when Getmapping plc provided a useful layer of aerial imagery to Google Earth.
40. Visualised LiDAR data show no traces of an agger or fossae as microtopography in this area. It is therefore concluded that a Roman road cannot be definitely identified at the MonUID point MHU1007 or on the alignment indicated in the archived HHER plot, from historic or modern aerial photos, satellite imagery, and visualised LiDAR data. This does not preclude features being discovered via geophysical survey or intrusive investigation, in accordance with the stated limitation of airborne remote sensing survey, but as far as possible has investigated and not found the visible presence of a road in this area.
41. HHER MHU19466 was recorded during the same 1994 aerial photograph mapping project as a sketch plot on the cited HHER base map quarter sheet TA 14 NW. This feature is described on the HHER paper-based record sheet as:

'Triple dyke, forking out to 5 ditches to the south, centred on NGR TA 1441 4970 and TA 1510 4988. Aerial photographs, BKS 197?(sic.) - 231 and 1984 - 621' and 'parallel lines, single ditch'.
42. These sinuous sketched features are recorded within and around the boundary of the Onshore Development Area in the west part of **Area 5**. The HHER MonUID MHU19466 carries multiple NGRs in accordance with the recording conventions for linear features. They do not match with the morphological requirements for identification of multi ditched boundaries or tracks which are known as 'dikes' or 'dykes' in this region and often show as marks in crops over their buried ditches.
43. The aerial photographic sources sited within the detailed HHER record are again not traceable either in the HHER, the HE Archive, or in the National Collection of Aerial Photography (NCAP) where BKS photographs are now curated.
44. MHU19466 was assessed by the HHER for its eligibility to meet the criteria to be included as a feature within the Selective Heritage Inventory for Natural England (SHINE) for the Countryside Stewardship Process, in 2020 (Victoria Bowns, HHER, email communication August 2023). The HHER concluded that MHU19466 did not match the criteria for inclusion in SHINE, because the feature cannot be traced on any other or any extant sources.

45. APS agrees entirely with this stance and considers that the plot is likely derived from patterns visible in the crop during cultivation, or likely from the patterns of Medieval cultivation which are prevalent in this area and now largely eroded. The plotted sinuous lines are entirely in accordance with a relict Medieval agricultural landscape or may have been caused by more modern cultivation techniques.
46. The issue cannot be wholly concluded without access to the stated BKS photographs, which is not possible as they are not present in any of the available archives, including the HHER collection in Hull. **Figure 22-10-15** and **Plate 22-10-4**. A curving boundary is recorded in this location which may follow the line of a former Medieval headland to ridge and furrow. The site is thus not included within this assessment.

22.10.13 Baseline Heritage Assets Conclusion

47. Overall, the HHER and HE NMP data demonstrate the range of previously recorded archaeological resource in the area and have served as an important indication of the type of sites which are, or have been, visible *via* airborne remote sensing data sources.

22.10.14 Results of the Airborne and Satellite Remote Sensing Data Analysis

48. The results of this analysis are summarised in **Table 22-10-1** and are illustrated by the heritage mapbook which is indexed at **Figure 22-10-9**. The detailed mapping is presented at **Figure 22-10-10**.
49. The detailed sources and condition notes are recorded in the Shapefile which accompanies this report.

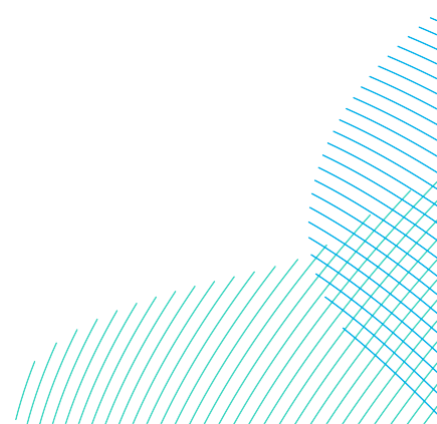
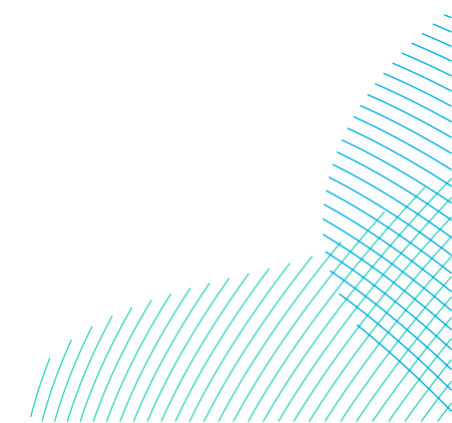


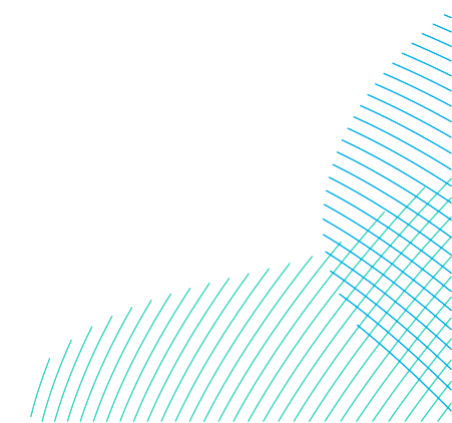
Table 22-10-1 Gazetteer of sites recorded from airborne remote sensing and LiDAR data sources

APS_Site	Asset type	Mapbook Figure 22-10-10 page reference	Associated features(s)	Condition at most recent observation	Period	HER MonUID	HE NMP_UID	Comment	Easting	Northing
APS_053	Ridge and Furrow	22-10-10c	Bank, Headland	Residual earthwork	Medieval / Post Medieval	N/A	1463591	An area of Medieval / Post Medieval ridge and furrow is visible as eroded residual earthworks on aerial imagery sources. Immediately adjacent to the boundary, but outside the Onshore Development Area.	508951	442284
APS_054	Field Boundary	22-10-10c	N/A	Cropmark	Post Medieval	N/A	N/A	Field boundary visible as an extant boundary on aerial imagery sources. No longer present. 200m to the south of the boundary of the Onshore Development Area.	509679	441981
APS_055	Trackway and Ditches	22-10-10c	N/A	Cropmark	Prehistoric / Roman	MHU15410	1463587	A later prehistoric or Roman period trackway and associated field boundaries are visible as cropmarks on aerial photographs. Mapped by NMP. 75 - 200m to the south of the Onshore Development Area.	509806	442046
APS_063	Trackway	22-10-10b	N/A	Cropmark	Iron Age / Roman	MHU7169	1460420	Probable Iron Age / Roman Trackway with branching tracks, visible as a cropmark on aerial imagery sources. Mapped by NMP. Overlain by ridge and furrow (APS_104). Within the Onshore Development Area.	513446	444416

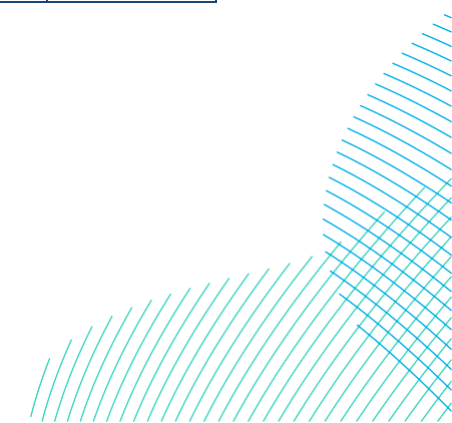


RWE

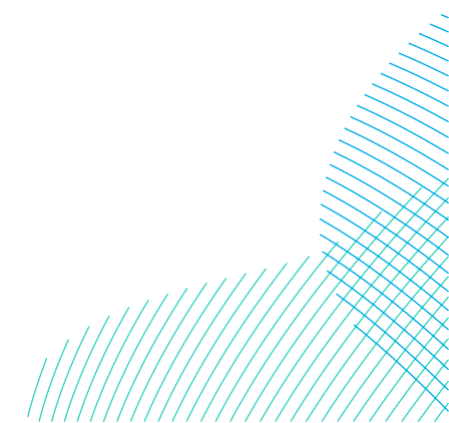
APS_Site	Asset type	Mapbook Figure 22-10-10 page reference	Associated features(s)	Condition at most recent observation	Period	HER MonUID	HE NMP_UID	Comment	Easting	Northing
APS_102	Ridge and Furrow, Field Boundary	22-10-10d	Field Boundary	Microtopographic Earthwork / Cropmark	Medieval / Post Medieval/undated	N/A	155052	<p>An area of eroded Medieval / Post Medieval ridge and furrow.</p> <p>Part of a Post-Medieval levelled field boundary is also visible as a cropmark which was mapped by the NMP. This feature abuts a boundary which was mapped by the OS in 1854-55 and was recorded as a levelled earthwork and cropmark by the NMP. However, it is not depicted on the 1845 Molescroft Enclosure map, Figure 22-10-12, or any subsequent historic mapping. It does, however, 'fit' neatly to a small 'kink' in the historic boundary as depicted on Figure 22-10-15d. The 'enclosure or field boundary' must thus remain classified as an undated/possibly Post Medieval period feature.</p> <p>Within the Onshore Development Area.</p>	503262	441709
APS_103	Ridge and Furrow, Trackway	22-10-10c	Field Boundary, Drainage, Trackway	Microtopographic Earthwork / Cropmark	Medieval / Post Medieval	N/A	1463591	<p>An area of eroded Medieval / Post Medieval ridge and furrow. Modern drainage and Post Medieval field boundaries are also visible as cropmarks, alongside natural anomalies and part of a cropmarked undated ditched trackway (2005 GE). Within the Onshore Development Area.</p>	509747	442660



APS_Site	Asset type	Mapbook Figure 22-10-10 page reference	Associated features(s)	Condition at most recent observation	Period	HER MonUID	HE NMP_UID	Comment	Easting	Northing
APS_104	Ridge and Furrow	22-10-10b	Bank, Headland, Trackway	Microtopographic Earthwork / Cropmark	Medieval / Post Medieval	N/A	1460388	An area of eroded Medieval / Post Medieval ridge and furrow which overlies previously recorded trackways and ditches (APS_063) and may be obscuring further earlier buried ditches. Within the Onshore Development Area.	512904	443915
APS_105	Military Airfield	22-10-10a	Field Boundary	Cropmark	Post Medieval / World War II	MHU19464	N/A	Site of RAF Catfoss which was in use during the 1940s and is now dismantled within the Onshore Development Area. Former boundaries are also visible (MHU91464). No traces of a possible Roman road (MHU1007) are visible on available sources. Former airfield perimeter track is partially within the southwest part of the Onshore Development Area.	513846	449290
APS_106	Ridge and Furrow	22-10-10a	Field Boundary	Microtopographic Earthwork / Cropmark	Medieval / Post Medieval	N/A	N/A	An area of eroded Medieval / Post Medieval ridge and furrow. Within the Onshore Development Area.	513938	450671
APS_107	Ridge and Furrow	22-10-10a	Field Boundary	Cropmark	Medieval / Post Medieval	MHU982	N/A	An area of eroded Medieval / Post Medieval ridge and furrow likely associated with Nunkeeling Deserted Medieval Village (MHU982). Parts of this field system may have been formerly identified as possible prehistoric dikes, MHU19466. Within the Onshore Development Area.	514171	449690

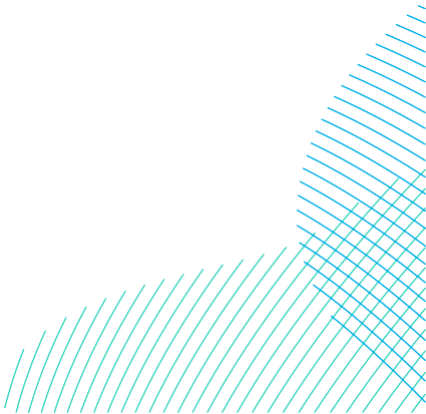


APS_Site	Asset type	Mapbook Figure 22-10-10 page reference	Associated features(s)	Condition at most recent observation	Period	HHER MonUID	HE NMP_UID	Comment	Easting	Northing
APS_108	Ring Ditch	22-10-10a	Possible Mill, Possible Barrow	Cropmark	Iron Age / Roman / Undated	MHU992 MHU993 MHU994	N/A	Area which contains two ring ditches which are visible as faint cropmarks on aerial photographs, outside and 100m to the east of the Onshore Development Area. HHER suggests an Iron Age / Roman date, but the site is probably undated at present. 100m to the east of the Onshore Development Area.	514170	450057
APS_109	Ditch, Enclosure	22-10-10c	Field System, Cultivation Marks	Cropmark	Iron Age / Roman / Post Medieval	MHU22092	1463574	Area of possible Iron Age / Roman enclosure ditches, overlain by previously recorded eroded ridge and furrow (APS_053) and probable Post Medieval field boundaries recorded by the NMP. Ditches which are likely to be a field system are area within the Onshore Development Area, whilst a likely associated ditched enclosure MHU22092 is located c. 40m to the southwest of the Onshore Development Area.	509454	442200
APS_110	Drainage	22-10-10c	Ridge and Furrow	Cropmark	Medieval / Post Medieval / Modern	N/A	N/A	Area of drainage ditches visible as cropmarks on satellite imagery. The modern drainage overlies earlier eroded ridge and furrow and some crop anomalies which maybe earlier features. Within the Onshore Development Area.	510161	443045



RWE

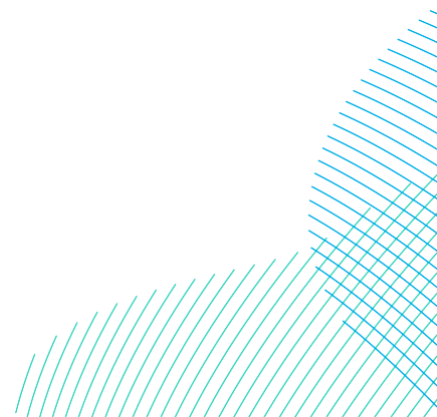
APS_Site	Asset type	Mapbook Figure 22-10-10 page reference	Associated features(s)	Condition at most recent observation	Period	HER MonUID	HE NMP_UID	Comment	Easting	Northing
APS_111	Sand Pit	22-10-10c	N/A	Infilled and reinstated to agricultural land	Post Medieval	MHU13281	N/A	Former Sand Pit visible on historic OS Mapping, no longer visible on the 1890s mapping. Not visible on historic aerial photographs or other sources. Within the Onshore Development Area.	509743	443399



50. This additional assessment records 10 new individual sites or areas (APS_102-111) within or adjacent to the Onshore Development Area. It also includes 4 individual sites or areas (APS_053, 054, 055 and 063) which lie partially within or adjacent to the additional parts of the Onshore Development Area.
51. Some of these features were recorded previously by the HE NMP and the HHER. These previous interpretations are noted and incorporated fully into the GIS database, where they are acknowledged and separated from the newly interpreted or augmented site interpretations made by APS.
52. The majority of the arable areas are heavily ploughed and the cropmarked indications over pre-modern features do not display any significant microtopography. This is evidenced by examination of the visualised LiDAR data. There is however obvious potential for the discovery of sub-surface features and deposits in and around the visible *foci* of cropmarked enclosures, tracks, boundaries and ditches.
53. Relict post-Enclosure field systems are evident where their boundaries were removed in the 20th century to facilitate modern agriculture. These more recent features show as very slightly upstanding microtopography *via* visualised LiDAR data or as cropmarks on aerial photographs where they were removed.

22.10.14.1 Prehistoric and Roman Features

54. A cropmarked ditched trackway and associated ditches are recorded as APS-055, 75-200m to the south of the Onshore Development Area. These features are shown on and are likely to pre-date the modern landscape as they do not align with the Post Medieval field boundaries as mapped by the OS.
55. Similar features are recorded at **APS_063** and are shown on **Figure 22-10-10c**.
56. Undated ring ditches are recorded to the east of the Onshore Development Area at APS_108 and are shown on **Figure 22-10-10a**. These features may date to the prehistoric – Roman or later periods and are included here because they indicate a possible potential for prehistoric funerary sites. The ring ditches have also been identified as the possible remains of Medieval or Post-Medieval post-mill mounds, which could be associated with nearby Nunkeeling Deserted Medieval Village (DMV), which also lies outside of the Onshore Development Area.



57. A buried ditched enclosure is identified within **APS_109** to the east of Routh just to the south of the Onshore Development Area. Ditches which extend into the Onshore Development Area adjacent to the enclosure are likely to have been associated field boundaries, as they do not conform to or align with the likely overlying Post-Medieval land boundaries in this area.
58. The prehistoric-Roman landscape to the east of Routh within and around **Area 1** at **APS_109** is illustrated and differentiated from later features on **Plate 22-10-1**.

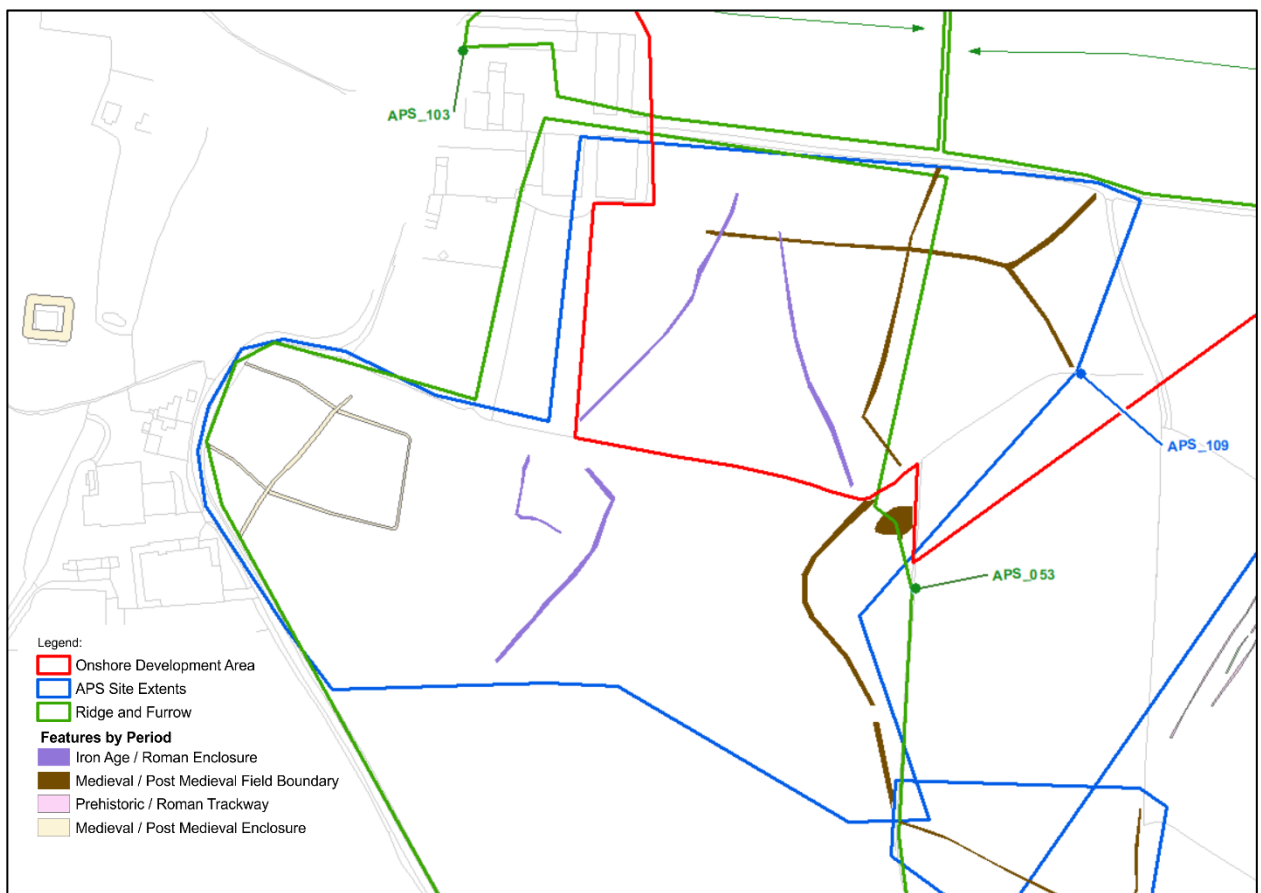


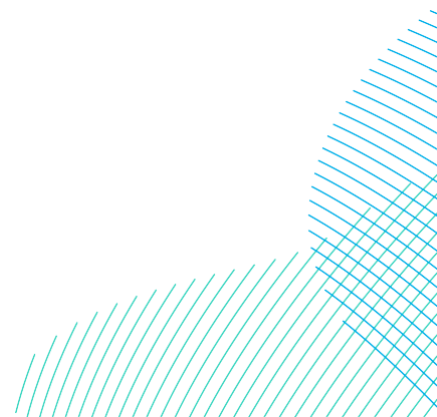
Plate 22-10-1 Features within and around APS_109

22.10.15 Undated Features

59. This analysis identified that APS_108 is an as yet undated site which lies outside the Onshore Development Area to the west of Nunkeeling.
60. APS_057 is a supposed enclosure, field system and ring ditch at Riston Carrs which was identified by the NMP and remains of uncertain date and type.

22.10.16 Medieval – Post Medieval Features

61. The Medieval and Post Medieval agricultural landscape which is visible within the Onshore Development Area largely comprises the eroded remains of strip fields which produce typical areas of ridge and furrow caused by their cultivation by a heavy ox-drawn plough. This ridge and furrow is now eroded by modern mechanised ploughing and visible as marks in crops and soils over the former ridges and as microtopography visible *via* visualised LiDAR data. Ridge and furrow overlies areas of the additional parts of the Onshore Development Area and has been recorded as eroded features on **Figure 22-10-10**.
62. There are extensive remains of post-Enclosure boundaries which were set out in the Post-Medieval period when the land was enclosed and removed in modern times to facilitate mechanised agriculture. These former boundaries are recorded where visible in the additional areas and assigned period designations *via* their relationship to over and underlying features and their presence on historic map data.
63. **APS_111** is a former sand pit within **Area 1**, which was recorded as HHER MHU13281. It is depicted on the 1854-55 OS map only, and shown at **Figure 22-10-15c** and **Plate 22-10-3**.



22.10.17 Modern, including World War II (WWII), features

64. The coastal hinterland in the east of England was used to site a series of WWII fighter and bomber airbases which were used by the RAF to conduct the battle of Britain and subsequent bombing missions over Germany and later allied targets to secure the liberation of Europe.
65. The edges of the former hardstanding airbase perimeter track and dispersal pads at former RAF Catfoss are now visible as cropmarks within **APS_105**, for example, at the 2005 timeline at Google Earth and occasionally as soil marks which were faintly visible on historic aerial photos taken by the OS.
66. RAF Catfoss has been repurposed as an industrial estate and its northeast sector has been artificially drained following removal of the concrete hardstanding and returned to arable agricultural use as shown on **Plate 22-10-2**.

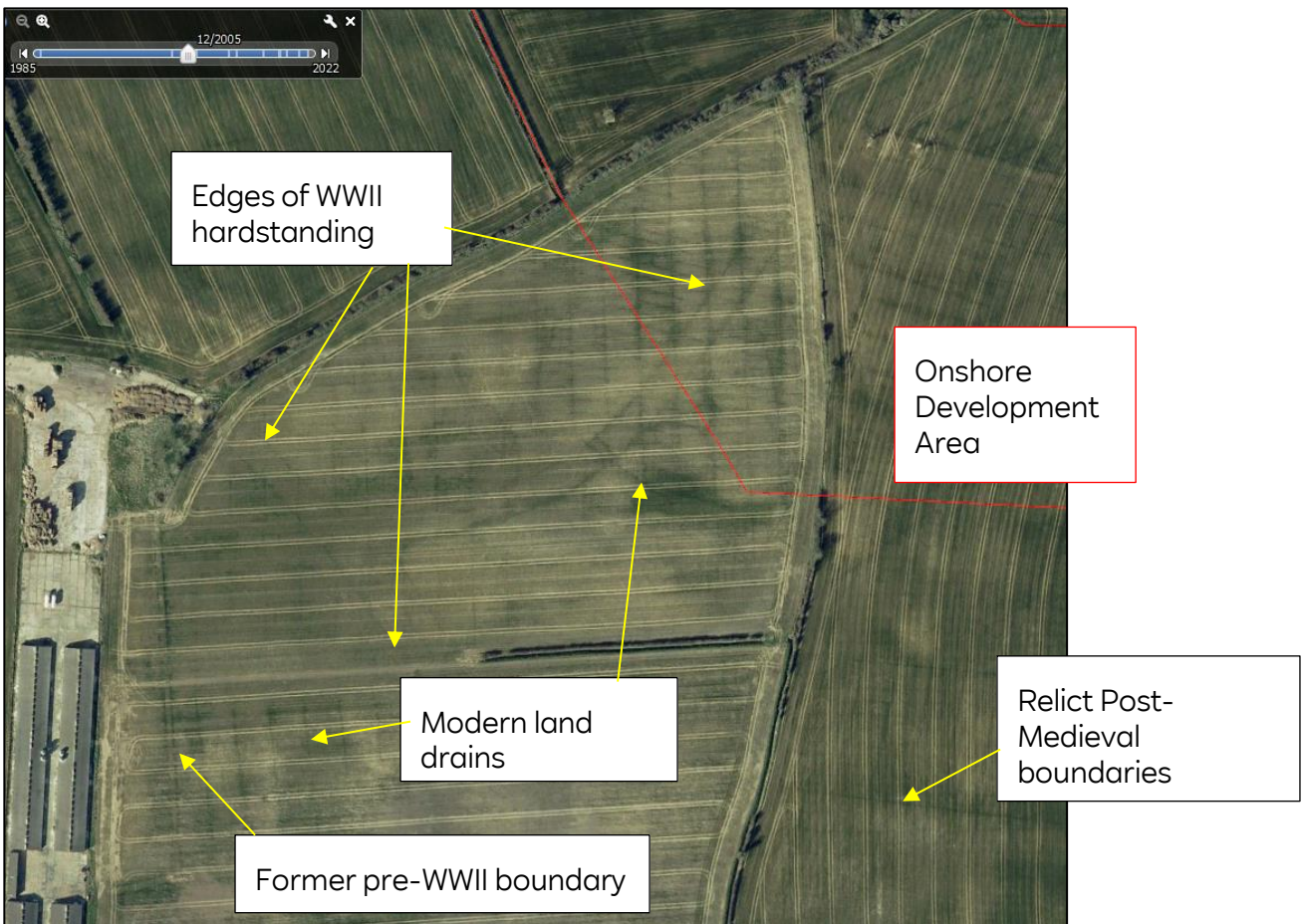


Plate 22-10-2 Former RAF Catfoss, underlying and overlying features, APS_105 (Google Earth, 2005, Getmapping plc)

22.10.18 Conclusion of the Airborne and Satellite Remote Sensing Data Analysis

67. The conclusion of the analysis of additional areas is in accordance with that presented in **Appendix 23-3 (Volume 7 application ref 7.23.23.3)**.

22.10.19 Map Regression Analysis

68. An historic map regression study was undertaken concurrent with the LiDAR data analysis, aerial and satellite imagery to provide understanding of the development of the modern landscape.

22.10.20 17th-19th Century Mapping

69. Earlier mapping over the East Riding of Yorkshire showed the landscape prior to the legal change which took agricultural land from open field and common land to enclosed land with recorded ownership and tenancy deeds. The types and role of earlier map sources are discussed and presented in **Appendix 23-3 (Volume 7 application ref 7.23.23.3)**.

22.10.21 Tithe Maps

70. Tithe maps are a detailed survey of the rural landscape within ecclesiastical parish boundaries in force at the time of survey. Tithe apportionment documents show the landholders and tenants of areas subject to 'Tithe'. The primary function of the Tithe maps is to provide a graphic index or visual means of reference to the apportionments, for taxation purposes within each ecclesiastical parish. Each piece of land liable to tithes is depicted and given a plot number, unique within that parish, by which it could be identified in the apportionment. Tithe maps are detailed and present a dated surveyed record of the land (Kain and Oliver, 1995 referred in **Appendix 23-3 (Volume 7 application ref 7.23.23.3)**) and its boundaries in areas which were subject to ecclesiastical tithe taxation.

22.10.22 Enclosure maps and awards

71. In the Post Medieval period, open fields lands and commons were enclosed and bounded in parts following the Enclosure Bills enacted by Parliament between 1604 and 1914.
72. Enclosure, also known as Inclosure, describes various ways in which land was redistributed into designated units, usually consolidating small landholdings into larger farms. This included the conversion of commons, wasteland and open fields to formally enclosed units of land, the conversion of arable land to pasture and the partition of large areas of communally farmed land into small fields farmed and owned or tenanted by individuals.

73. Tithe and Enclosure maps from the following parishes, listed at **Table 22-10-2**, were available for this additional assessment. They present a view on the landscape between 1803 and 1844. The parish index for the Tithe and concurrent or later Enclosure maps is shown in relation to the Onshore Development Area on **Figure 22-10-11**.

Table 22-10-2 Tithe and Enclosure Maps

Parish	Map type	Survey date	Figure
Molescroft	Enclosure	1803	Figure 22-10-12
Routh	Tithe	1845	Figure 22-10-13
Catwick	Tithe	1844	Figure 22-10-14

74. The Bewholme parish Tithe map is noted but does not cover the area traversed by the Onshore Development Area.
75. The Tithe and Enclosure maps indicate a settled and established post-Enclosure rural landscape. They provide information on the boundaries and land areas which were later mapped by the OS and confirm some of the features which are generally still visible and extant on historic aerial photos and have now been removed.
76. The Routh Tithe map, surveyed in 1845, does not show a sand pit in the north part of **Area 1 (APS_111)**. The pit may have been excavated between 1845 and 1854, or the feature not shown on this depiction of the land which was completed for fiscal purposes.

22.10.23 Historic Ordnance Survey Maps

77. From the mid-19th century, the OS surveyed, published then revised mapping from their first editions, which in the additional **Areas 1-5** were surveyed in 1854 and published in 1855 at 1:2,500 scale, and known as the 'County series'.
78. The following map dates which are detailed at **Table 22-10-3** are shown in the listed figures, which cover the additional **Areas 1-5** of the Onshore Development Area.

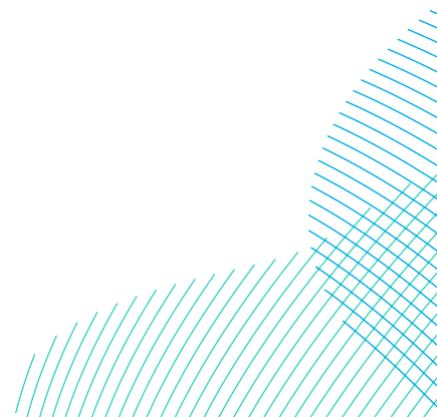
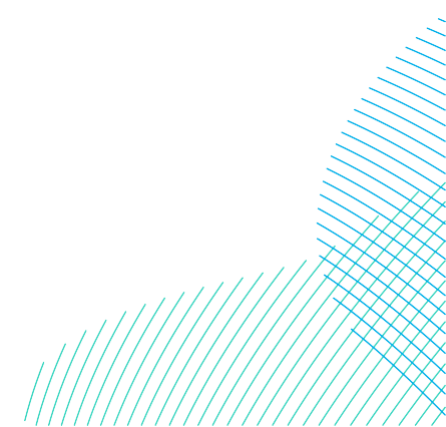

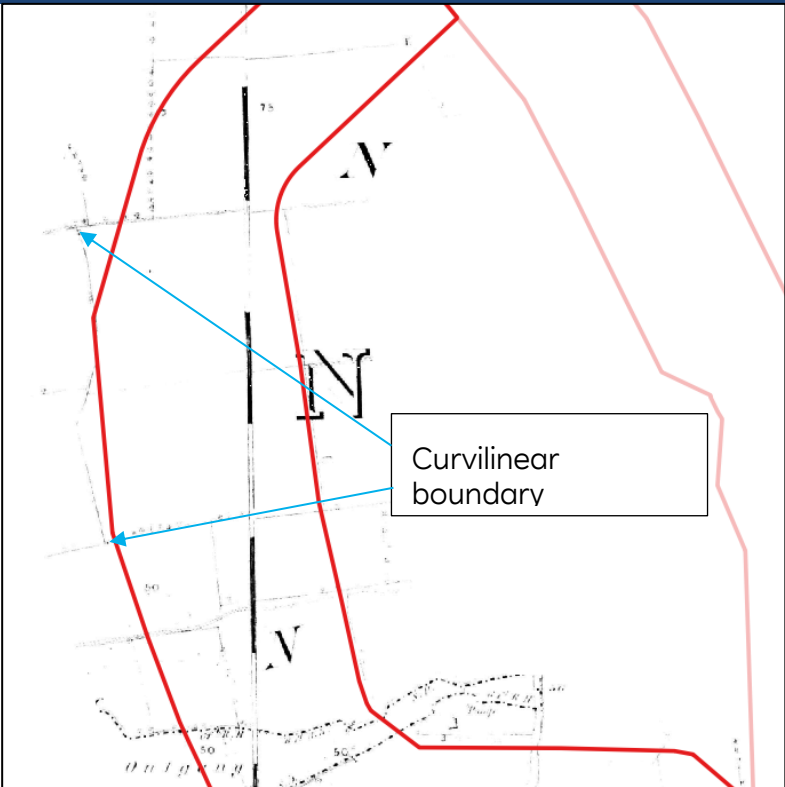


Table 22-10-3 OS maps which were used for this assessment

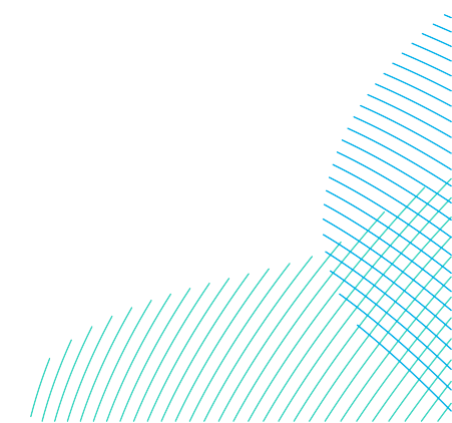
OS map date	Figure	Comment
1854-1855	Figure 22-10-15	<p>In the mid-19th century, the landscape within the additional areas in the Onshore Development Area was laid predominately to enclosed farmland with established roads.</p> <p>Some boundaries are depicted as wooded, others as simple lines which indicate either hedgerows or fences and ditches.</p> <p>A 'old sand pit' is depicted at the northern boundary of Area 1 on this map (Page c). The extractive pit, which is recorded on the HHER as MHU13281 lay within the Onshore Development Area. The pit will have removed the top and sub soils down to substrate at this location. This is mapped and is included in this assessment as APS_111 from this OS map source. Its location is not discernible on 20th and 21st century aerial photographs. The pit lay to the immediate south of the road, which is now the A1035, from which it was logically accessed. The pit is not depicted on the Routh Tithe map which was published 10 years earlier in 1845 and is shown on Figure 22-10-13, however, a Tithe map is part of a fiscal assessment document, and extractive sites may not have been show in this context.</p> <p>Outside the Onshore Development Area, further old sand pits are recorded by the HHER from the 1891 OS map, but are not shown on the 1854-55 OS map, indicating that they were excavated in the latter part of the 19th century after the initial first edition OS survey was published.</p> <p>The areas around the former sand pit were named as Spring Hill and Brick Hill in 1854-5. Routh Springs is marked just on the northern boundary of the Onshore Development Area.</p> <p>A 'Mound' with a triangular symbol is shown c.85m to the west of the boundary of the Onshore Development Area at Area 1, Figure 22-10-15c. The symbol shown on the map depicts a triangulation station (a survey aid). The symbol is noted at https://maps.nls.uk/view/128076891. A further triangulation station is depicted within Area 2 on Page d.</p> <p>Plate 22-10-1 shows the relationship of the modern landscape east of Routh to the land as it was in the mid-19th century in the north part of Area 1.</p>



OS map date	Figure	Comment
		 <p>Plate 22-10-3 1854-55 1st Edition OS map, HHER records and modern Google Road background, Area 1</p> <p>The curving post-enclosure field boundaries mapped by the OS follow the slight 'reverse-S' shape of the ridges and furrows in the former open fields which were created by heavy ox-drawn ploughs and did not follow exact straight lines. Former boundaries which are depicted on this map are in places visible as marks in crops on aerial photographs.</p> <p>In Area 5, between Catfoss and Nunkeeling, the 1854-55 OS map indicates largely straight post-enclosure boundaries, but the westernmost boundary shows a typical curve which may be indicative of it following a possible headland to former ridge and furrow within the outfields to the DMV at Nunkeeling to the north of the Onshore Development Area. The boundaries in 1854 are shown on Plate 22-10-4.</p>

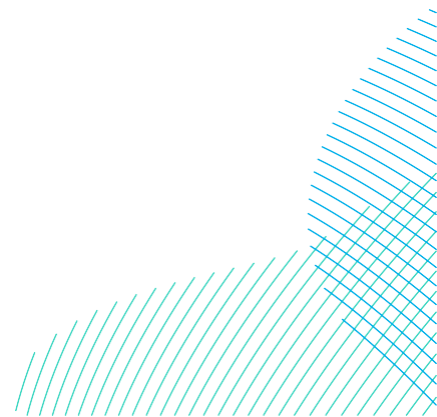
OS map date	Figure	Comment
		 <p>Plate 22-10-4 OS 1st Edition 1854-55 map showing boundaries in Area 5 between Nunkeeling and Catfoss</p> <p>This area was indicated as a possible location for a triple ditched dike on an unlocated aerial photographic source (BKS 197? (sic)) within the HHER in record MHU19466 and is discussed above in paragraphs 41 to 46.</p> <p>The Bridlington to Hull railway line is depicted at this date, when it ran in a north – south direction to the immediate east of the Onshore Development Area boundary at Area 2 as shown on Page d.</p> <p>The HE NMP has mapped a former boundary, APS_102, which is not depicted on any available historic mapping sources and is discussed in Table 22-10-1.</p>
1892-1895	Figure 22-10-16	In the late 1880s, the OS records over the Onshore Development Area show the same rural landscape, with the addition of some roads and simplification of some boundary depictions and annotations. The sand pit which lay within Area 1 was not depicted in this map revision.
1908-1911	Figure 22-10-17	This revision shows very limited changes to the landscape; however, it is noted that some field boundaries in the southern part of Area 1 were removed between 1889-95 and 1908-1911 to the northwest of Church Farm at 'The Green' to create a more open agricultural landscape. Similar boundary removal was evident in Area 2 .

OS map date	Figure	Comment
1951-1956	Figure 22-10-18	This map revision again shows some changes to the landscape within the southern part of Area 1 where further field boundaries have by now been removed.
1973-1982	Figure 22-10-19	By 1973 -82, the railway line is still depicted as a landscape feature to the east of Area 2 and the boundaries are still in place in Area 1 as they were in the 1950s. An overhead power line is depicted crossing part of Area 5 . This map has been revised to show digital contours in metres.
1988-1993	Figure 22-10-20	There is incomplete mapping coverage for this timeline, but previous maps supply more than sufficient data to ensure a comprehensive historic map regression. Area 5 is not covered.
1995	Figure 22-10-21	The modern mapping indicates a simplified and streamlined digitally mapped depiction of the essentially modern landscape which reflects that of previous years in a stably agricultural environment. No mapping is available for Areas 2 and 3 and the west part of Area 1 .



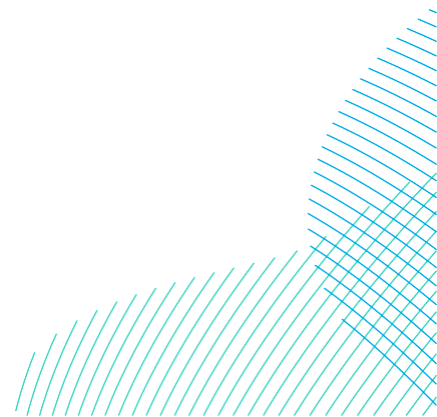
22.10.24 Map Regression Conclusion

79. The conclusion of this supplementary analysis is in accordance with that presented in **Volume 7, Appendix 23-3 (application ref 7.23.23.3)**.



References

- Bennett, R. Welham, K. Hill, R.A. & Ford, A. 2012. 'A Comparison of visualisation techniques for models created from airborne laser scanned data' in *Archaeological Prospection* 19. PP. 41-48.
- British Geological Survey (BGS). 2023. Available at: <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>. Accessed January 2023.
- Cranfield University. 2023. Available at: <http://www.landis.org.uk/soilscapes/index.cfm> Accessed January 2023.
- Deegan A. (2017a) Desk-Based Resource Assessment and Research and Management Framework of Aggregate-Producing Landscapes in the East Riding of Yorkshire. Historic England report 97/2008.
- Deegan, A. (2017b) The Yorkshire Coast and Humber Estuary Rapid Coastal Zone Assessment Project (3729) Historic England report 116/2007
- Historic England 2018 Using Airborne LiDAR in Archaeological Survey: The Light Fantastic. Swindon. Historic England. HistoricEngland.org.uk/research/methods/airborne-remote-sensing/lidarLiDAR/
- Hesse, R. 2010. 'LiDAR-derived Local Relief Models - a new tool for archaeological prospection' in *Archaeological Prospection* 2.
- Kain, R.J.P. & Oliver, R., 1995 *The Tithe Maps of England and Wales: A Cartographic Analysis and County-by-County Catalogue*. Cambridge.
- Oakey M., Knight D., Evans S.C., and Boutwood, Y. (2012) *East Riding of Yorkshire, Chalk Lowland and the Hull Valley NMP: Aerial Investigation and Mapping Report*. Fort Cumberland: Historic England. <https://doi.org/10.5284/1030152>
- Oliver, R. 2013. *Ordnance Survey Maps, a concise guide for historians*. London, The Charles Close Society.
- Scollar, I. & Palmer, R. 2008. 'Using Google Earth Imagery' in *AARG News* 37. PP. 15-21.
- Scollar, I. 2002. 'Making Things Look Vertical.' In Bewley RH and Raczkowski W (Eds) *Aerial Archaeology: Developing Future Practice*. NATO Science Series, 337. PP. 166 – 172.
- Štular, B. Kokalj, Ž. Oštir, K. Nuninger, L. 2012. 'Visualisation of LiDAR – derived relief models for detection of archaeological features' in *Journal of Archaeological Science* 39. PP. 3354-3360



Figures

Figure 22-10-1 Site Location

Figure 22-10-2 Historic England Aerial Photographs

Figure 22-10-3 Humber Historic Environment Record Aerial Photograph Coverage

Figure 22-10-4 Cambridge University Collection of Aerial Photography Coverage

Figure 22-10-5 National Mapping Programme Project Coverage

Figure 22-10-6 LiDAR Coverage

Figure 22-10-7 Onshore Development Area Geology

Figure 22-10-8 Onshore Development Area Soils

Figure 22-10-9 Mapbook Index

Figure 22-10-10 Mapbook

Figure 22-10-11 Parish Index for Tithe and Inclosure Maps

Figure 22-10-12 Molescroft Enclosure Map 1803

Figure 22-10-13 Routh Tithe Map 1845

Figure 22-10-14 Catwick Tithe Map 1844

Figure 22-10-15 Ordnance Survey Mapping 1854 - 1855

Figure 22-10-16 Ordnance Survey Mapping 1892 - 1895

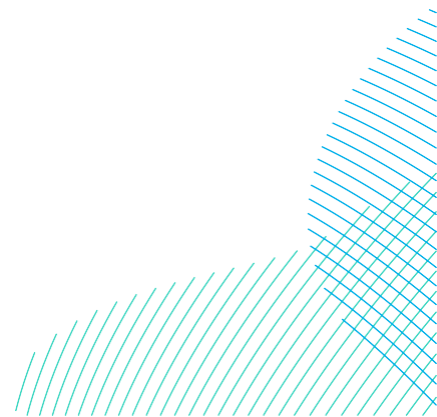
Figure 22-10-17 Ordnance Survey Mapping 1908 - 1911

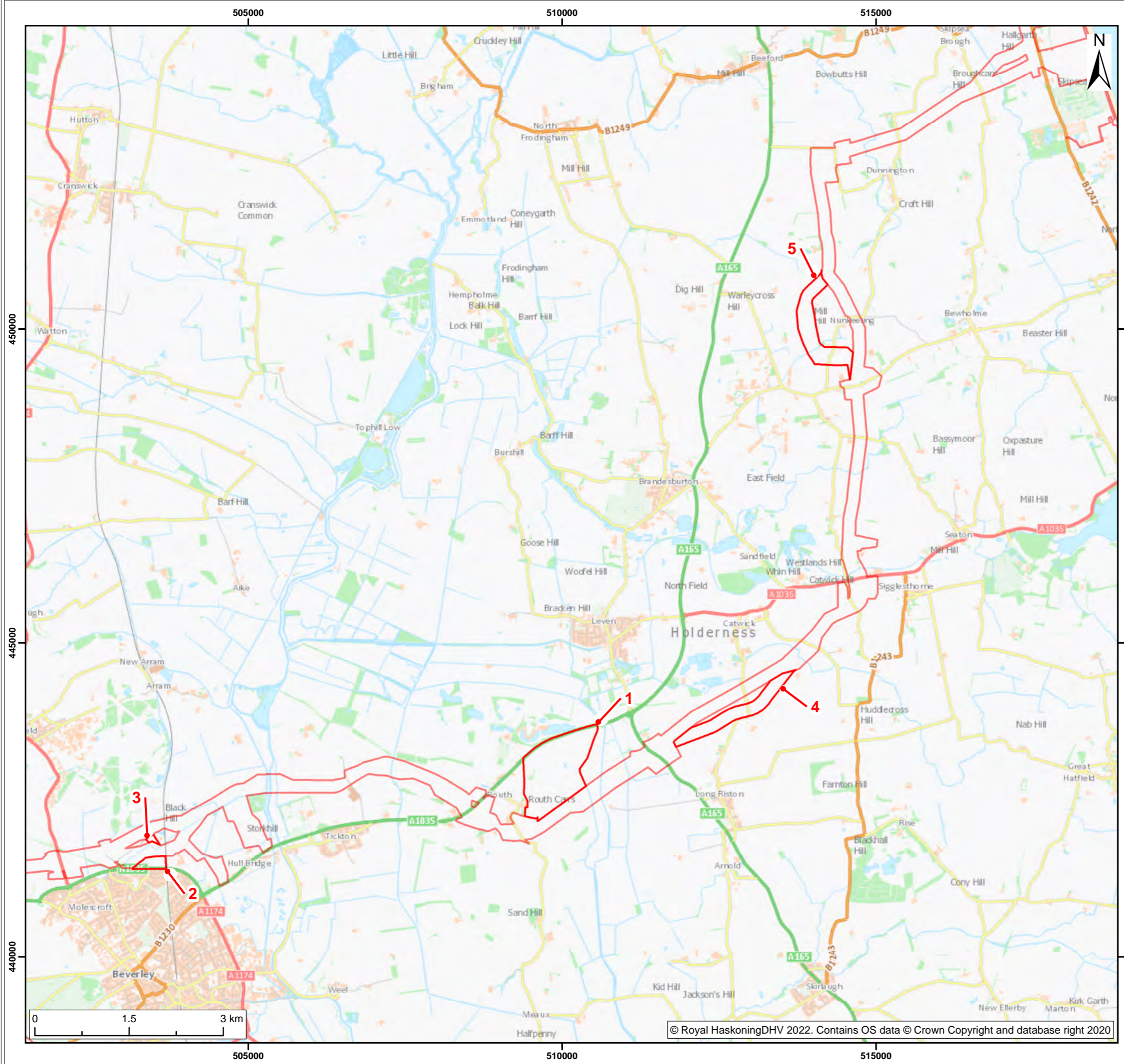
Figure 22-10-18 Ordnance Survey Mapping 1951-1956

Figure 22-10-19 Ordnance Survey Mapping 1973 - 1982

Figure 22-10-20 Ordnance Survey Mapping 1988 - 1993

Figure 22-10-21 Ordnance Survey Mapping 1995





Legend:
 Additional Onshore Study Areas
 Onshore Study Area

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

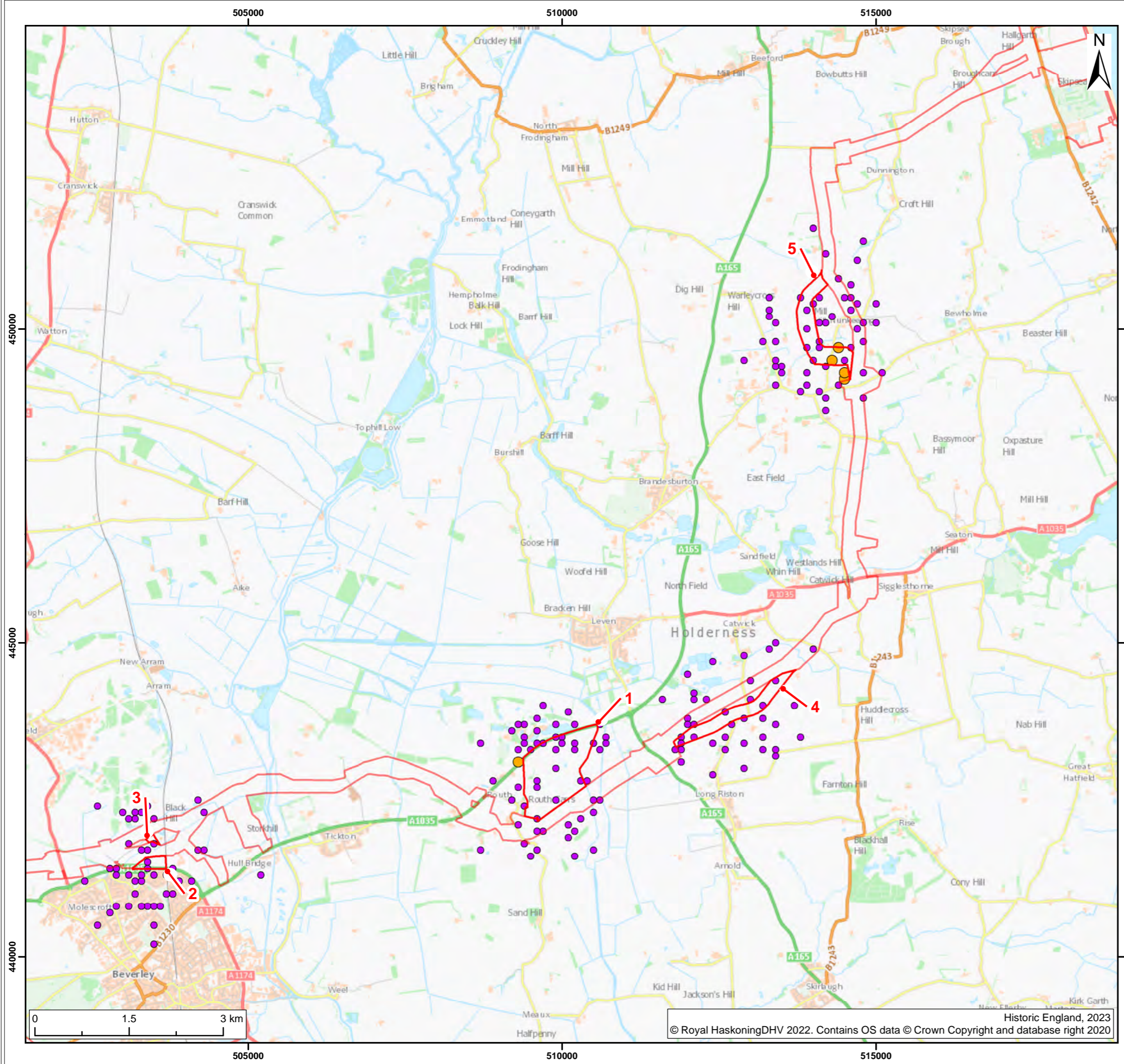
Title:
 Site Location

Figure: 22-10-1 Drawing No: PC2340-APS-ON-ZZ-DR-Z-0448

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:60,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





- Legend:
- Onshore Study Area
 - Additional Onshore Study Areas
 - Verticals
 - Obliques

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

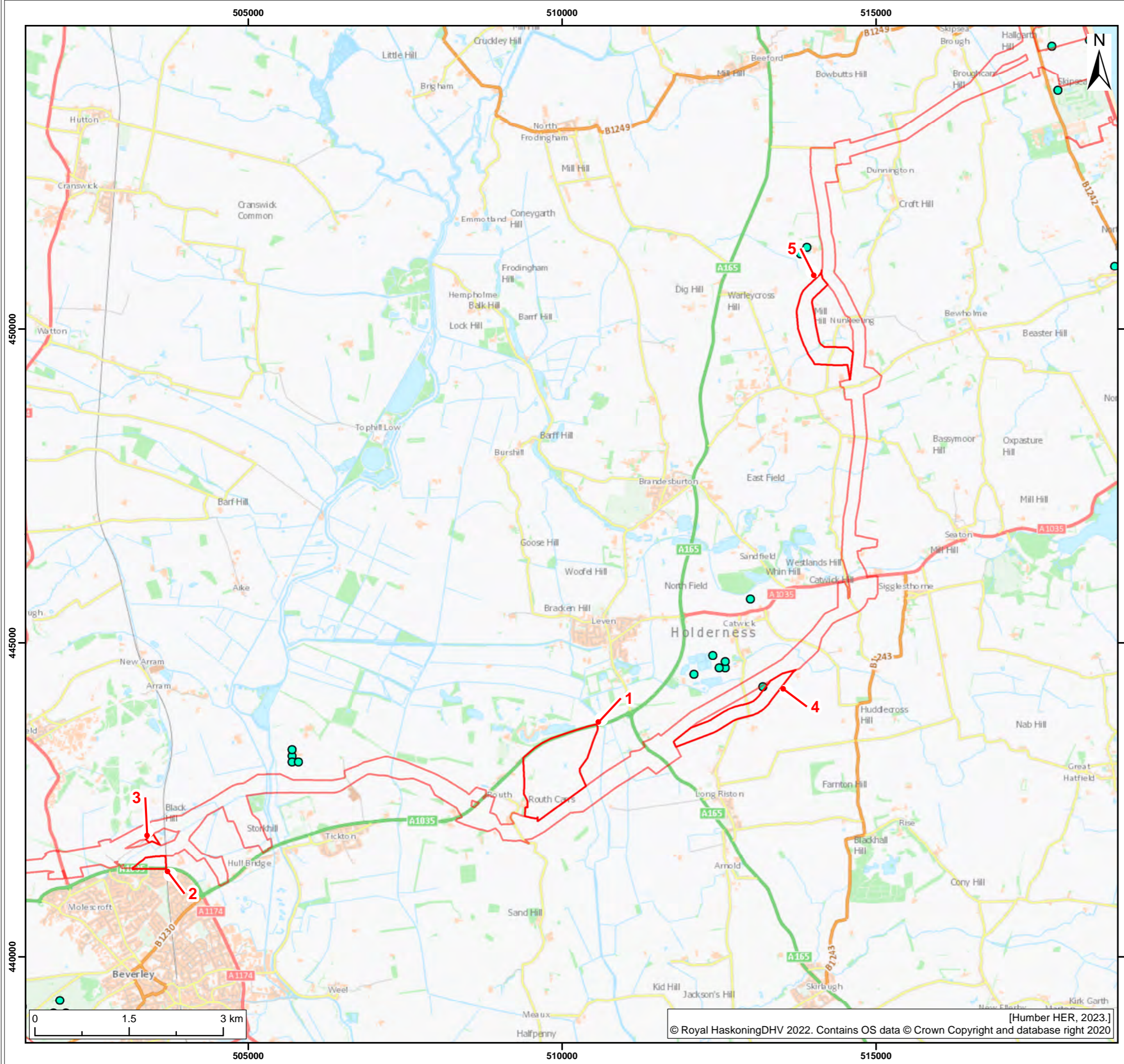
Title:
Historic England Aerial Photographs

Figure: 22-10-2 Drawing No: PC2340-APS-ON-ZZ-DR-Z-0449

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:60,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	--





Legend:

- Onshore Study Area
- Additional Onshore Study Areas
- Humber Historic Environment Record Aerial Photographs

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

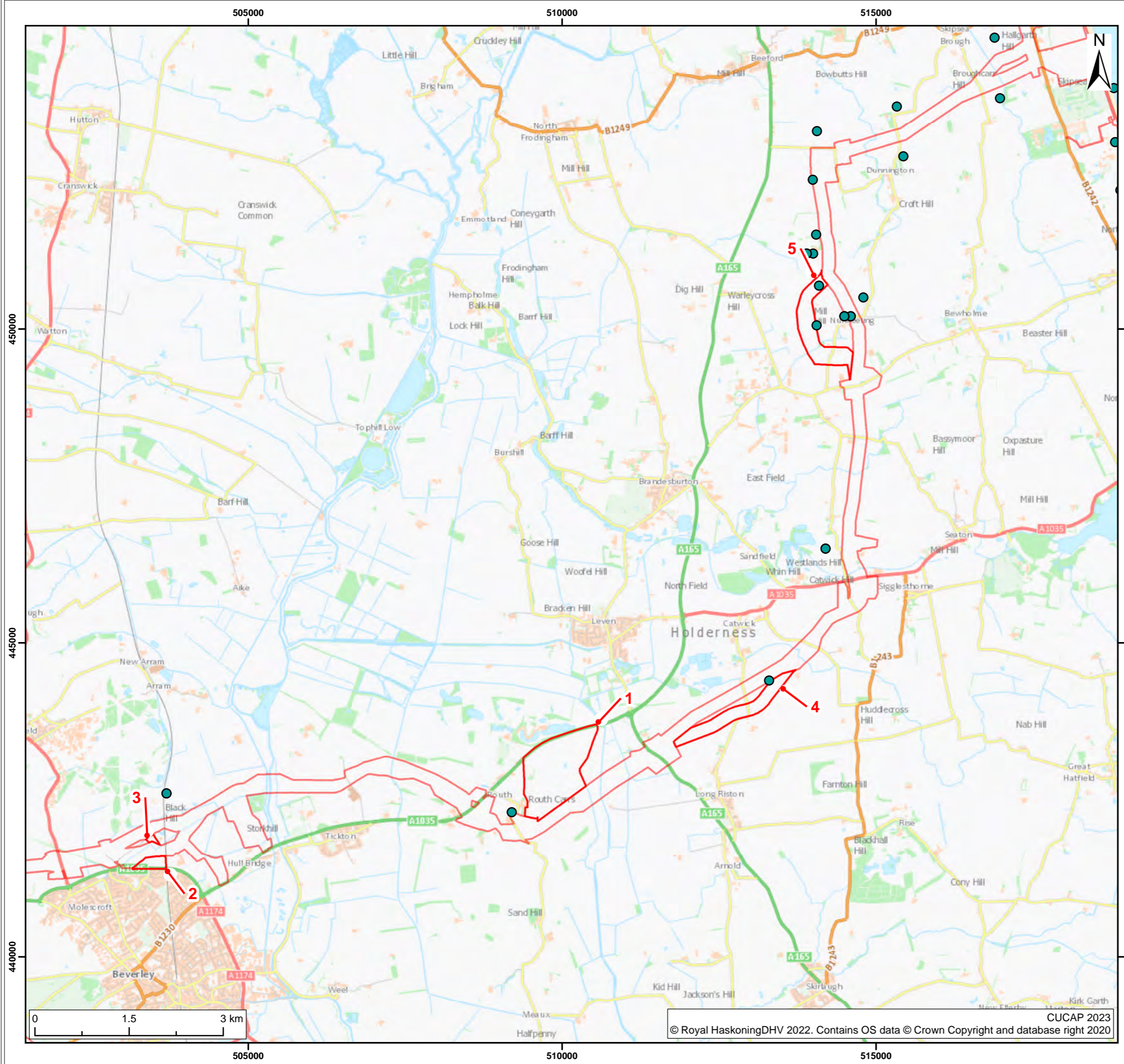
Title:
**Humber Historic Environment Record
 Aerial Photograph Coverage**

Figure: 22-10-3 Drawing No: PC2340-APS-ON-ZZ-DR-Z-0450

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:60,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





- Legend:
- Onshore Study Area
 - Additional Onshore Study Areas
 - CUCAP APs

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

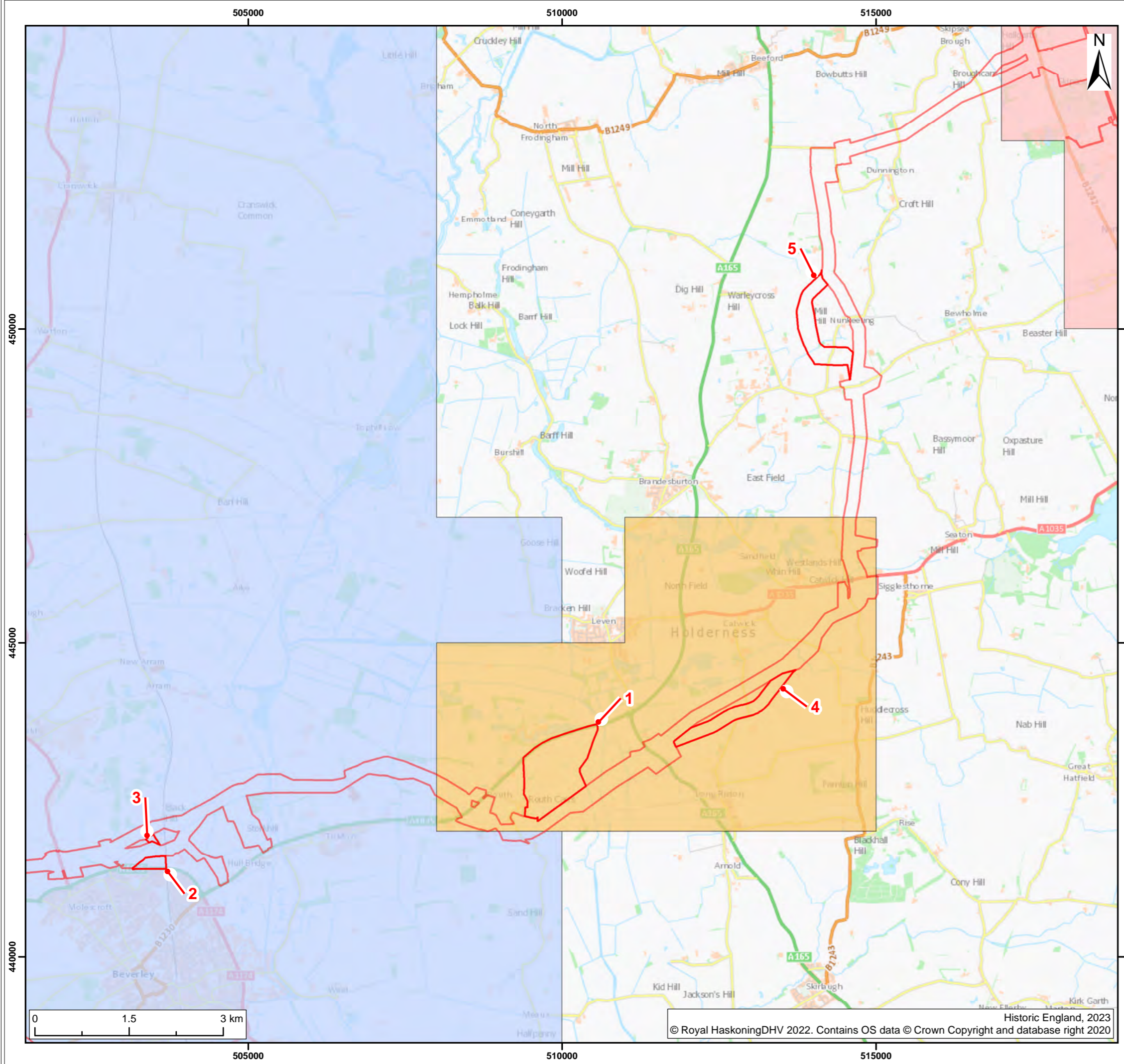
Title:
Cambridge University Collection of Aerial Photography Coverage

Figure: 22-10-4 Drawing No: PC2340-APS-ON-ZZ-DR-Z-0451

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:60,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	--





- Legend:
- Onshore Study Area
 - Additional Onshore Study Areas
 - East Yorkshire Aggregates Levy Sustainability Fund
 - Hull Valley
 - Yorkshire Rapid Coastal Zone Assessment Survey

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

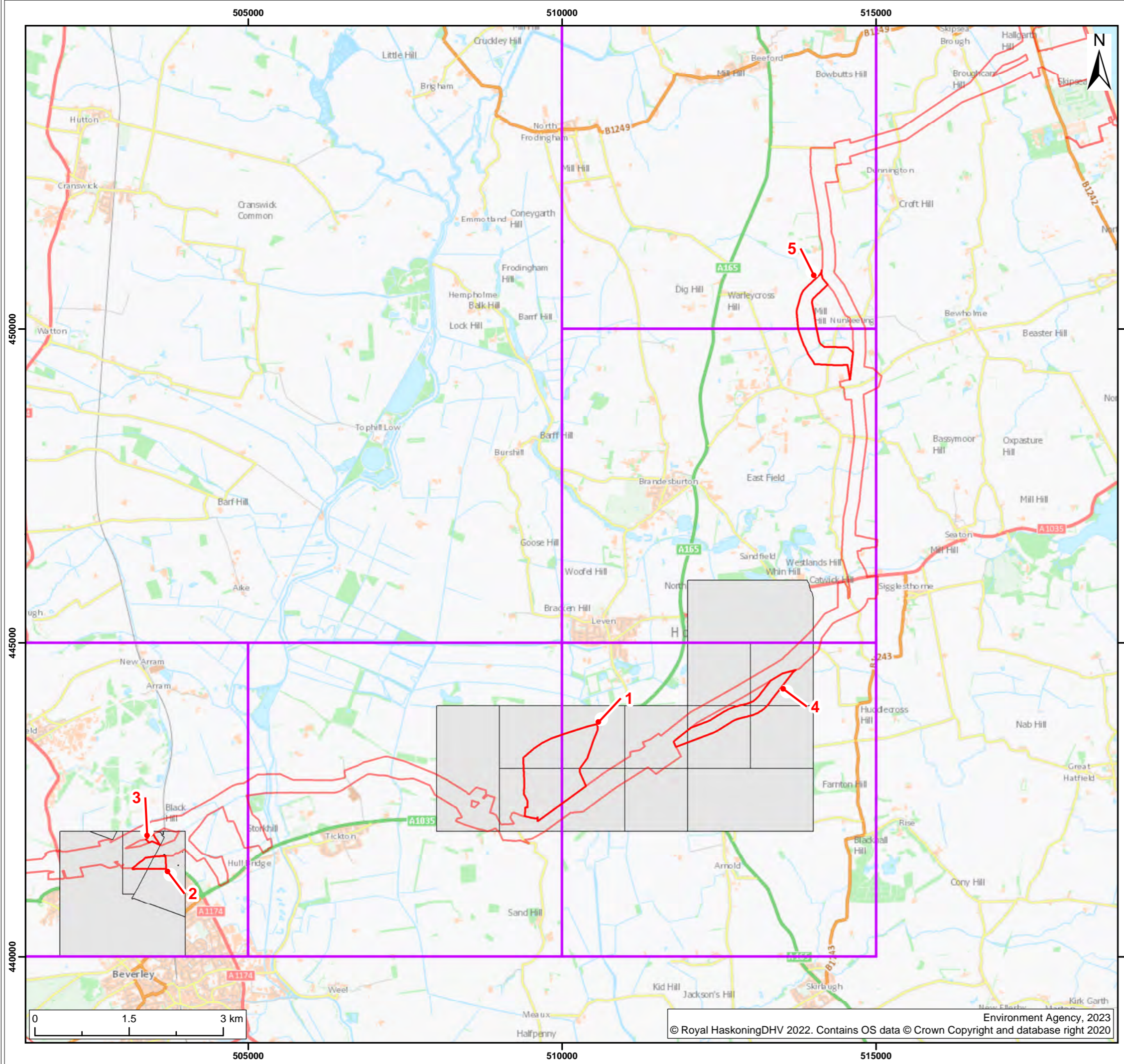
Title:
National Mapping Programme Project Coverage

Figure: 22-10-5 Drawing No: PC2340-APS-ON-ZZ-DR-Z-0452

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:60,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





- Legend:
- Onshore Study Area
 - Additional Onshore Study Areas
 - Environment Agency LiDAR Coverage
 - National LiDAR Programme Coverage

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

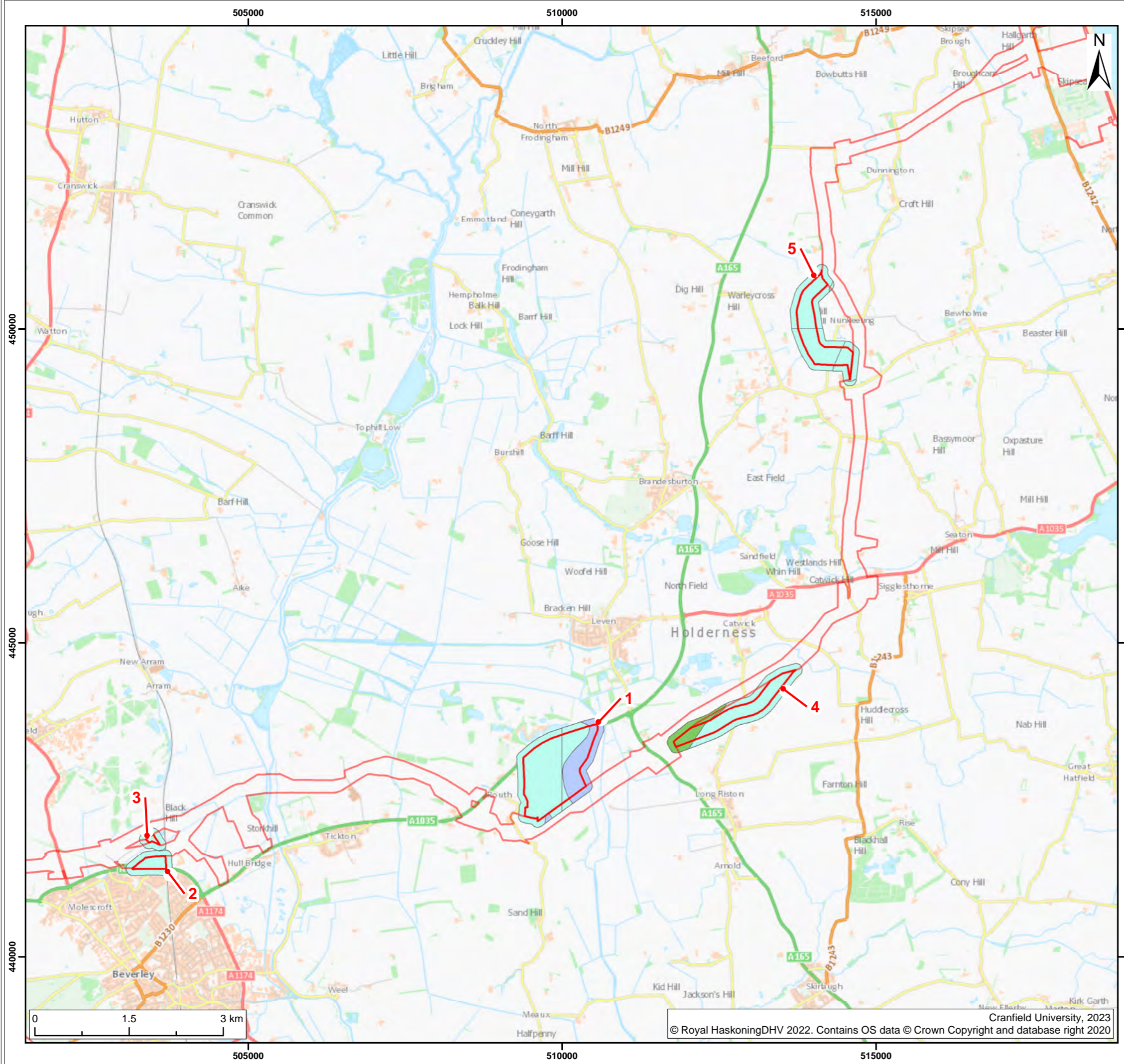
Title:
LiDAR Coverage

Figure: 22-10-6 Drawing No: PC2340-APS-ON-ZZ-DR-Z-0453

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:60,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





- Legend:
- Onshore Study Area
 - Additional Onshore Study Areas
 - Chalky till
 - Marine alluvium and fen peat
 - Till and glaciofluvial drift

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

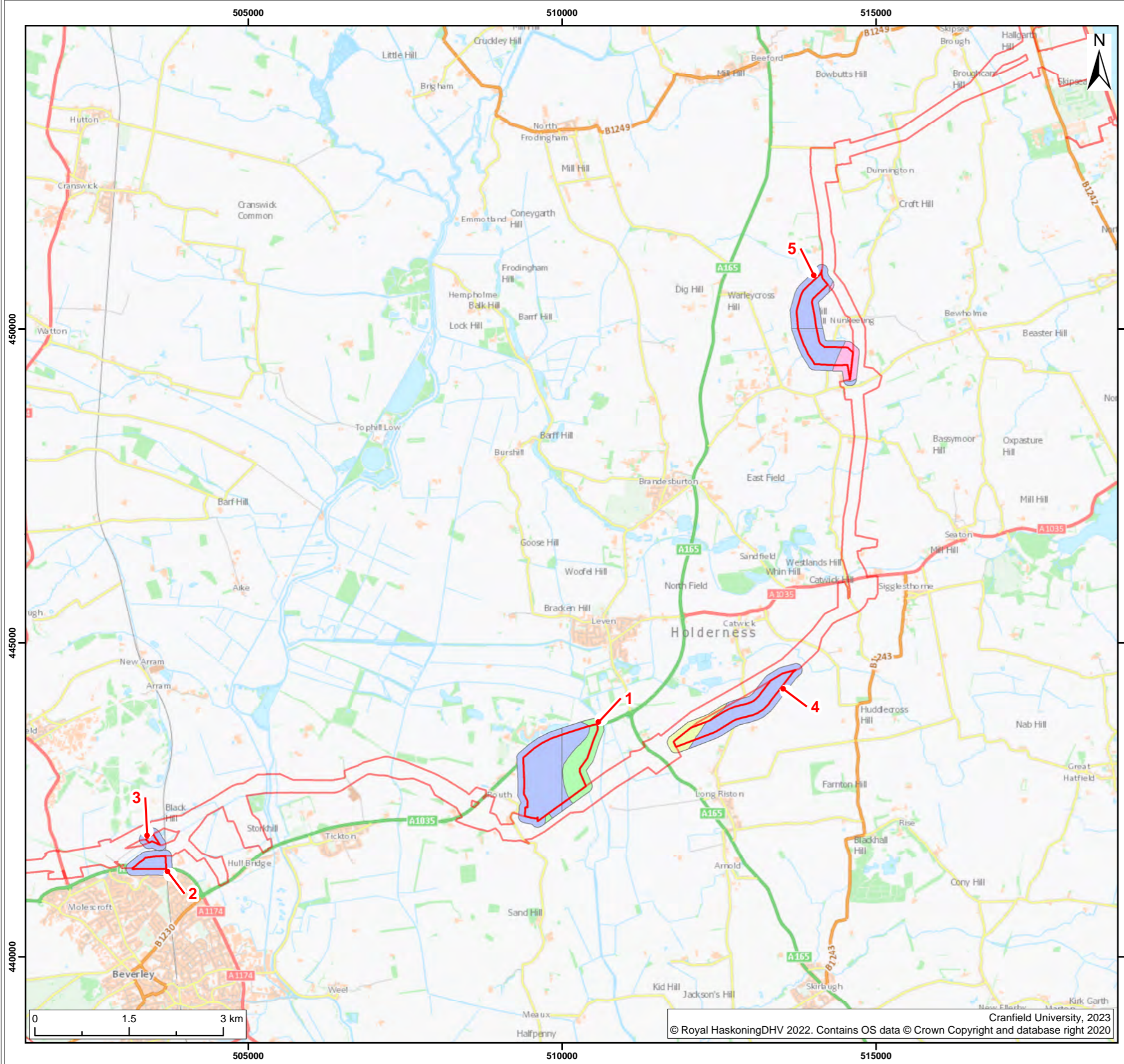
Title:
Onshore Development Area Geology

Figure:22-10-7 Drawing No: PC2340-APS-ON-ZZ-DR-Z-0454

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:60,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	--





- Legend:
- Onshore Study Area
 - Additional Onshore Study Areas
 - BURLINGHAM 2
 - Bishampton 1
 - DOWNHOLLAND 3
 - HOLDERNESS

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

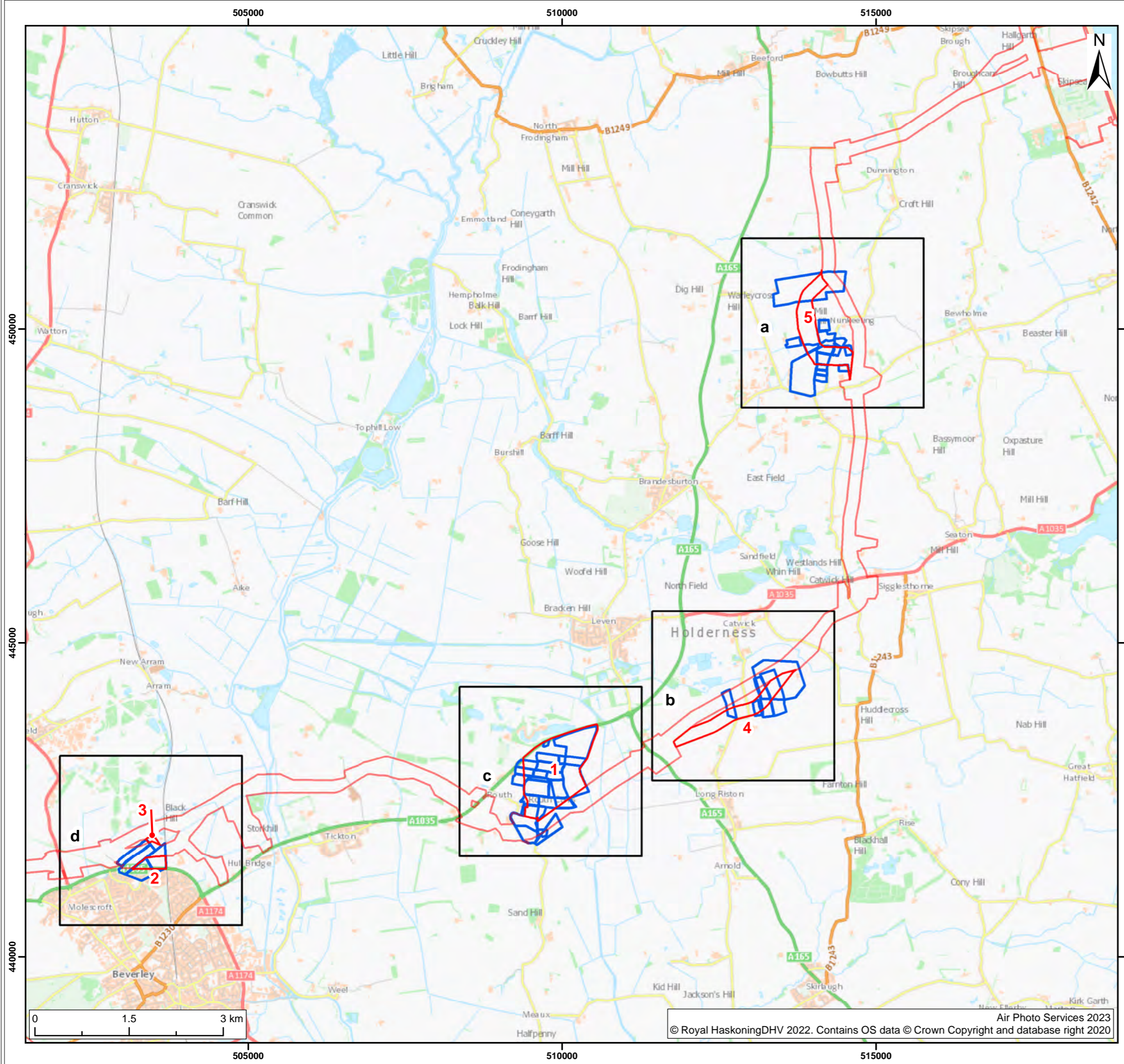
Title:
Onshore Development Area Soils

Figure: 22-10-8 Drawing No: PC2340-APS-ON-ZZ-DR-Z-0455

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:60,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





- Legend:
- Onshore Study Area
 - Additional Onshore Study Areas Site
 - Extents
 - Mapbook Pages

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

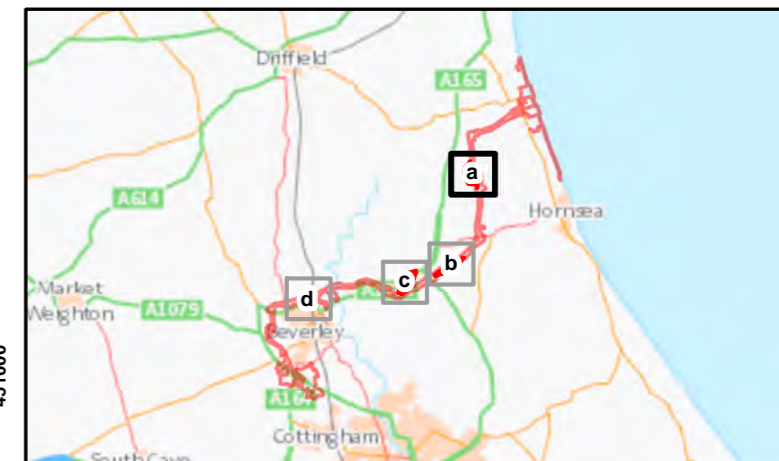
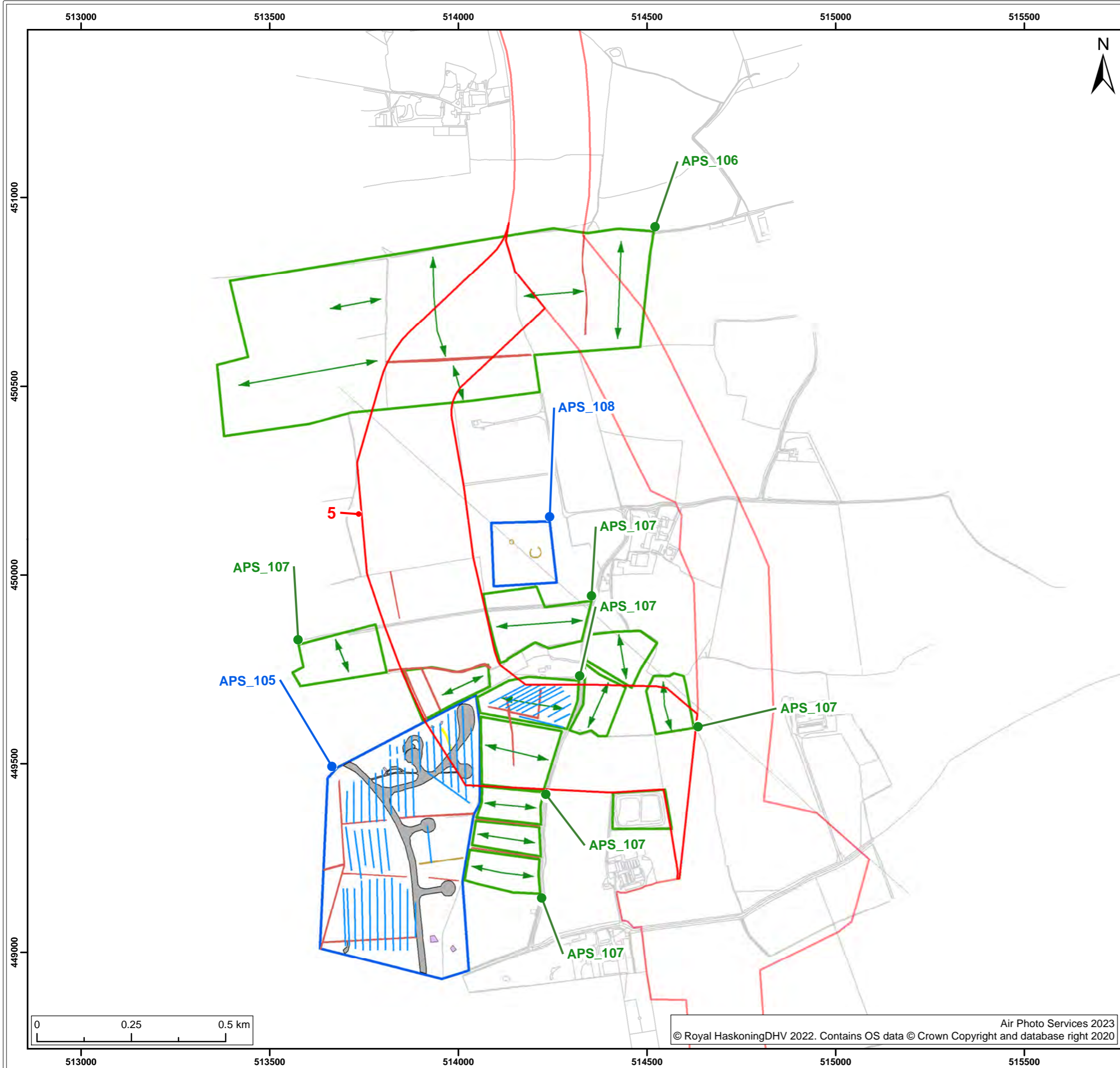
Title:
Mapbook Index

Figure: 22-10-9 Drawing No: PC2340-APS-ON-ZZ-DR-Z-0456

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:60,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





Legend:

- Onshore Study Area
- Additional Onshore Study Areas
- APS Site Extents
- Ridge and Furrow

APS Features

- Boundary
- Ditch
- Airfield
- Military Structure
- Trackway
- Drain
- Ridge and Furrow

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

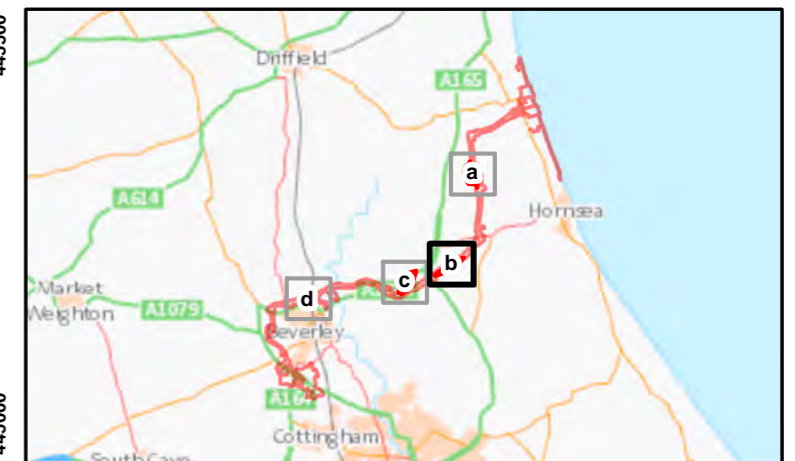
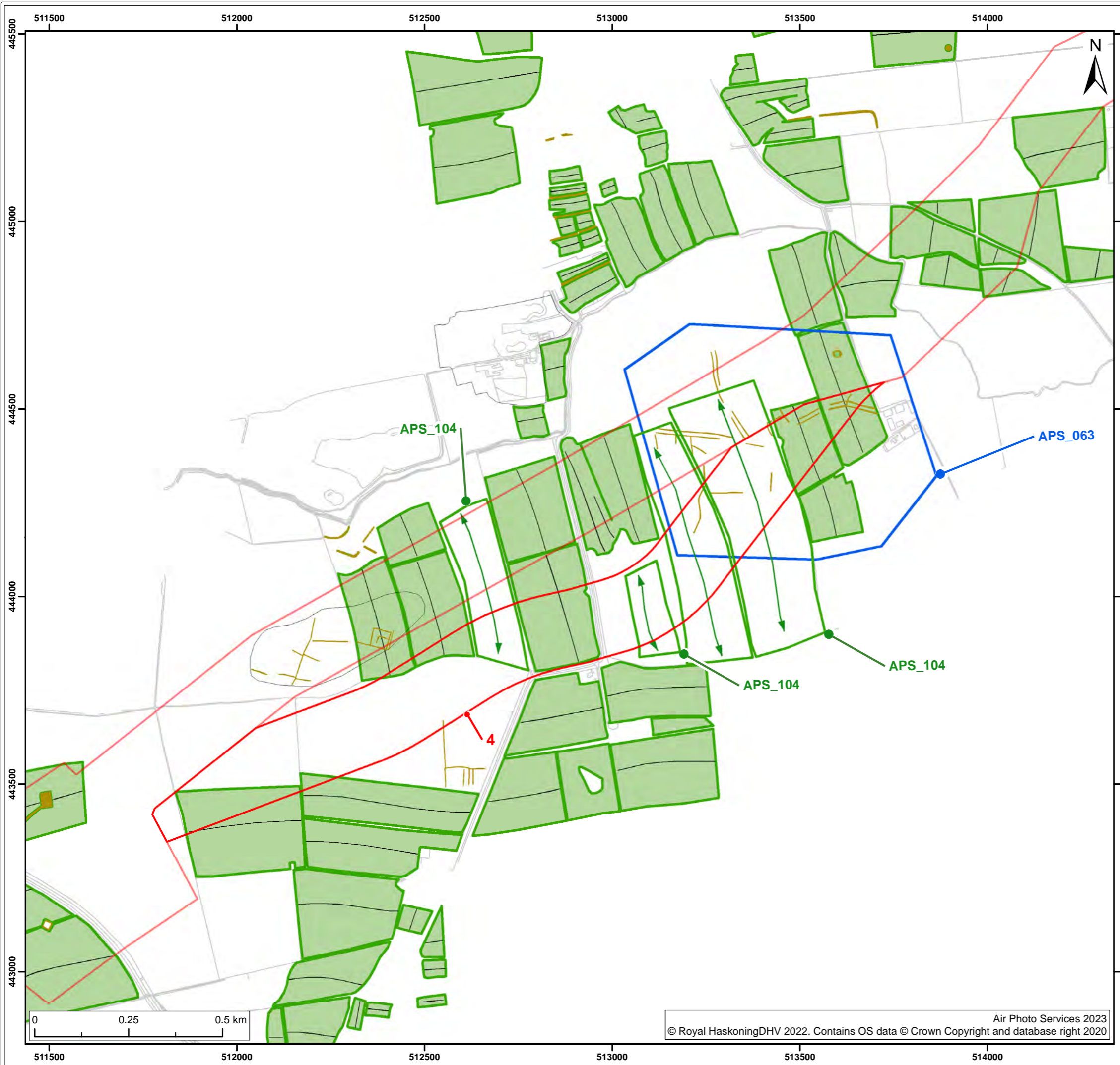
Title:
Mapbook Page 1 of 4

Figure: 22-10-10a Drawing No: PC2340-APS-ON-ZZ-DR-Z-0457

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





- Legend:
- Onshore Study Area
 - Additional Onshore Study Areas
 - APS Site Extents
 - Ridge and Furrow
 - Ridge and Furrow
- NMP Mapping**
- Bank
 - Ditch
 - Extent of Feature
 - Ridge and Furrow Alignment
 - Ridge and Furrow Area

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

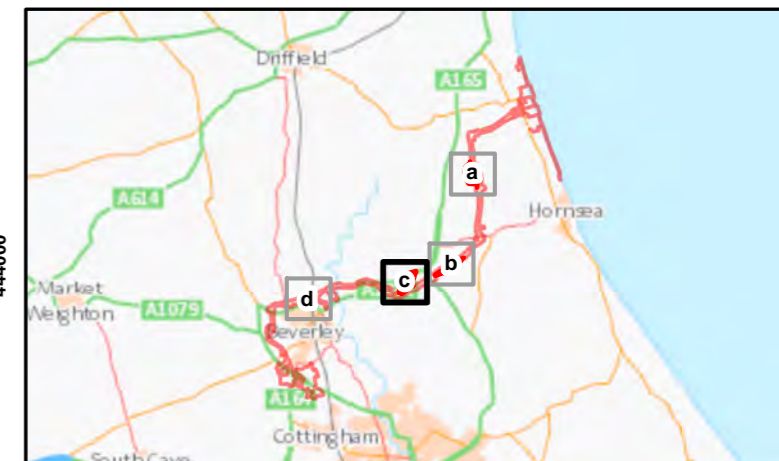
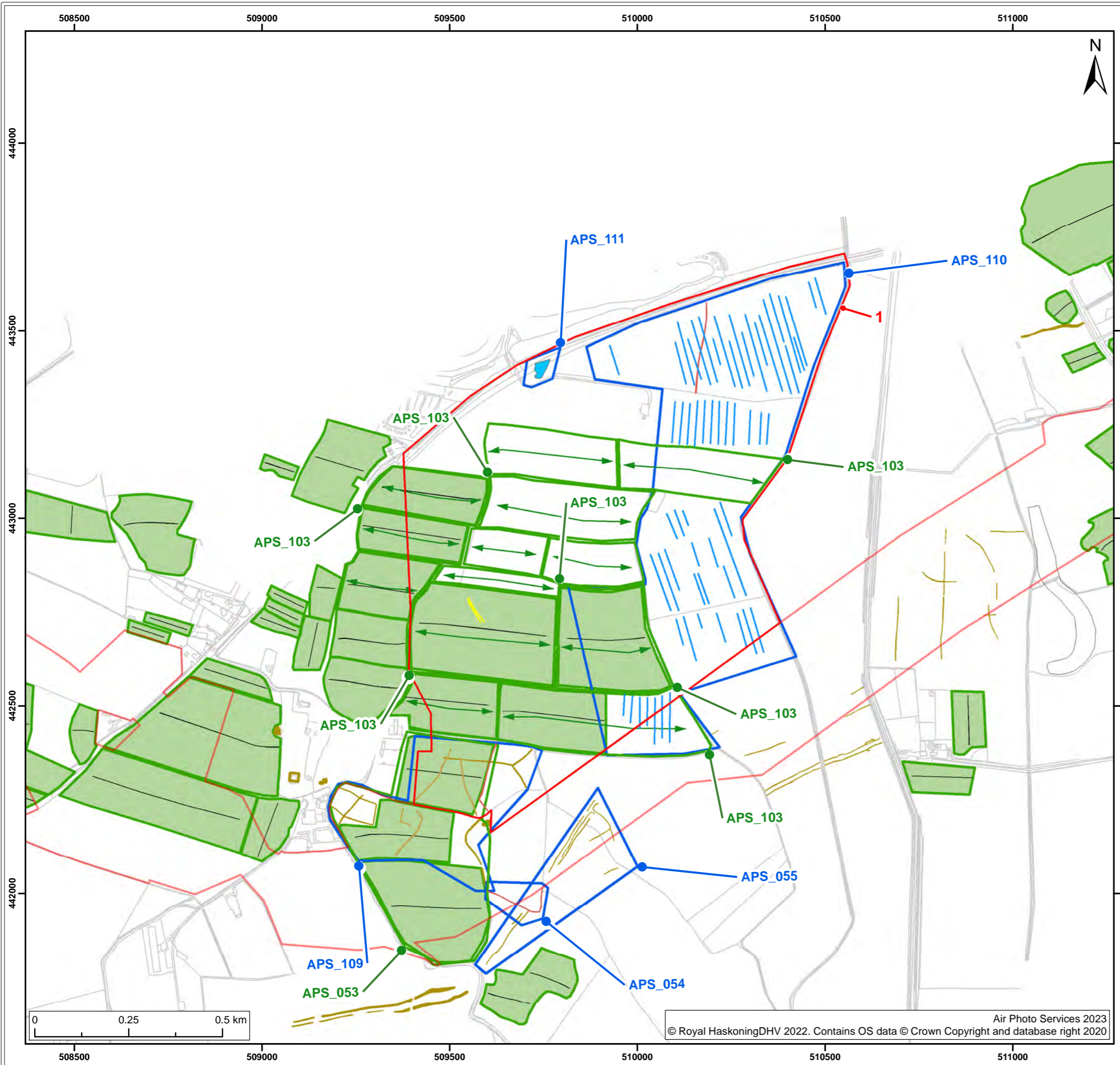
Title:
Mapbook Page 2 of 4

Figure: 22-10-10b Drawing No: PC2340-APS-ON-ZZ-DR-Z-0457

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





Legend:

- Onshore Study Area
- Additional Onshore Study Areas
- APS Site Extents
- Ridge and Furrow

APS Features

- Boundary
- Ditch
- Sand Pit
- Trackway
- Drain
- Ridge and Furrow

NMP Mapping

- Ditch
- Extent of Feature
- Ridge and Furrow Alignment
- Ridge and Furrow Area

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

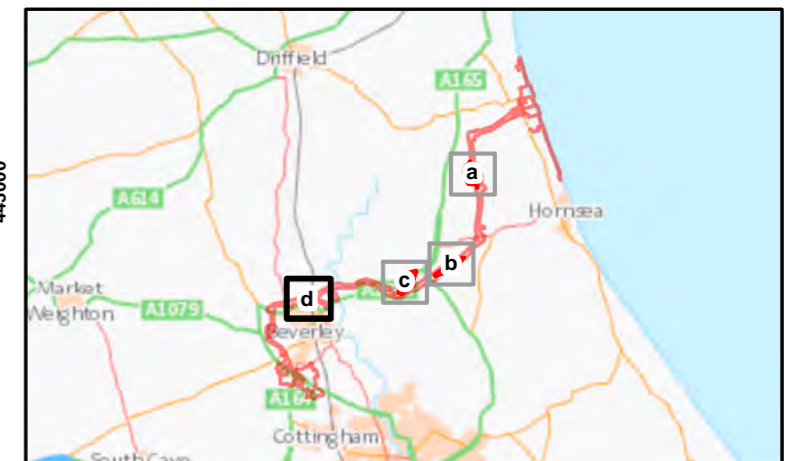
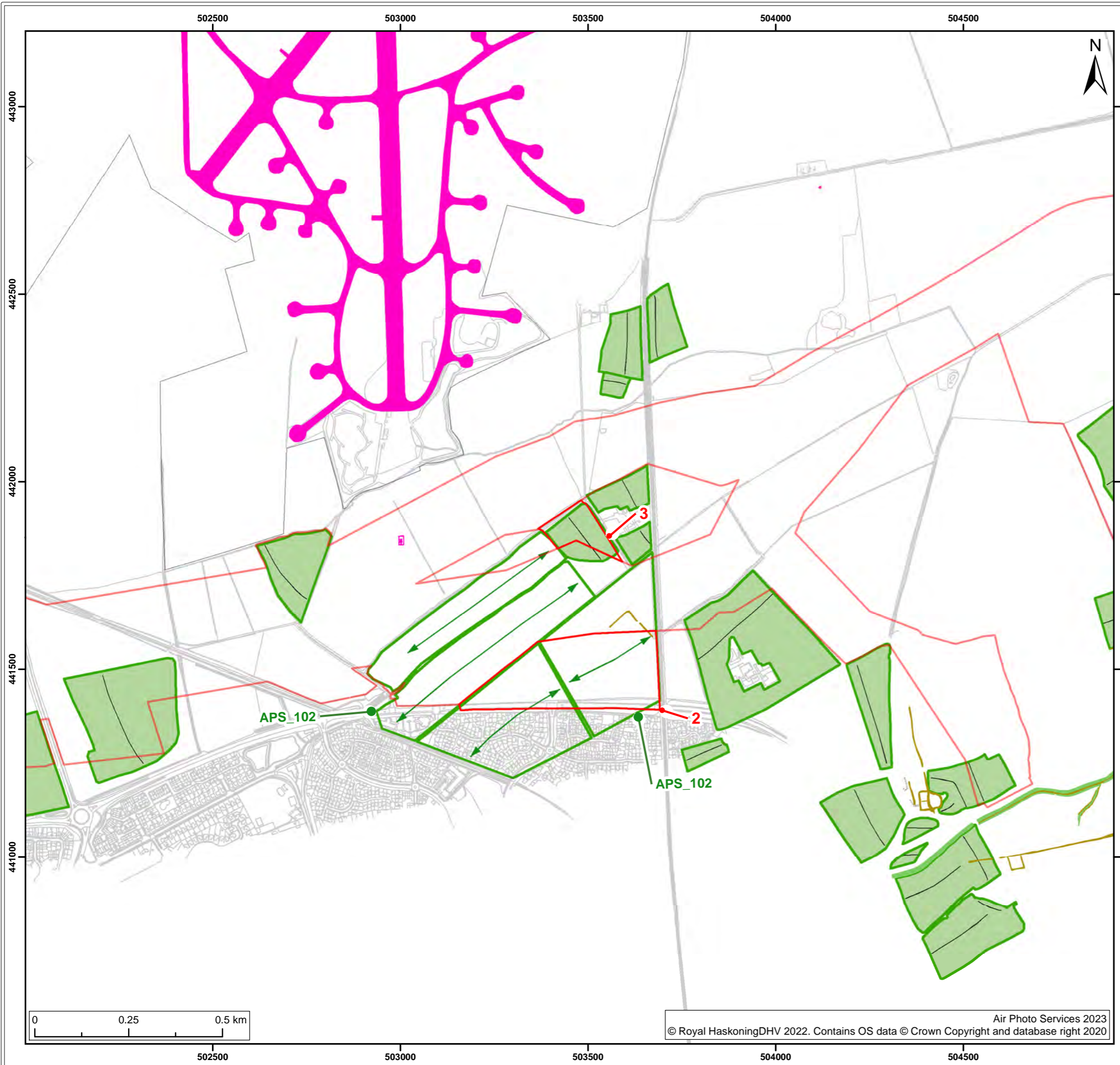
Title:
Mapbook Page 3 of 4

Figure: 22-10-10c Drawing No: PC2340-APS-ON-ZZ-DR-Z-0457

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





Legend:

- Onshore Study Area
- Additional Onshore Study Areas
- Ridge and Furrow
- ↔ Ridge and Furrow

NMP Mapping

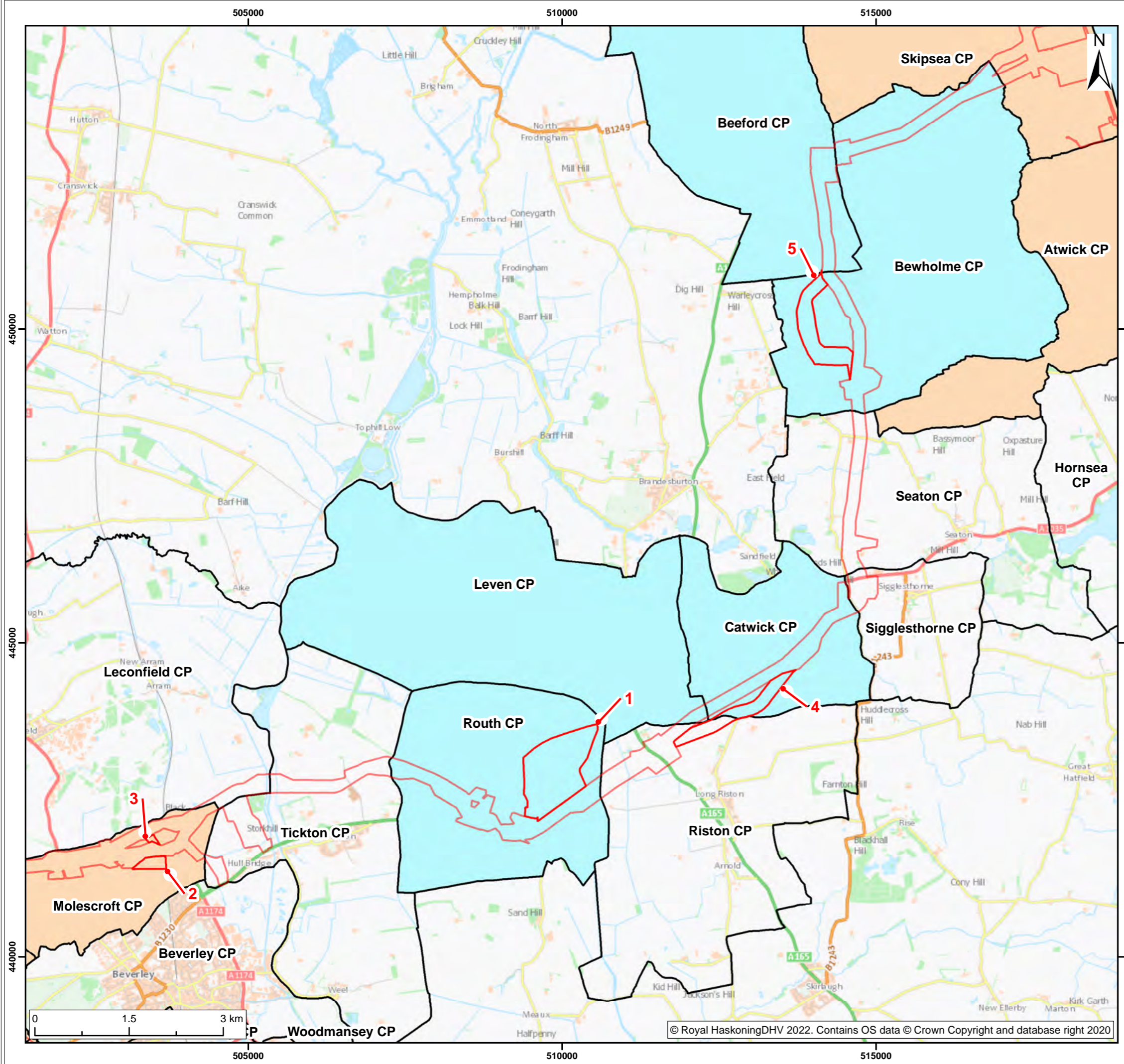
- Bank
- Ditch
- Extent of Feature
- Ridge and Furrow Alignment
- Ridge and Furrow Area
- Scarp Slope Edge
- Structure

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

Title:
Mapbook Page 4 of 4

Figure: 22-10-10d	Drawing No: PC2340-APS-ON-ZZ-DR-Z-0457	
Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology	





- Legend:
- Onshore Study Area
 - Additional Onshore Study Areas
 - Inclosure
 - Tithe
 - None / Outside Onshore Study Area

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

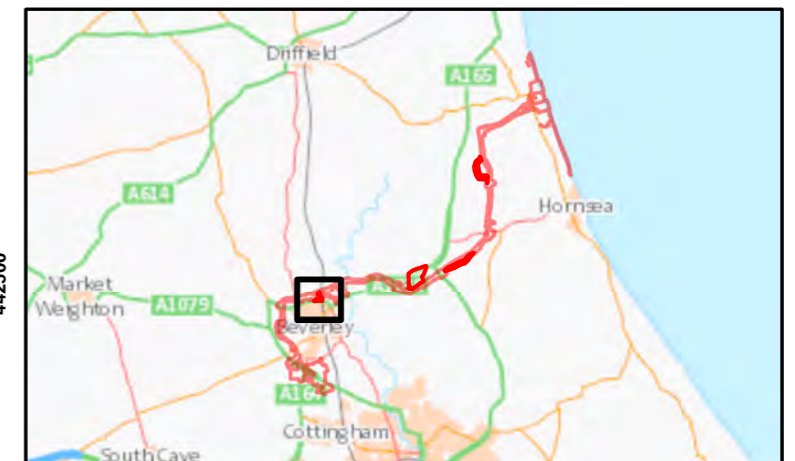
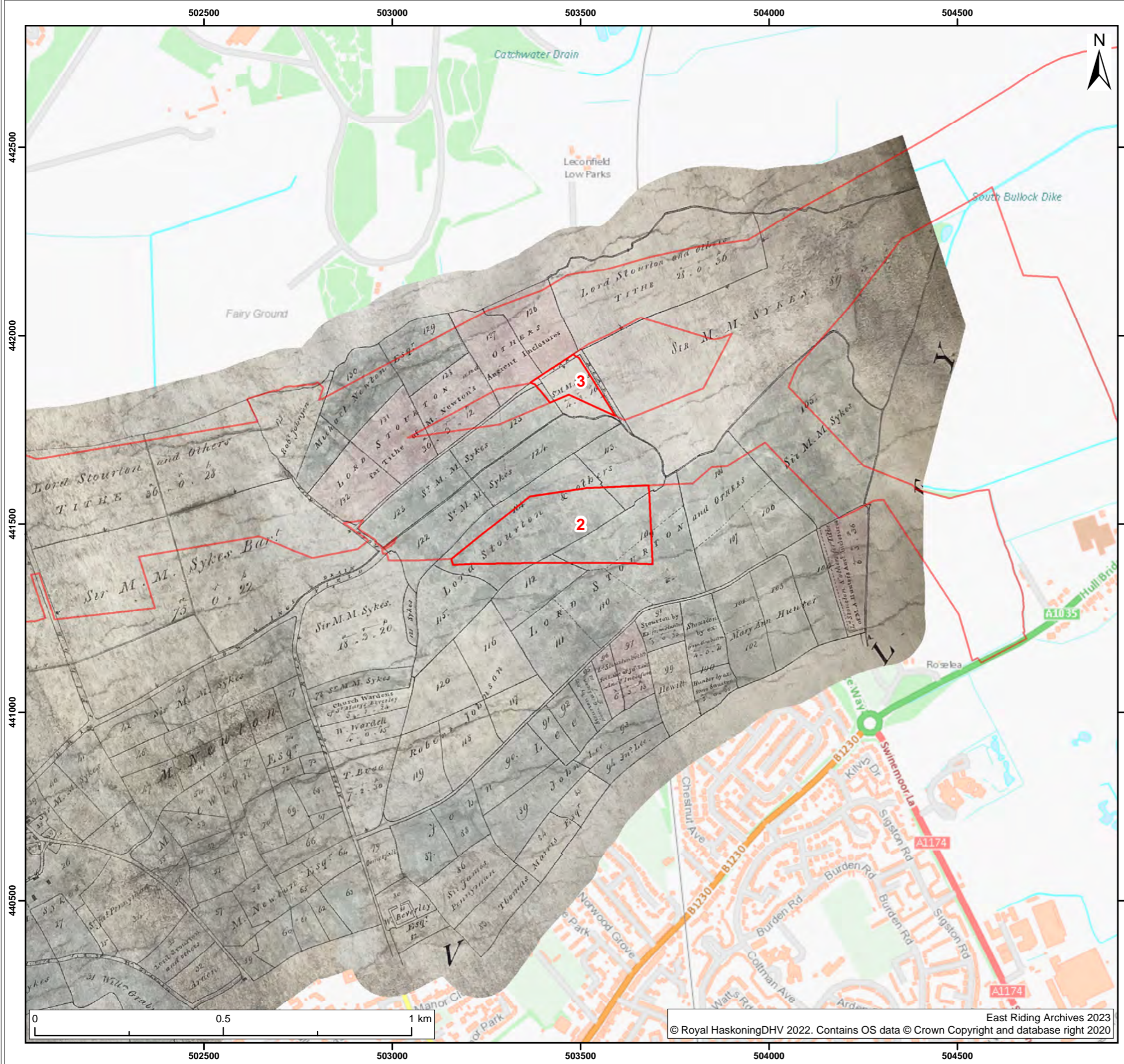
Title:
Parish Index for Tithe and Inclosure Maps

Figure: 22-10-11 Drawing No: PC2340-APS-ON-ZZ-DR-Z-0458

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:60,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





Legend:
 Onshore Study Area
 Additional Onshore Study Areas

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

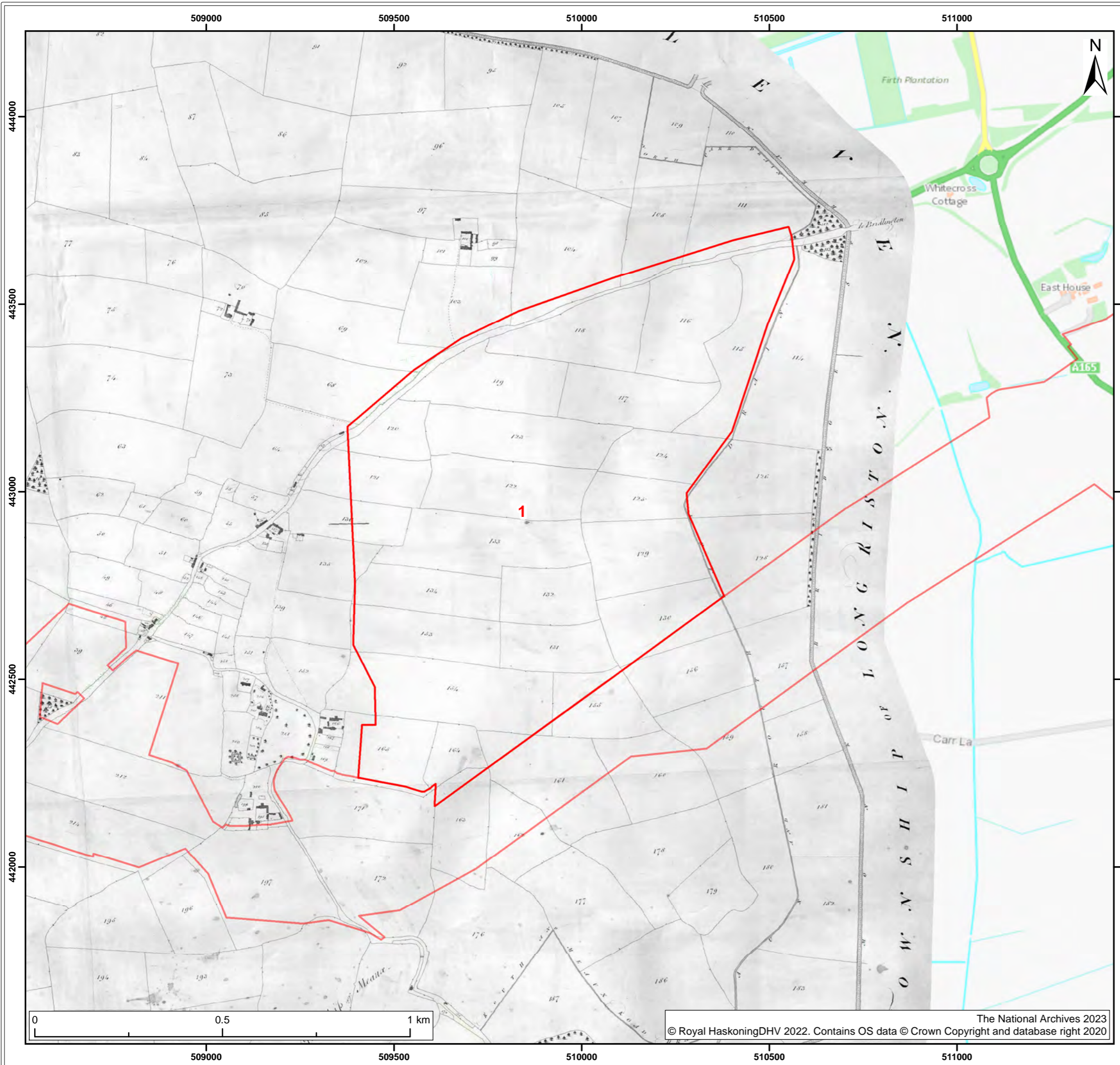
Title:
Molescroft Enclosure Map 1803

Figure: 22-10-12 Drawing No: PC2340-APS-ON-ZZ-DR-Z-0459

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms
 Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

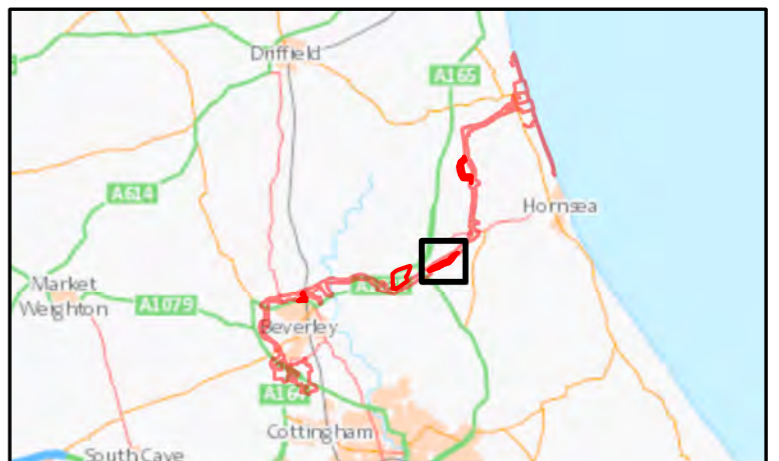
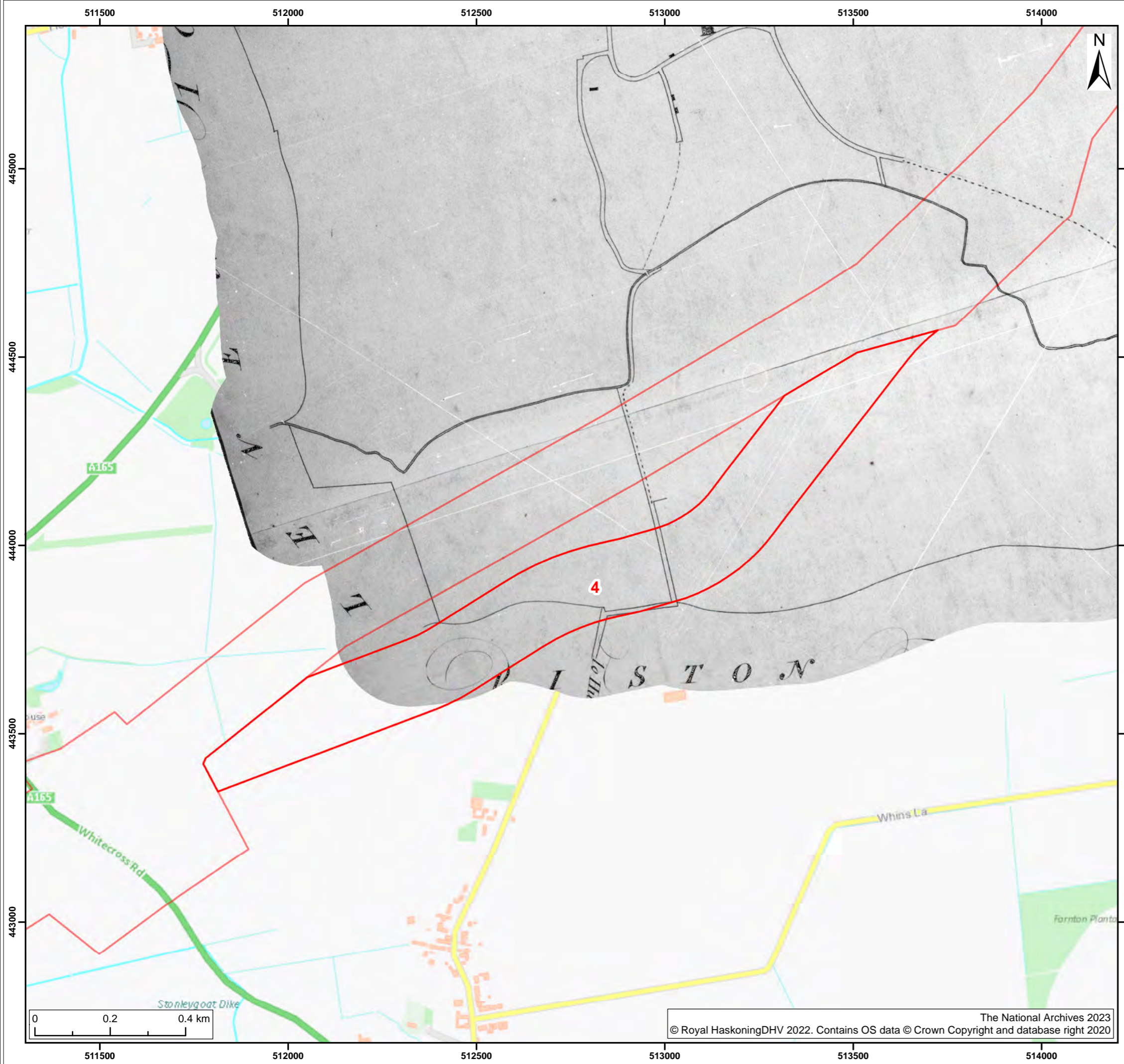
Title:
Routh Tithe Map 1845

Figure: 22-10-13 Drawing No: PC2340-APS-ON-ZZ-DR-Z-0460

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

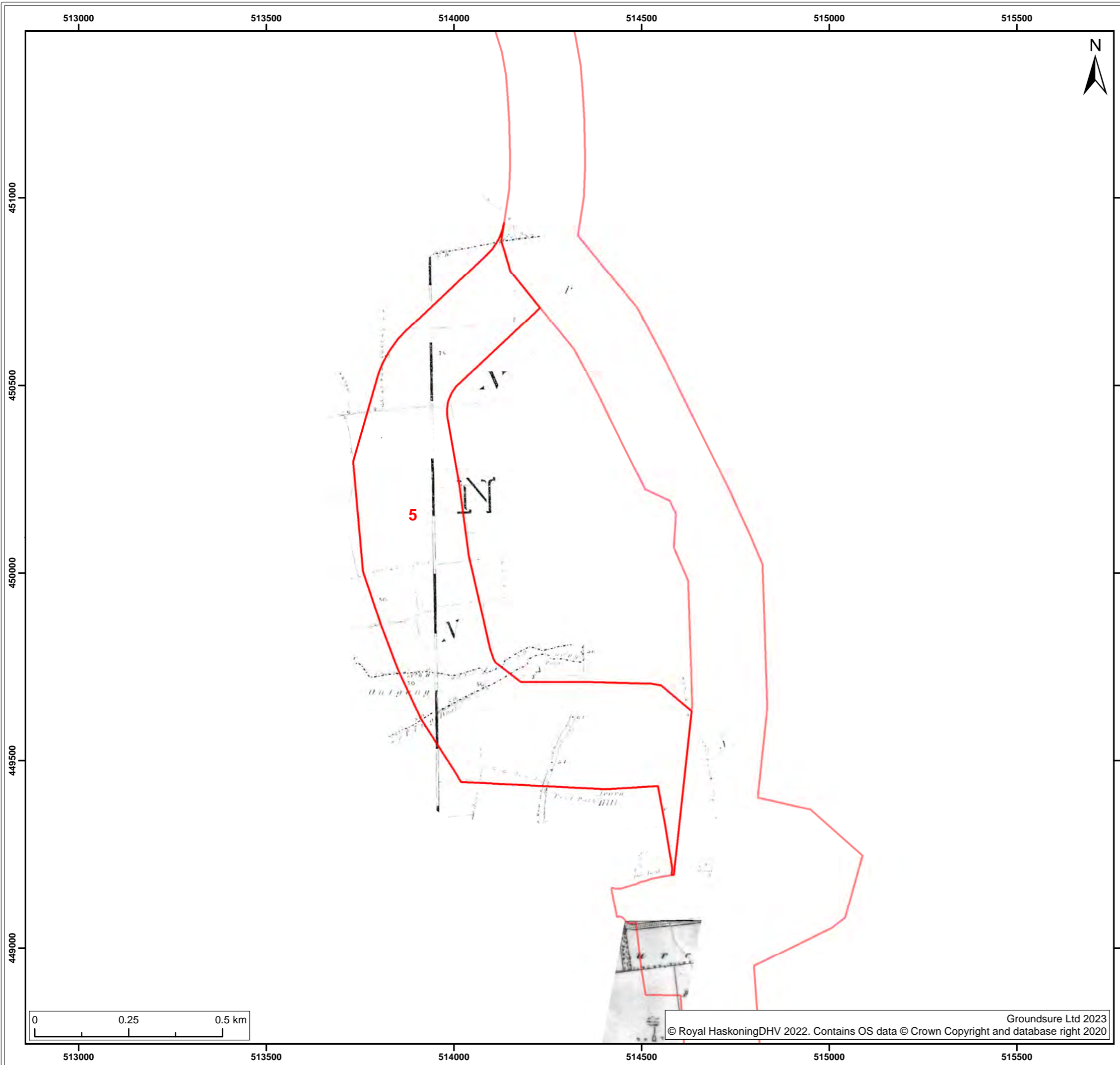
Title:
 Catwick Tithe Map 1844

Figure: 22-10-14 Drawing No: PC2340-APS-ON-ZZ-DR-Z-0436

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Area

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

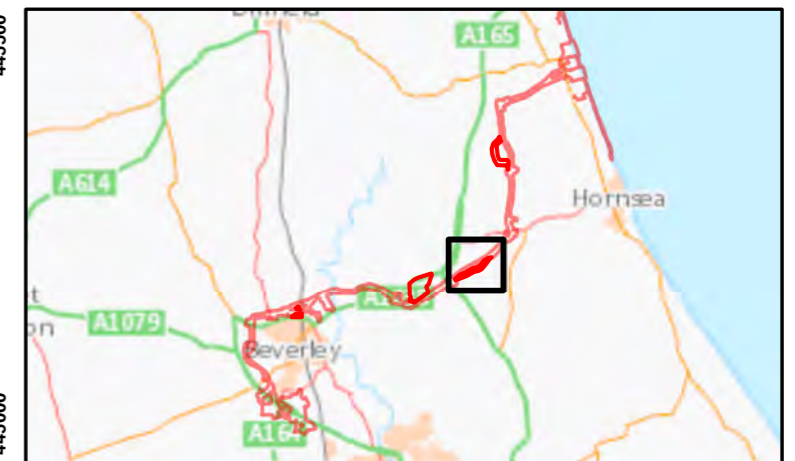
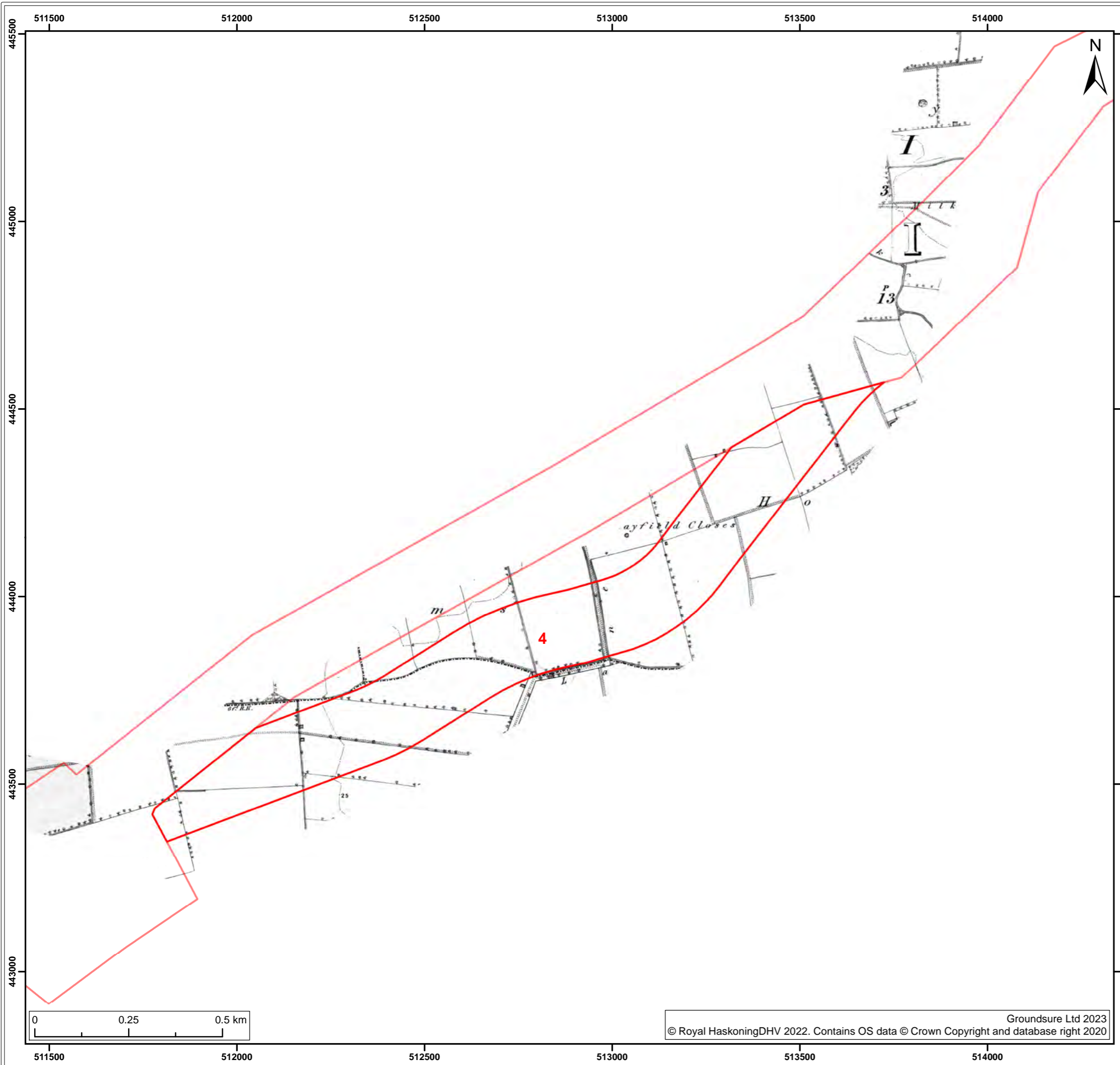
Title:
Ordnance Survey Mapping 1854 - 1855
Page 1 of 4

Figure: 22-10-15a Drawing No: PC2340-APS-ON-ZZ-DR-Z-0462

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Area

SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

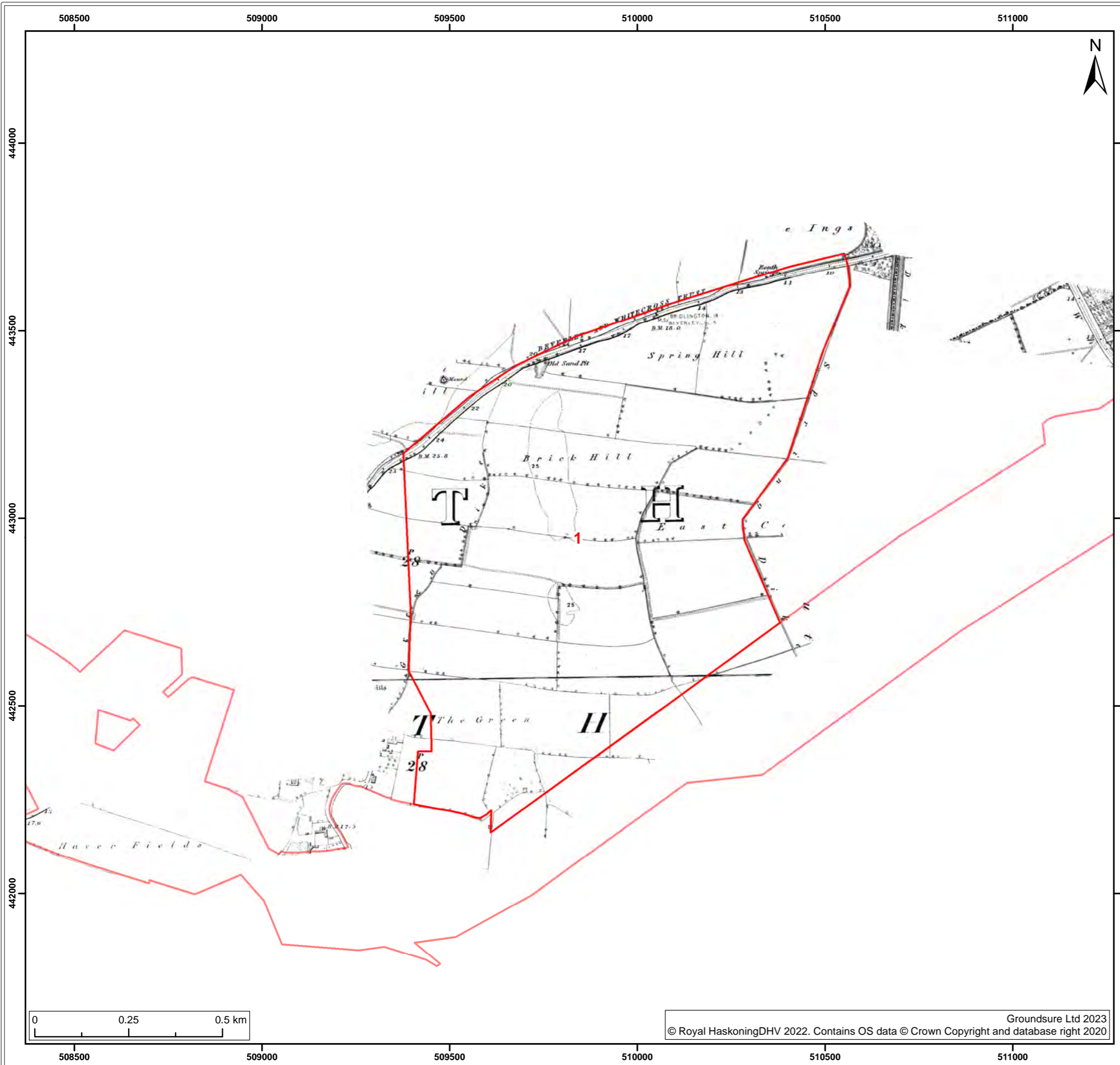
Title:
Ordnance Survey Mapping 1854 - 1855
Page 2 of 4

Figure: 22-10-15b Drawing No: PC2340-APS-ON-ZZ-DR-Z-0462

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Area

SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

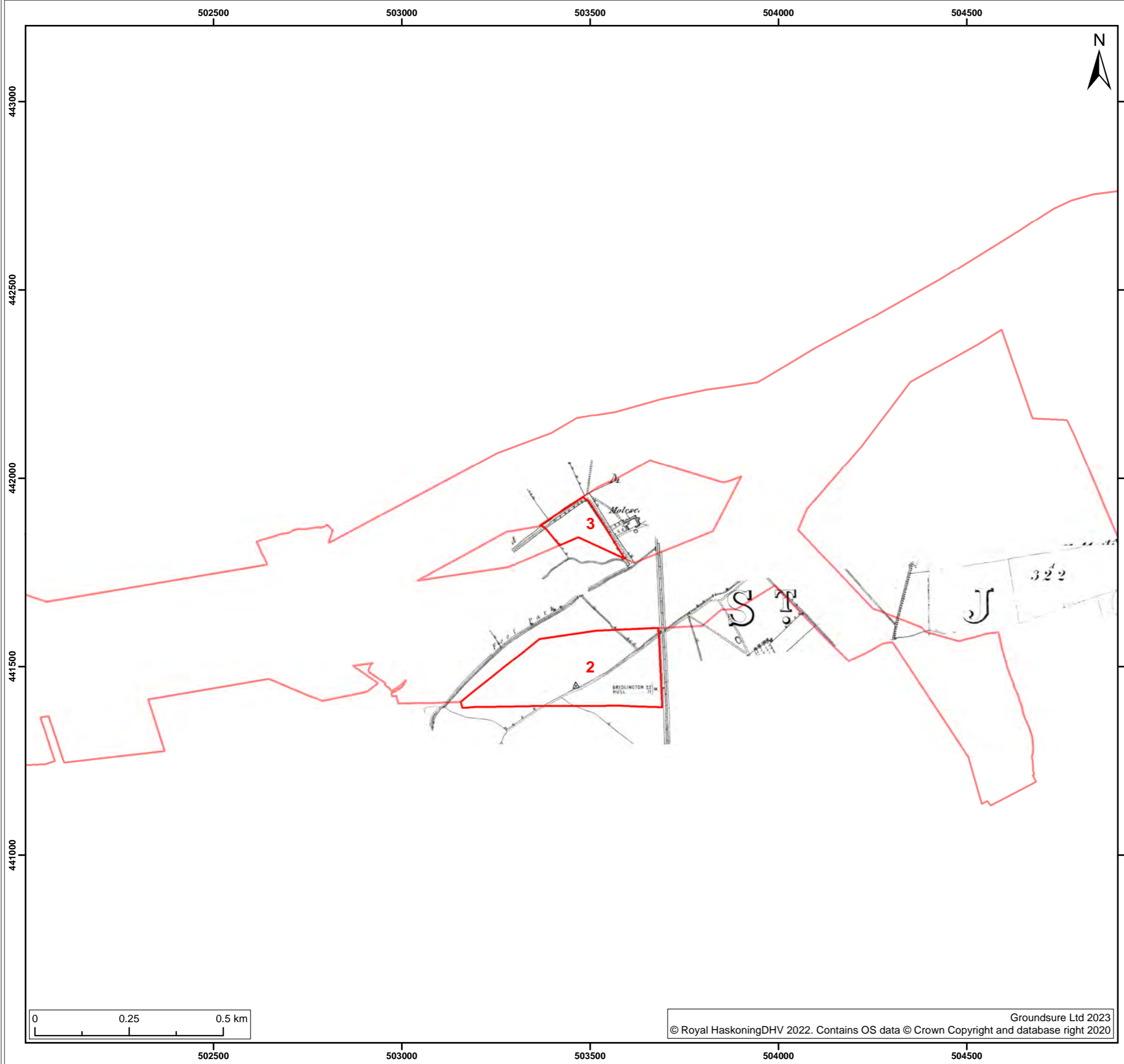
Title:
Ordnance Survey Mapping 1854 - 1855
Page 3 of 4

Figure: 22-10-15c Drawing No: PC2340-APS-ON-ZZ-DR-Z-0462

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

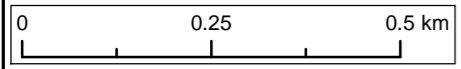
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

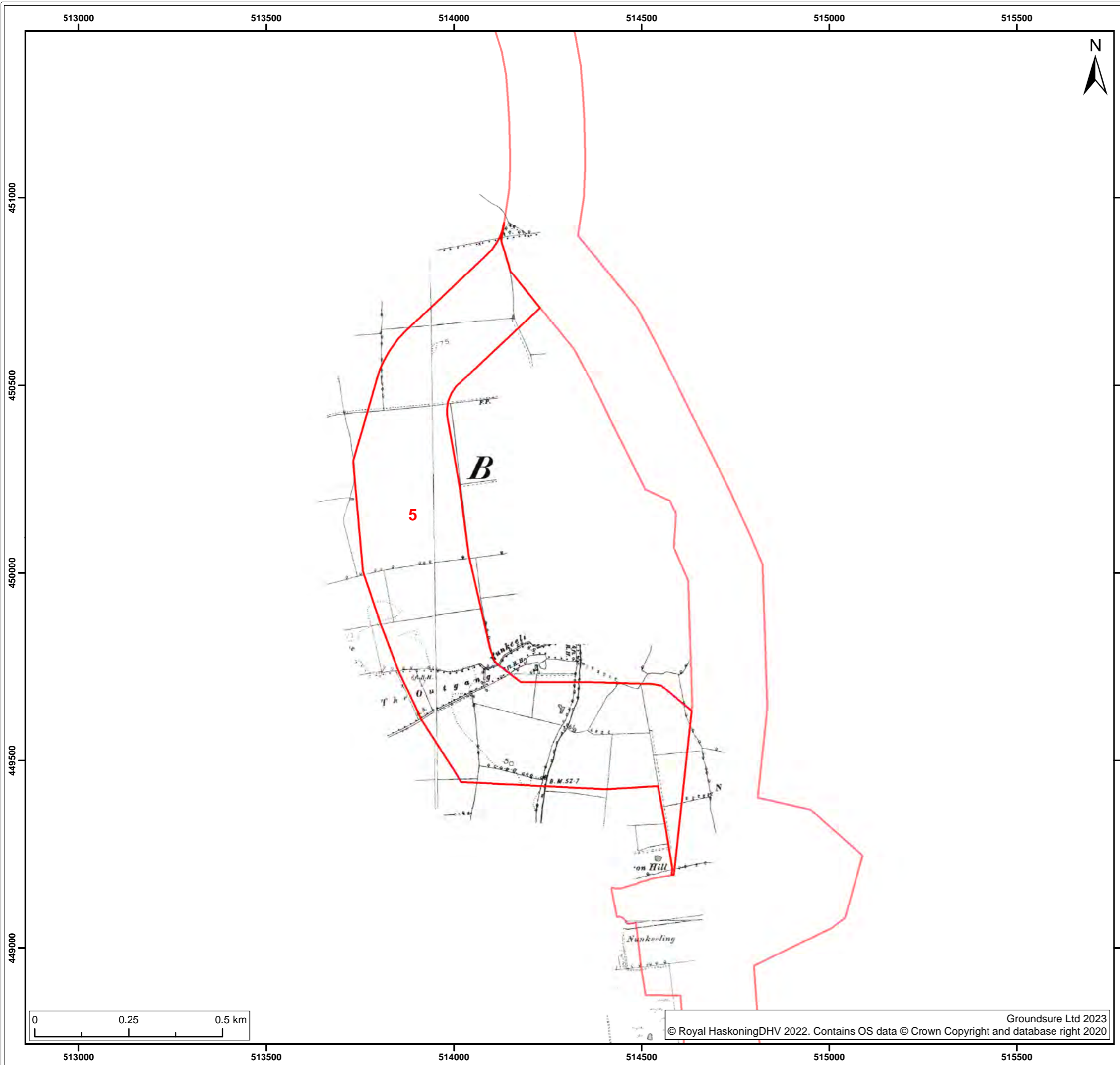
Title:
Ordnance Survey Mapping 1854 - 1855
Page 4 of 4

Figure: 22-10-15d Drawing No: PC2340-APS-ON-ZZ-DR-Z-0462

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

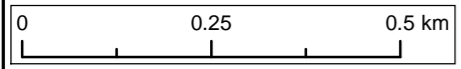
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

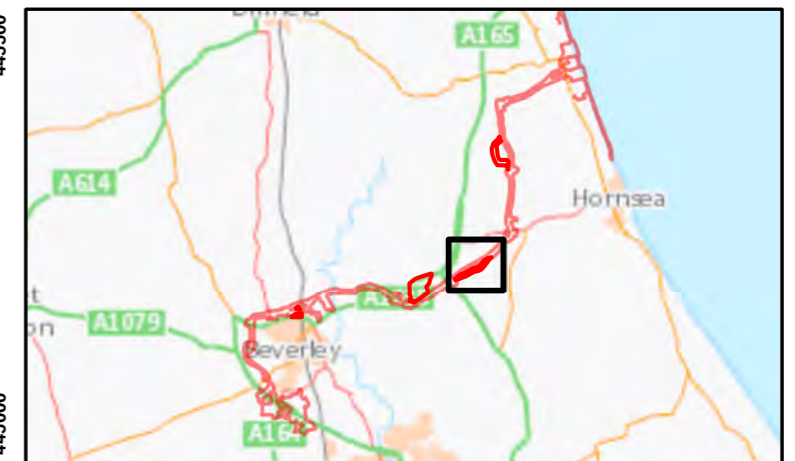
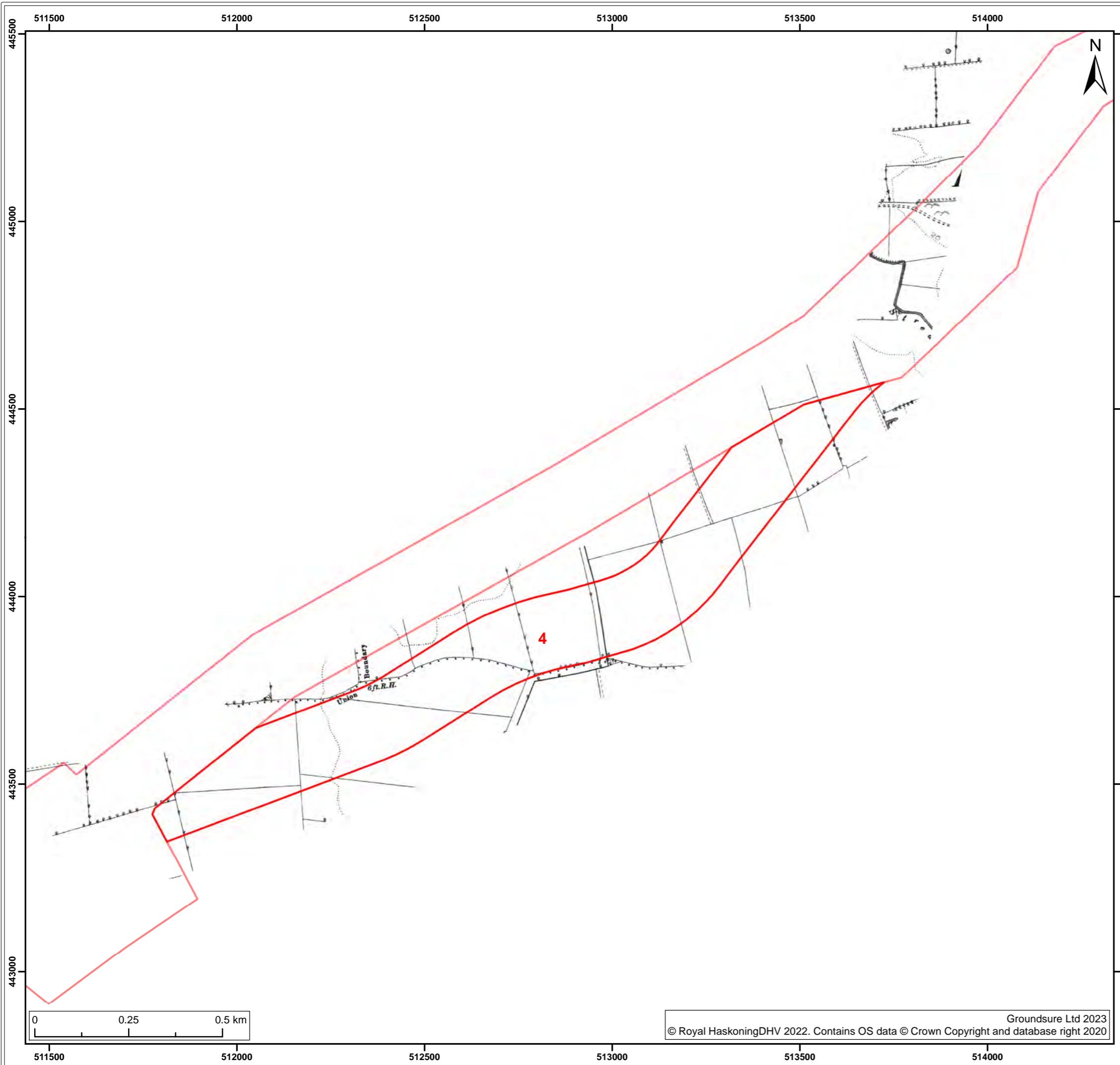
Title:
Ordnance Survey Mapping 1892 - 1895
Page 1 of 4

Figure: 22-10-16a Drawing No: PC2340-APS-ON-ZZ-DR-Z-0463

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

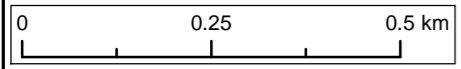
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

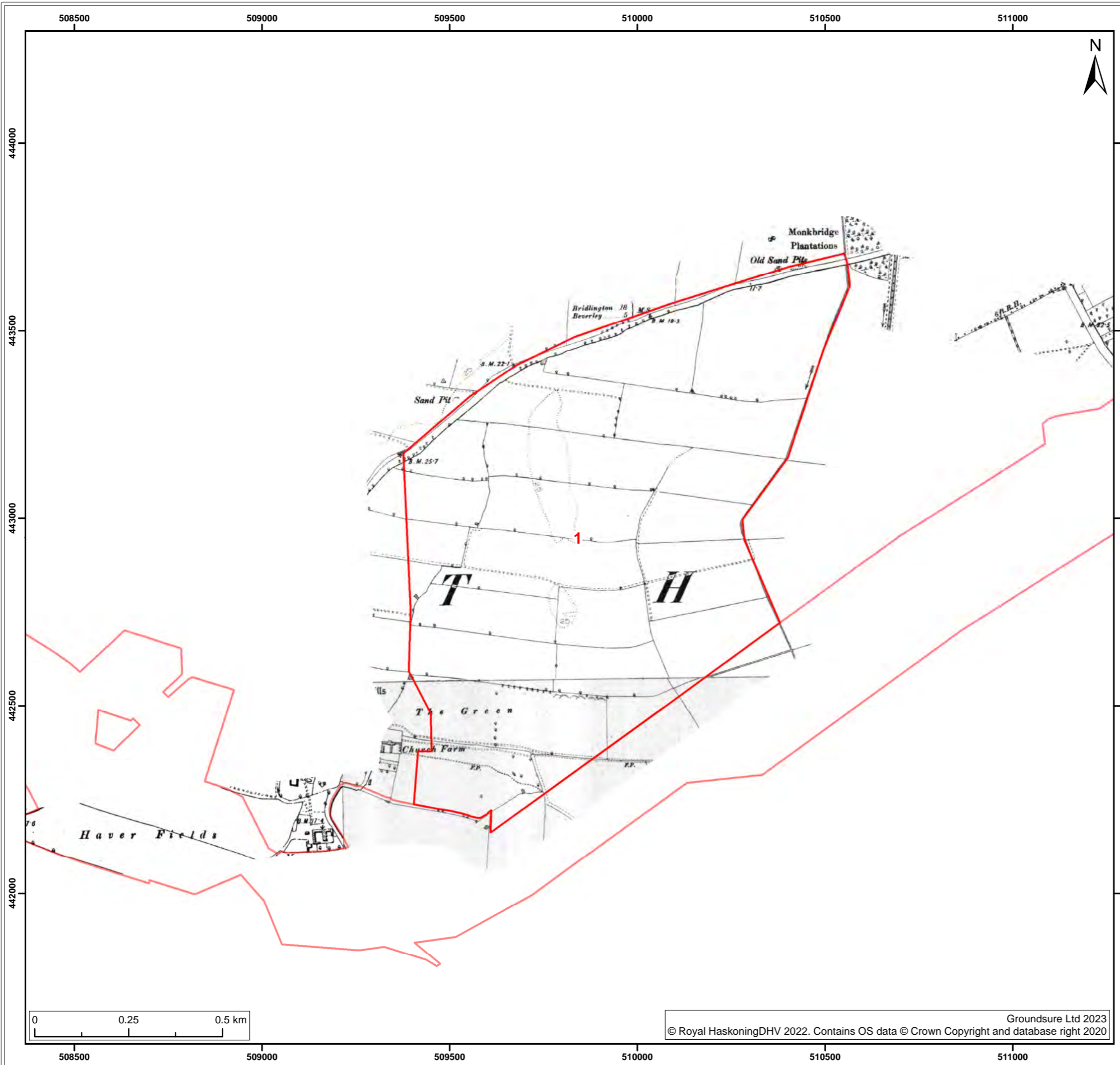
Title:
Ordnance Survey Mapping 1892 - 1895
Page 2 of 4

Figure: 22-10-16b Drawing No: PC2340-APS-ON-ZZ-DR-Z-0463

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

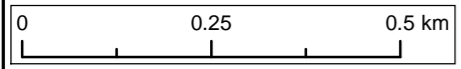
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

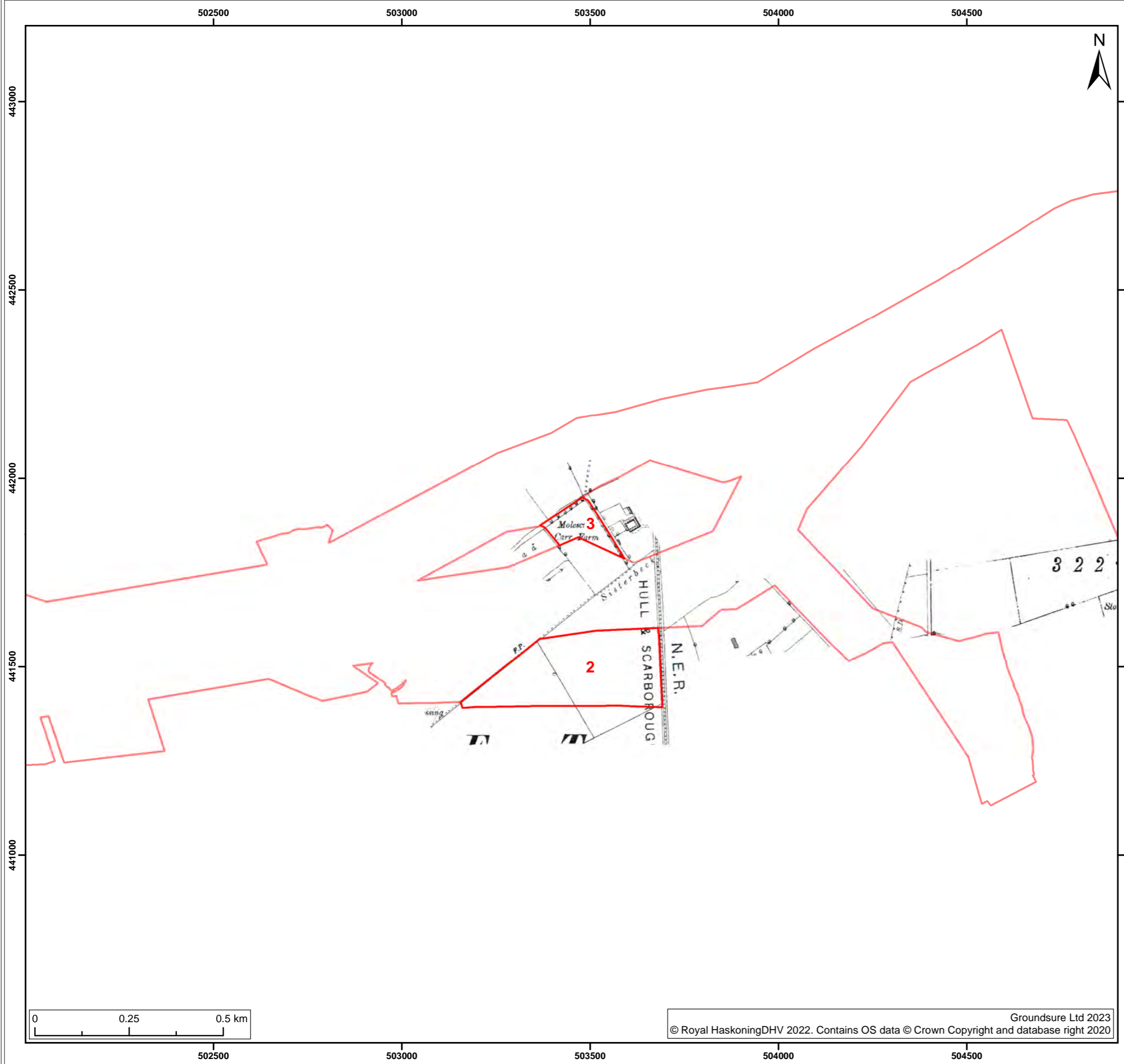
Title:
Ordnance Survey Mapping 1892 - 1895
Page 3 of 4

Figure: 22-10-16c Drawing No: PC2340-APS-ON-ZZ-DR-Z-0463

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

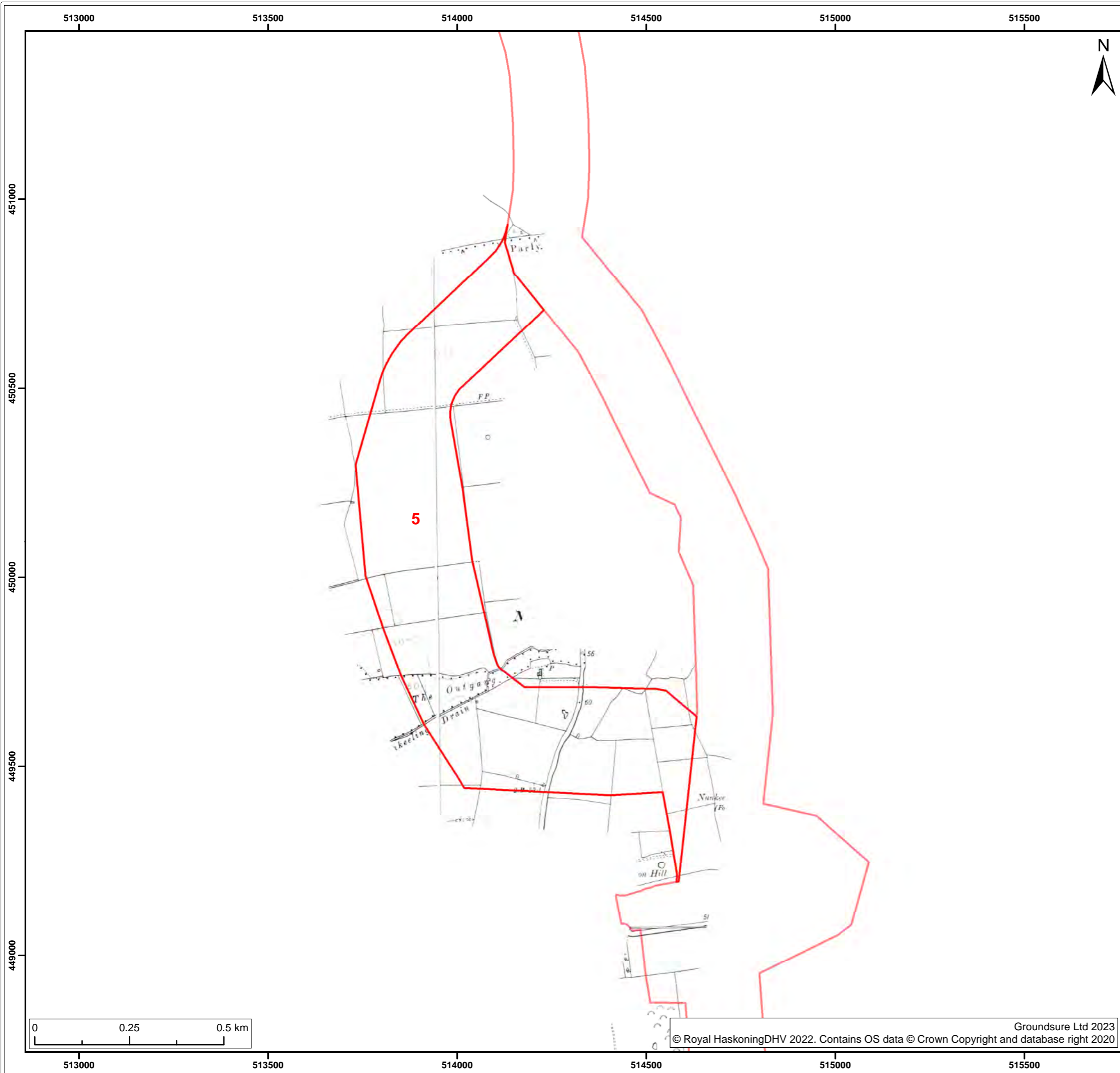
Title:
 Ordnance Survey Mapping 1892 - 1895
 Page 4 of 4

Figure: 22-10-16d Drawing No: PC2340-APS-ON-ZZ-DR-Z-0463

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

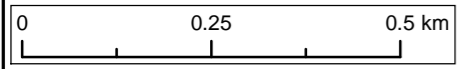
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

Title:
Ordnance Survey Mapping 1908 - 1911
Page 1 of 4

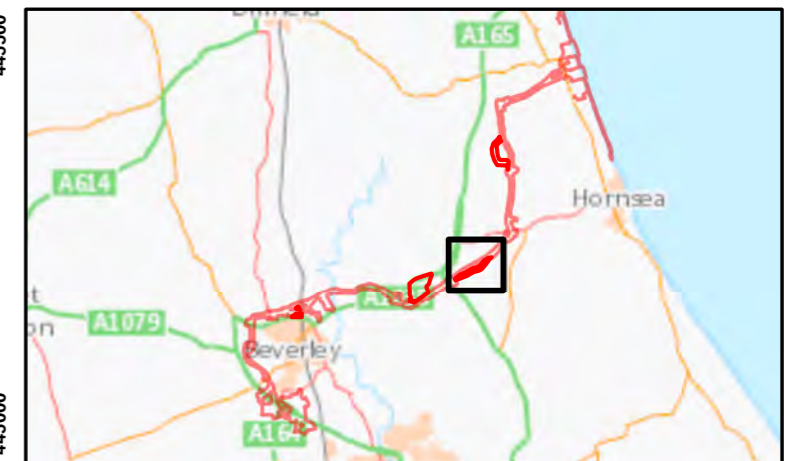
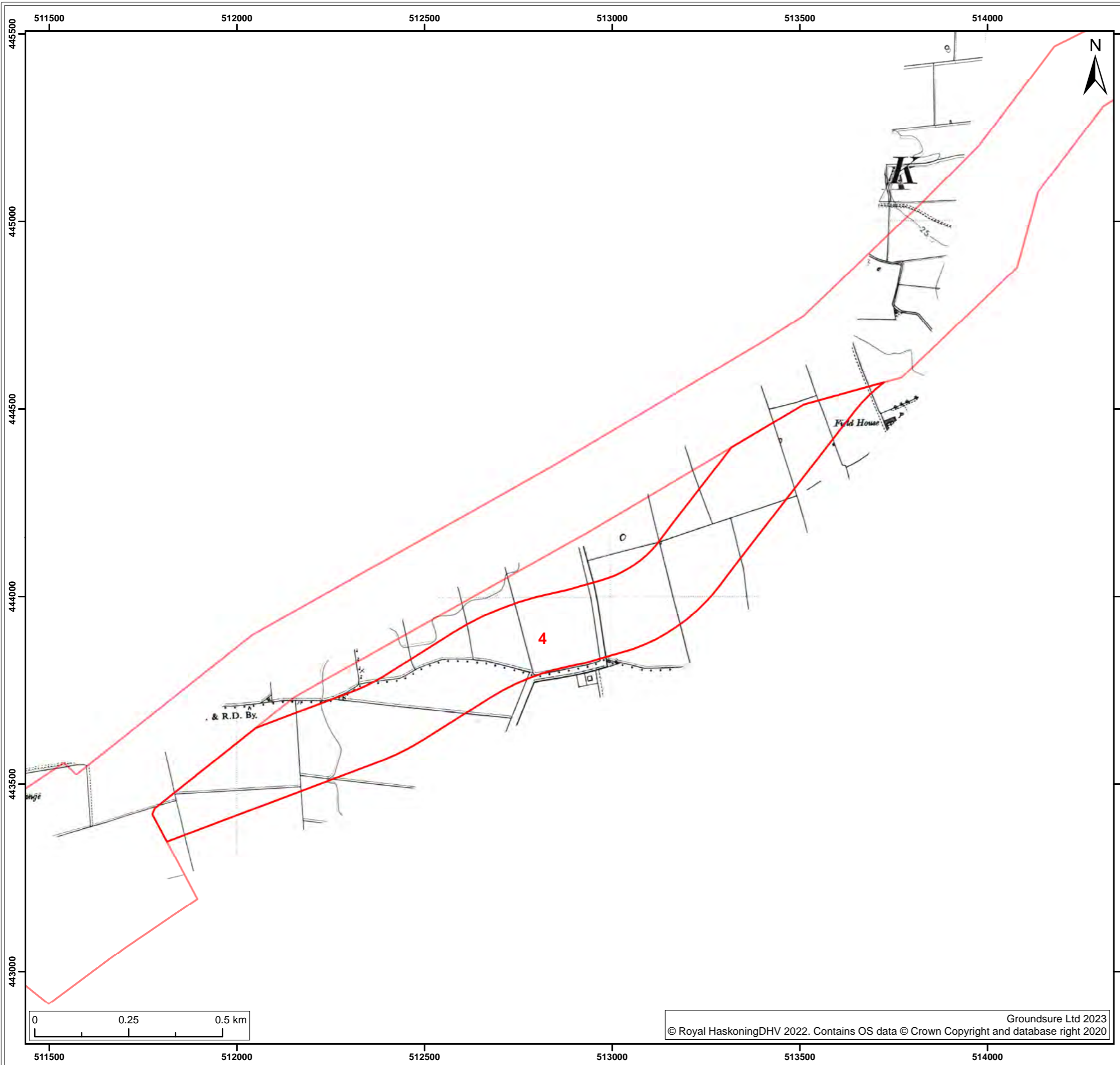
Figure: 22-10-17a Drawing No: PC2340-APS-ON-ZZ-DR-Z-0464

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---



Groundsure Ltd 2023
© Royal HaskoningDHV 2022. Contains OS data © Crown Copyright and database right 2020



Legend:

- Onshore Study Area
- Additional Onshore Study Areas

SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

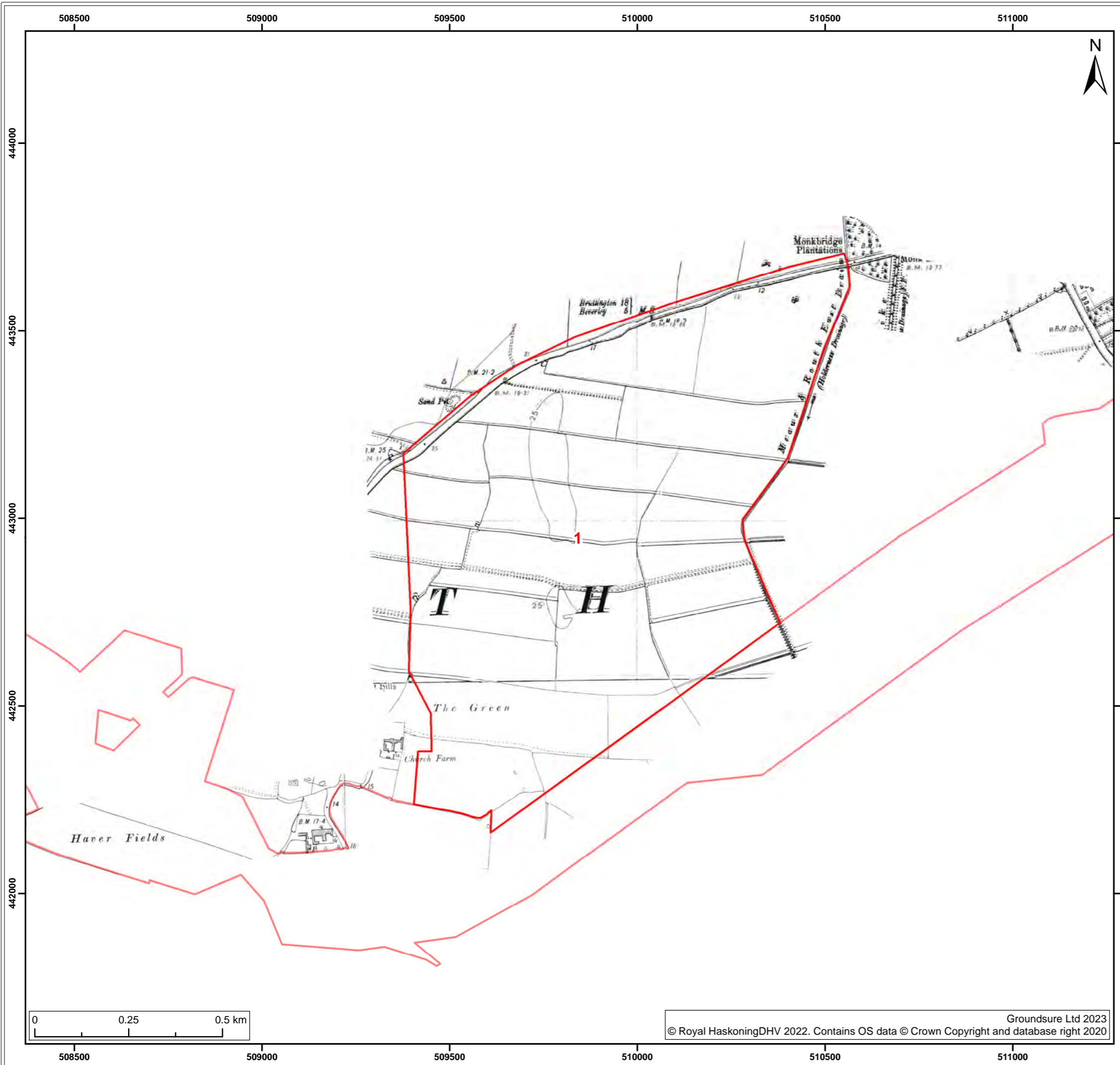
Title:
Ordnance Survey Mapping 1908 - 1911
Page 2 of 4

Figure: 22-10-17b Drawing No: PC2340-APS-ON-ZZ-DR-Z-0464

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

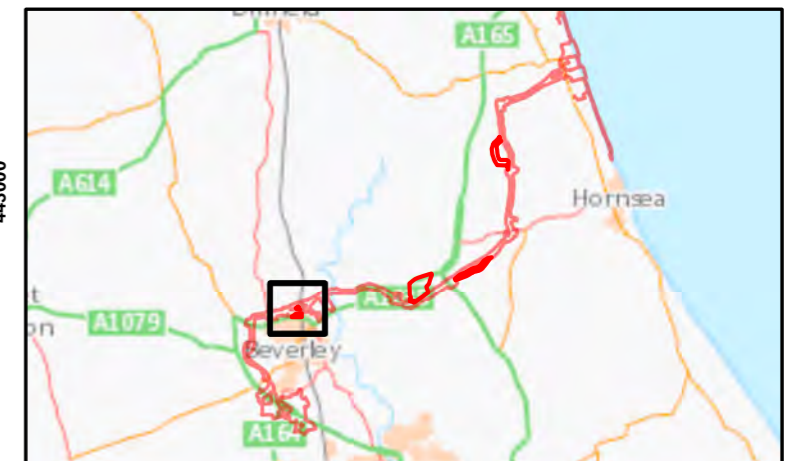
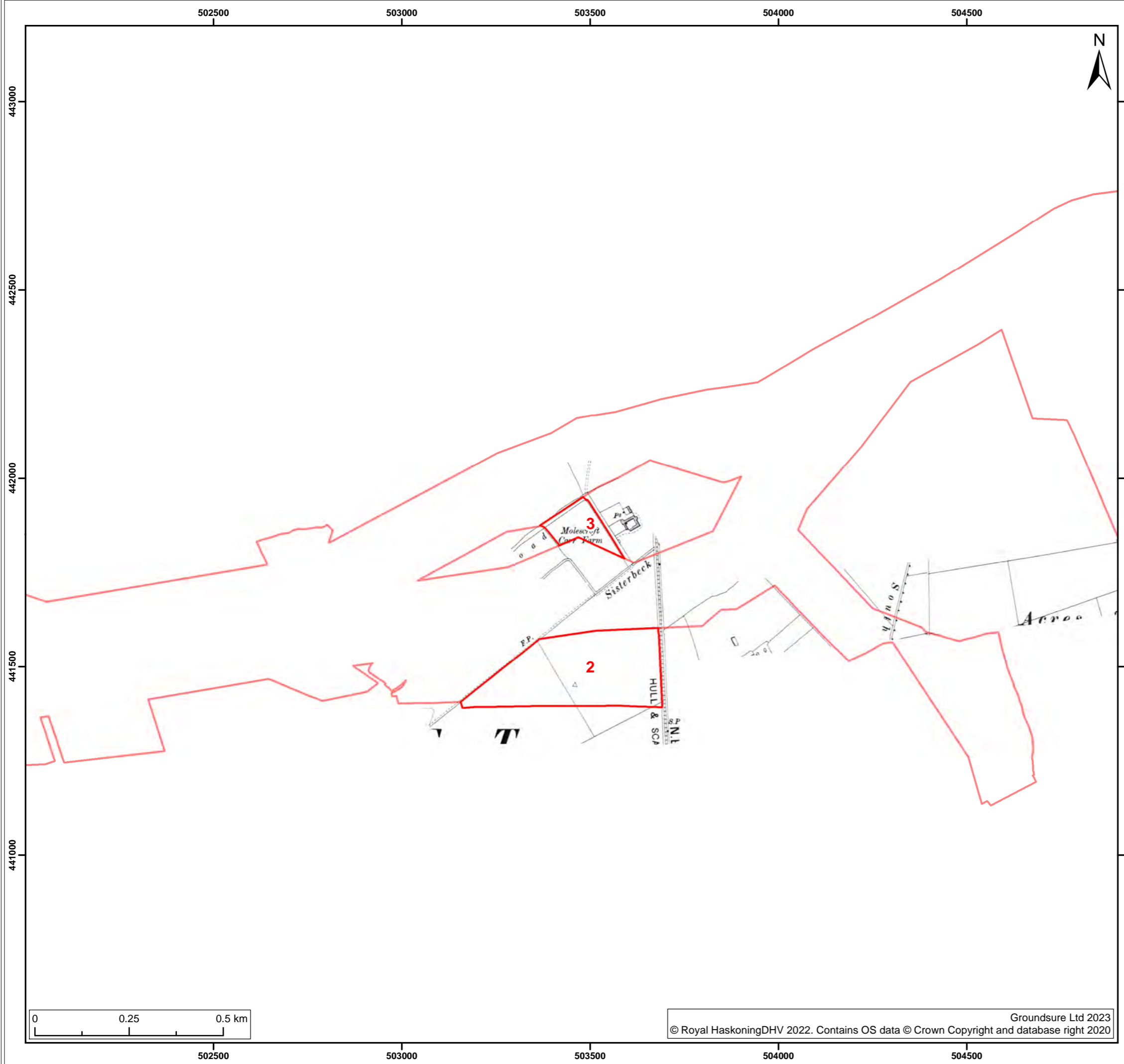
Title:
 Ordnance Survey Mapping 1908 - 1911
 Page 3 of 4

Figure: 22-10-17c Drawing No: PC2340-APS-ON-ZZ-DR-Z-0464

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

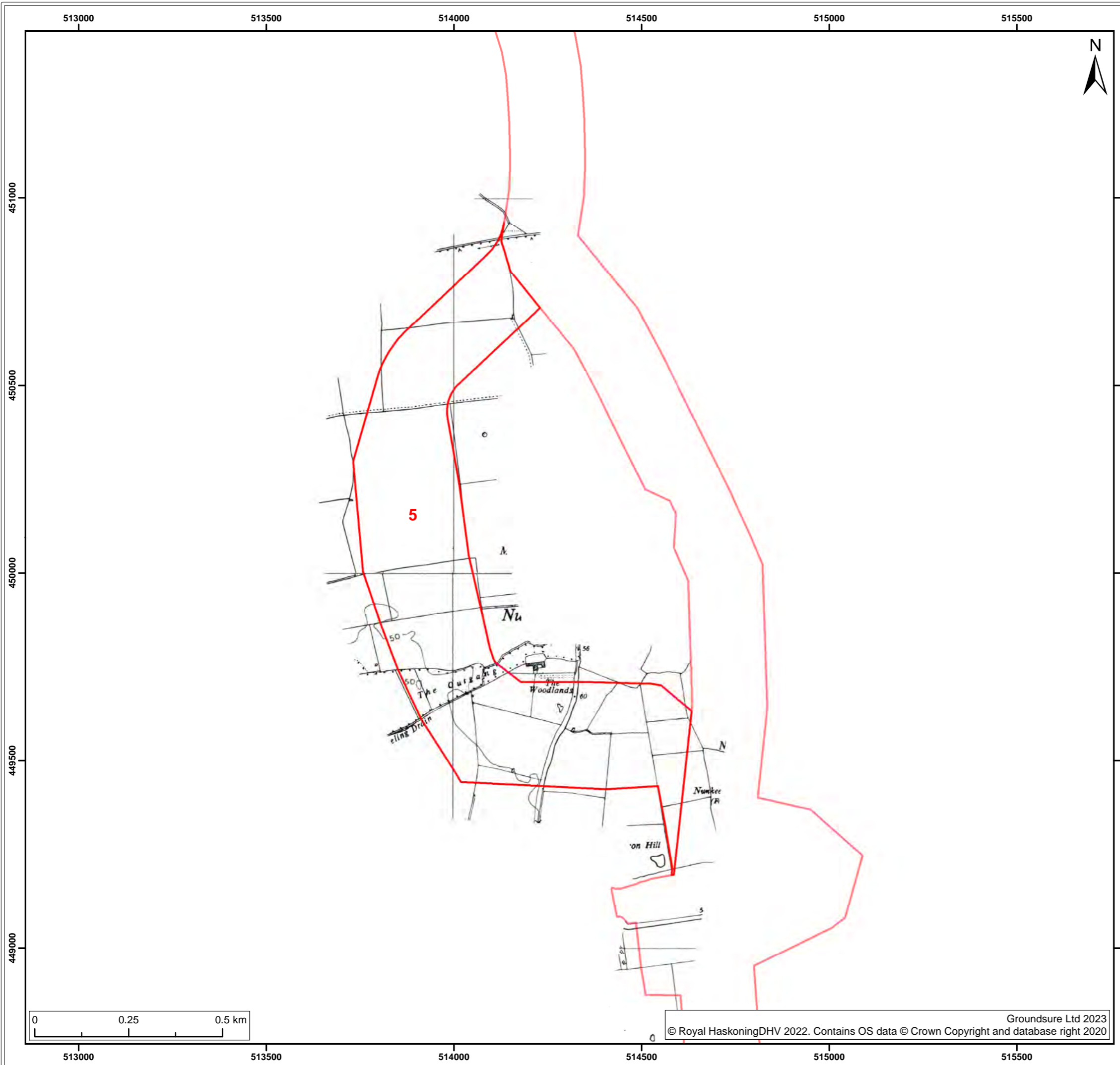
Title:
 Ordnance Survey Mapping 1908 - 1911
 Page 4 of 4

Figure: 22-10-17d Drawing No: PC2340-APS-ON-ZZ-DR-Z-0464

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

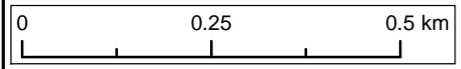
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

Title:
Ordnance Survey Mapping 1951 - 1956
Page 1 of 4

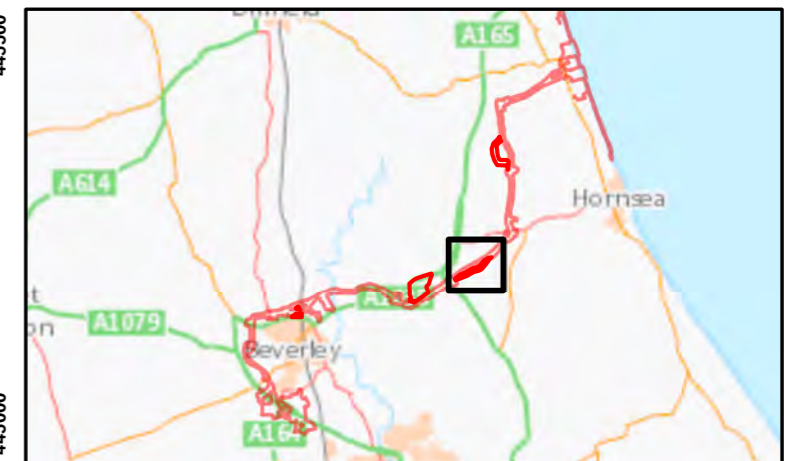
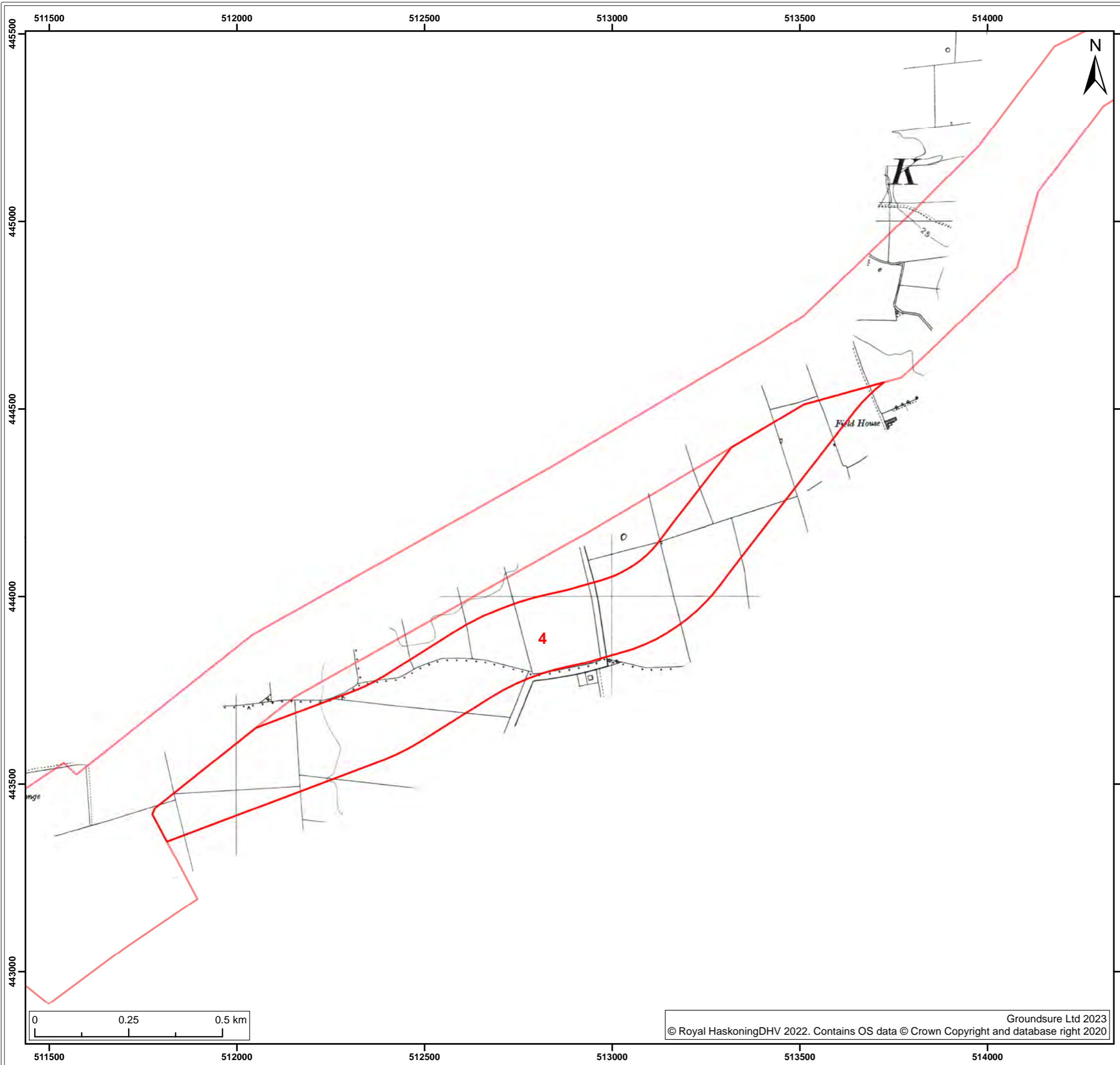
Figure: 22-10-18a Drawing No: PC2340-APS-ON-ZZ-DR-Z-0465

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology



Groundsure Ltd 2023
© Royal HaskoningDHV 2022. Contains OS data © Crown Copyright and database right 2020



Legend:

- Onshore Study Area
- Additional Onshore Study Areas

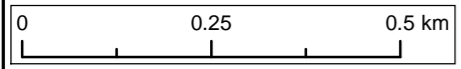
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

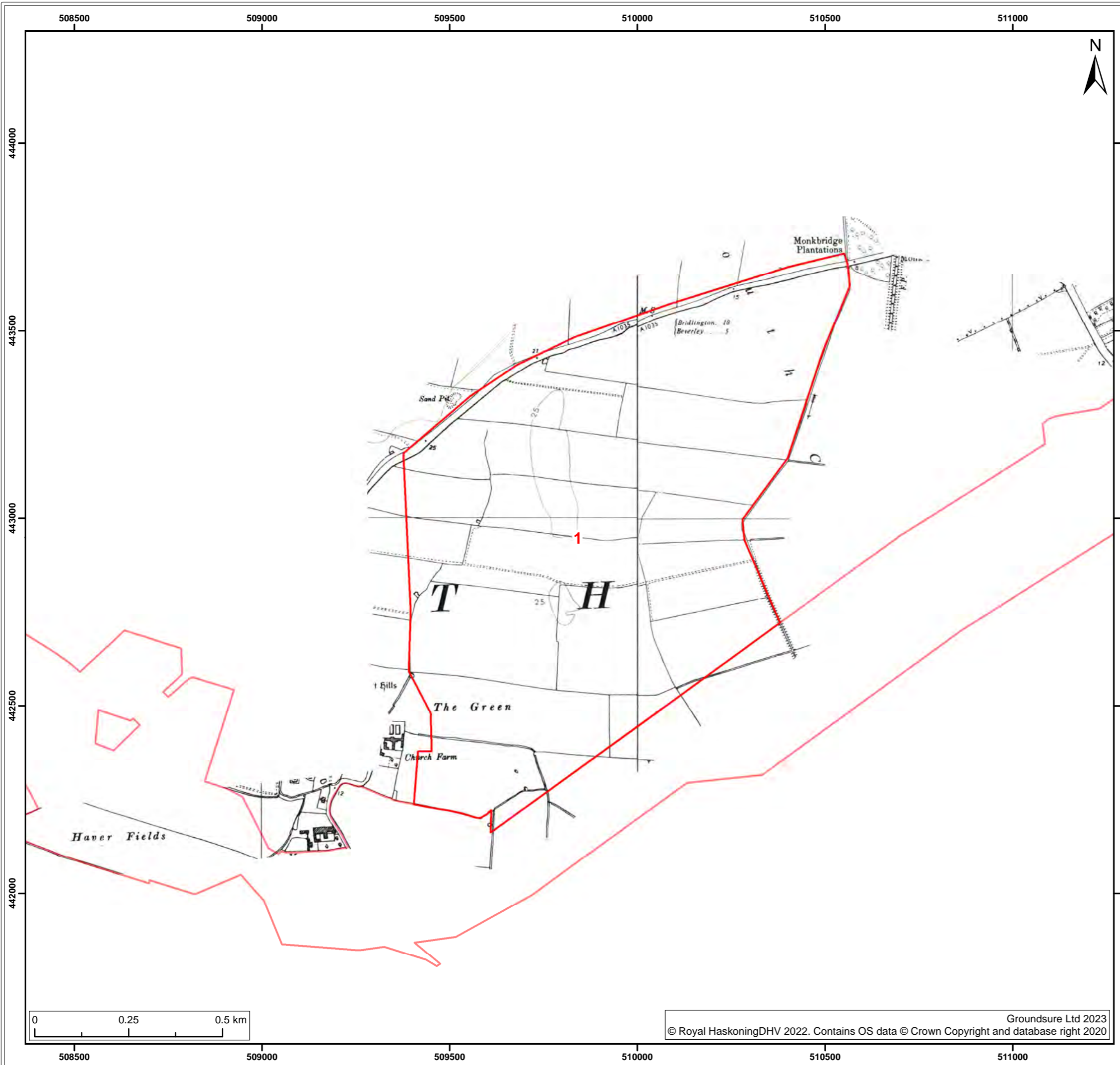
Title:
Ordnance Survey Mapping 1951 - 1956
Page 2 of 4

Figure: 22-10-18b Drawing No: PC2340-APS-ON-ZZ-DR-Z-0465

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

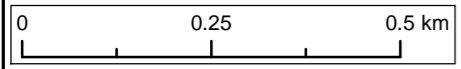
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

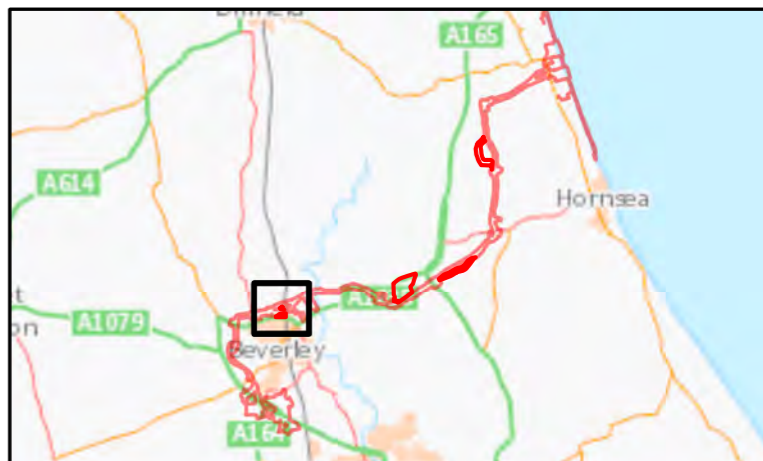
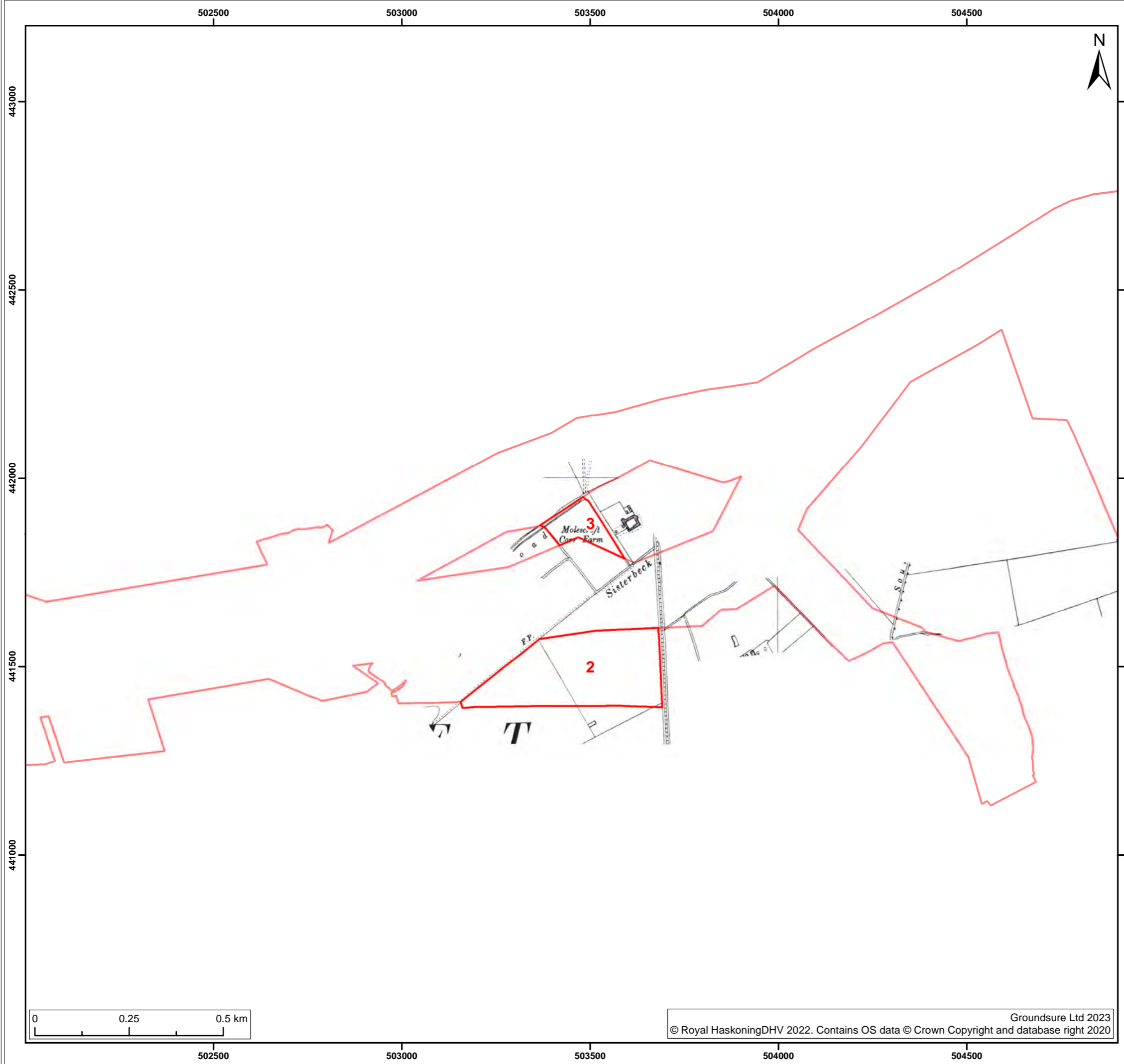
Title:
Ordnance Survey Mapping 1951 - 1956
Page 3 of 4

Figure: 22-10-18c Drawing No: PC2340-APS-ON-ZZ-DR-Z-0465

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

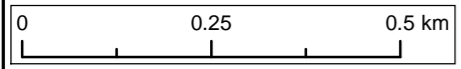
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

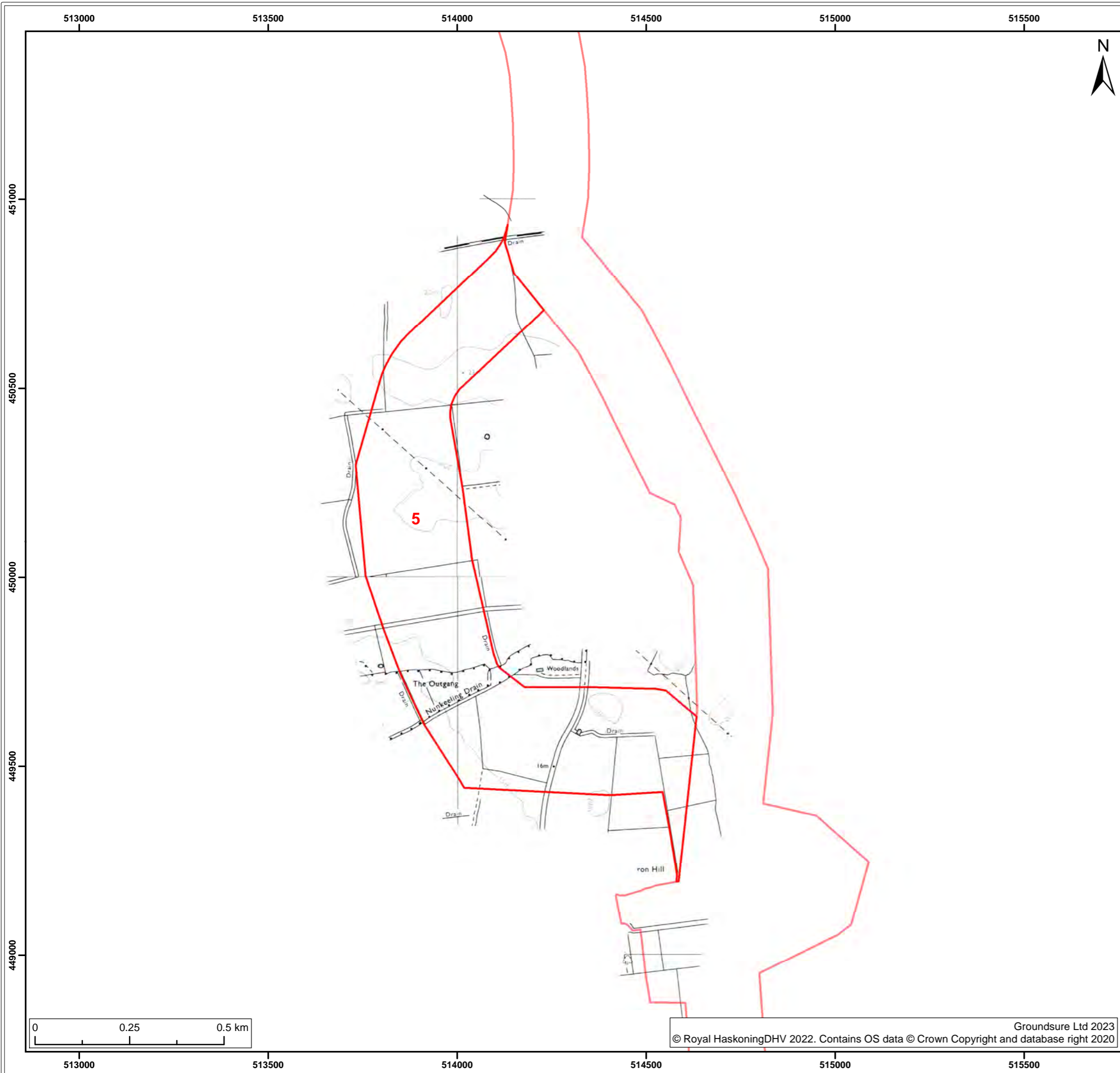
Title:
 Ordnance Survey Mapping 1951 - 1956
 Page 4 of 4

Figure: 22-10-18d Drawing No: PC2340-APS-ON-ZZ-DR-Z-0465

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

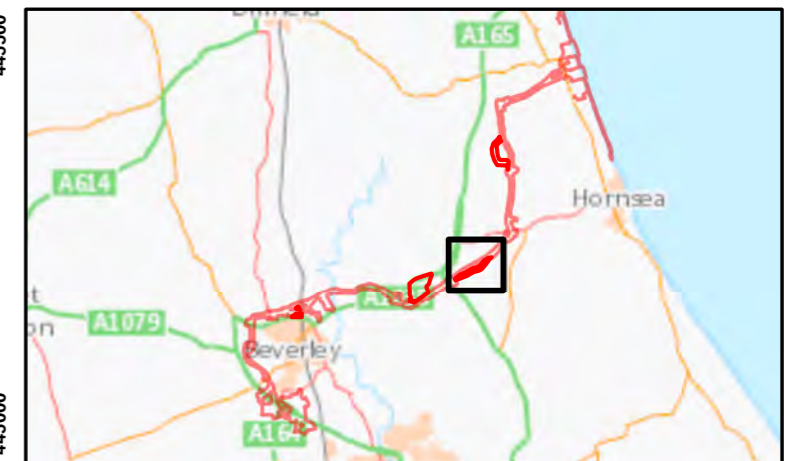
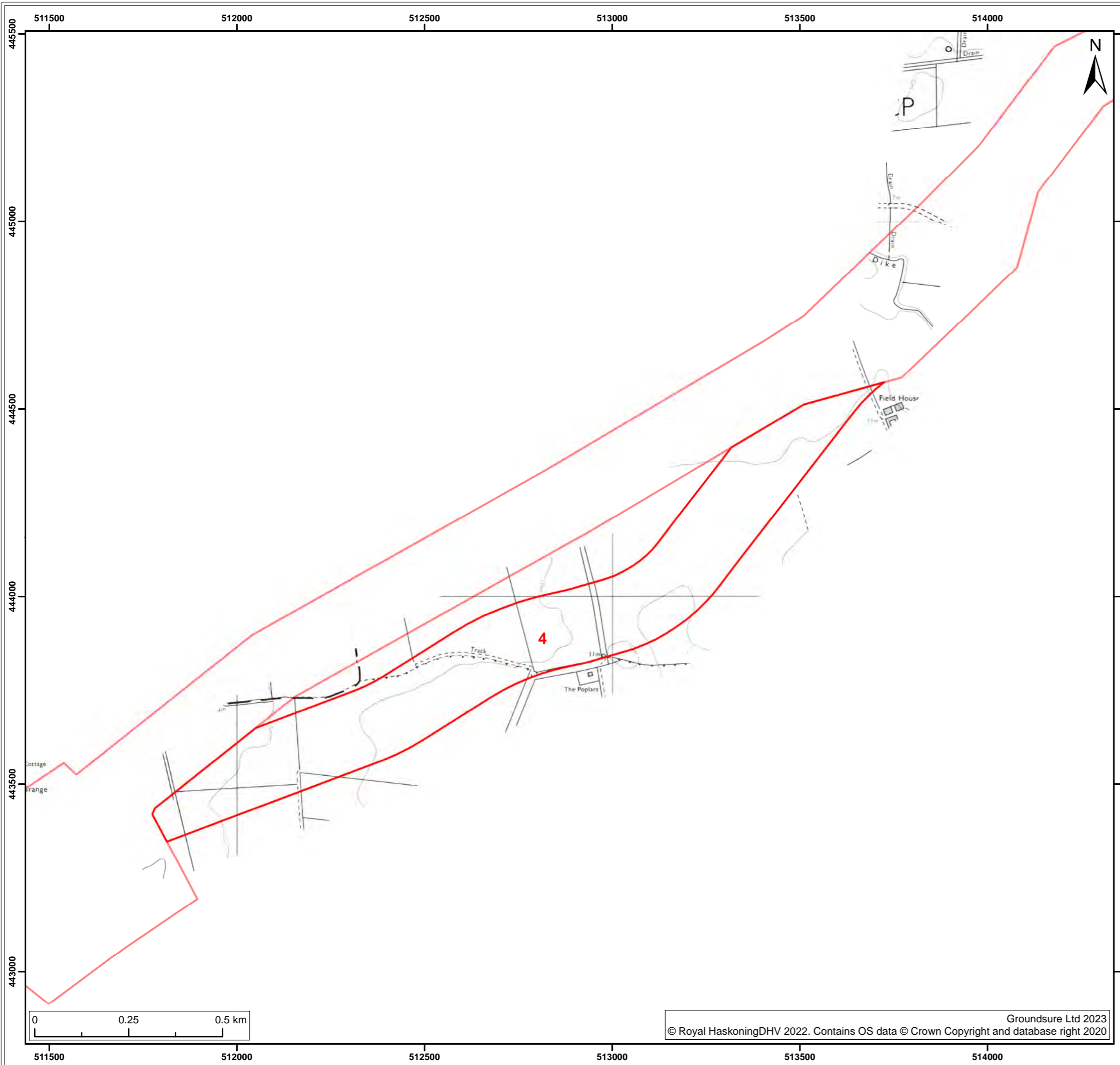
Title:
 Ordnance Survey Mapping 1973 - 1982
 Page 1 of 4

Figure: 22-10-19a Drawing No: PC2340-APS-ON-ZZ-DR-Z-0466

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

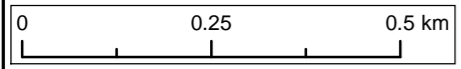
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

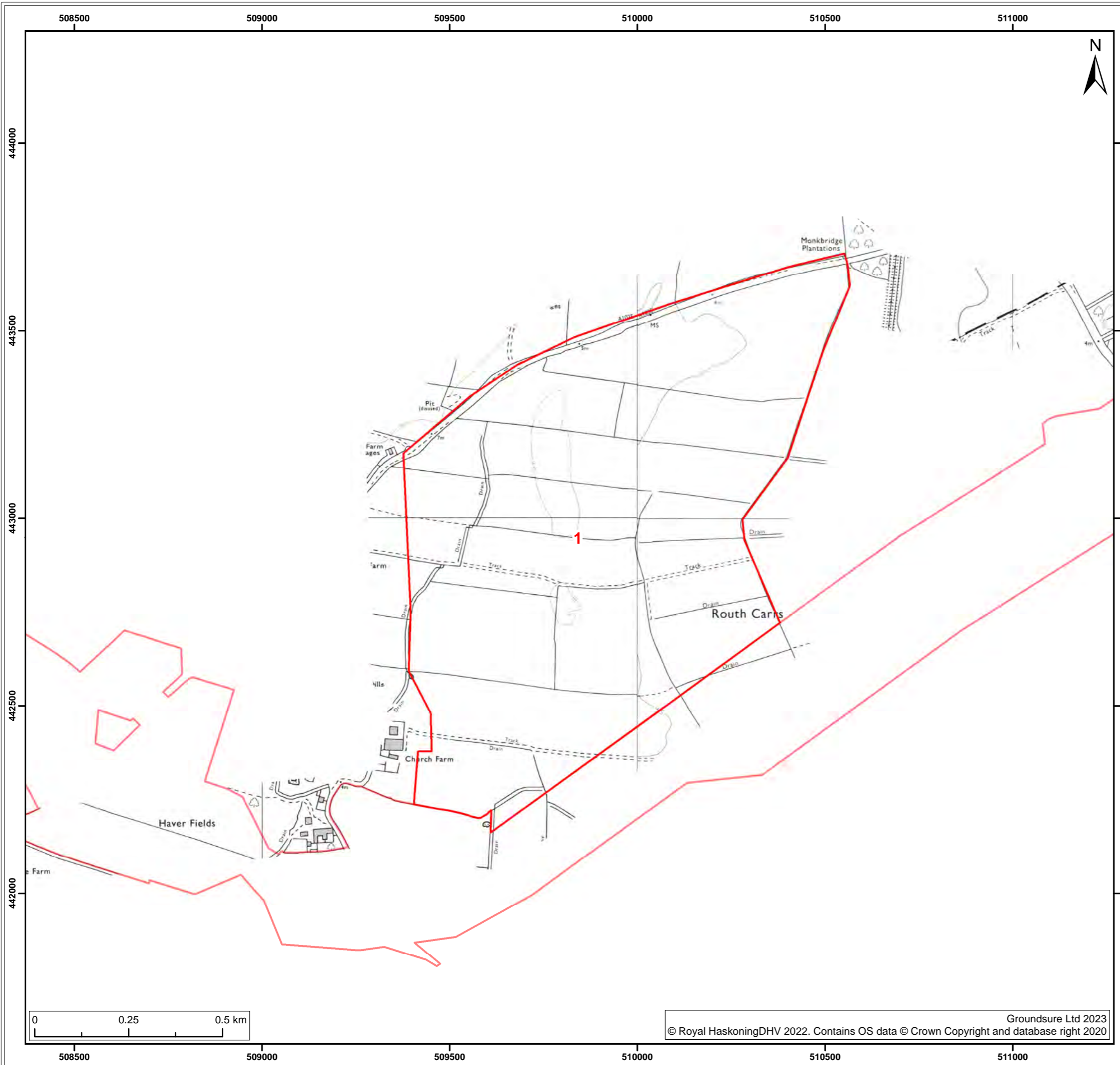
Title:
Ordnance Survey Mapping 1973 - 1982
Page 2 of 4

Figure: 22-10-19b Drawing No: PC2340-APS-ON-ZZ-DR-Z-0466

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





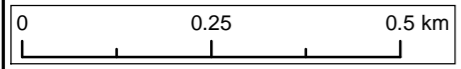
Legend:

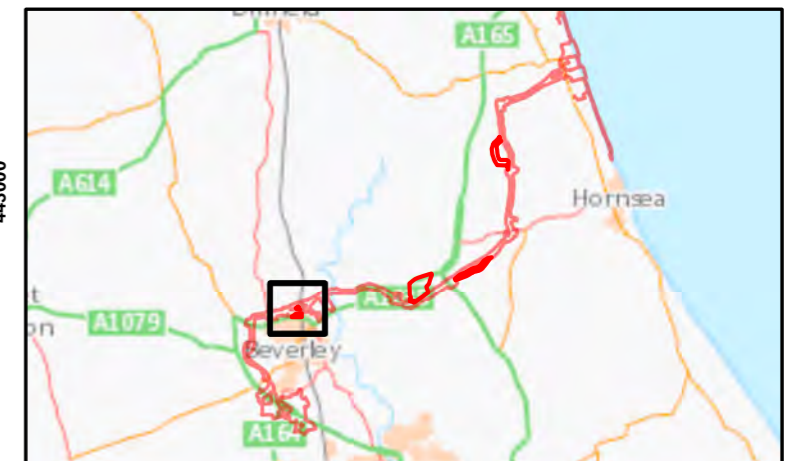
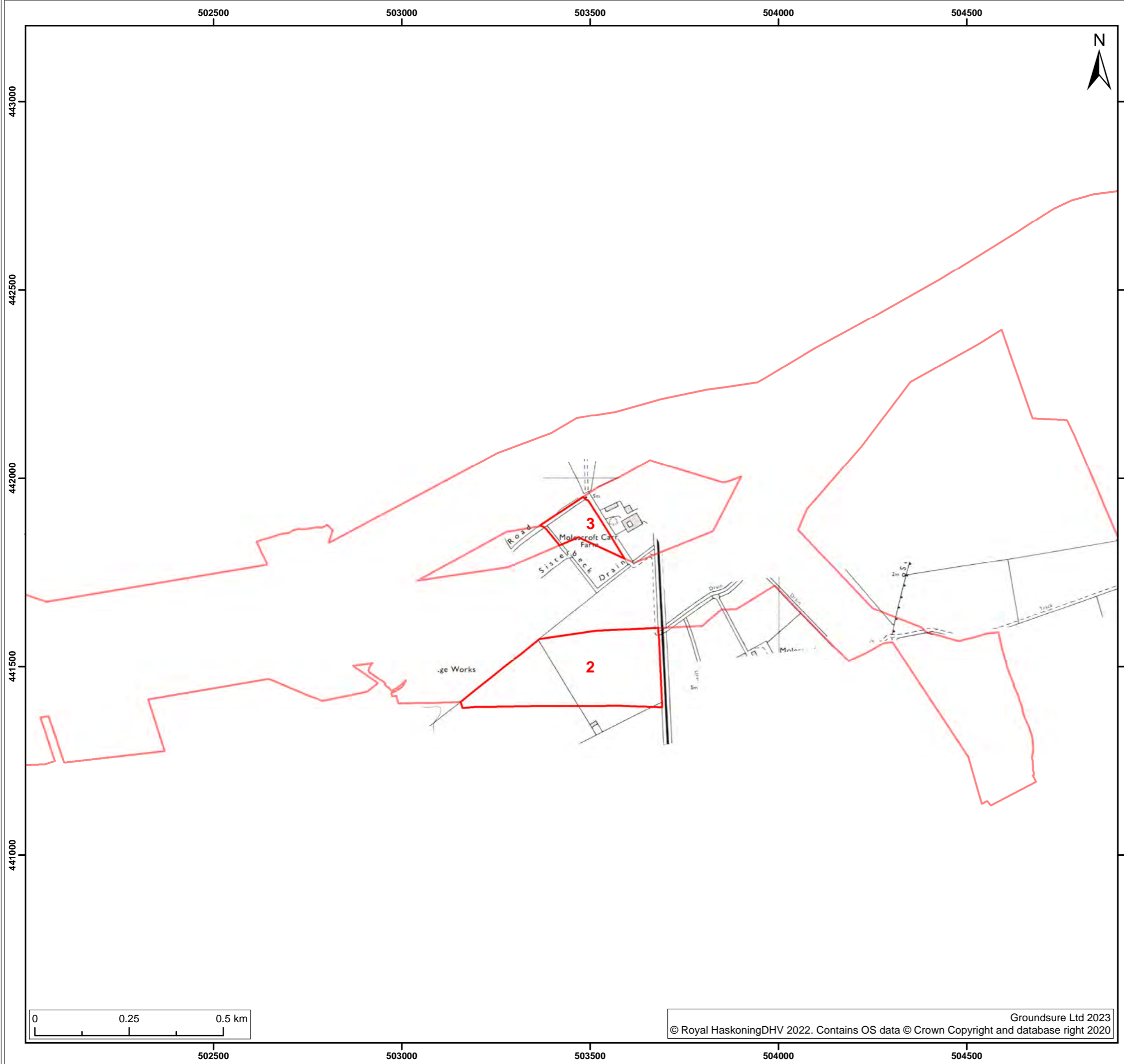
- Onshore Study Area
- Additional Onshore Study Areas

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

Title:
Ordnance Survey Mapping 1973 - 1982
Page 3 of 4

Figure: 22-10-19c	Drawing No: PC2340-APS-ON-ZZ-DR-Z-0466	
Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology	





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

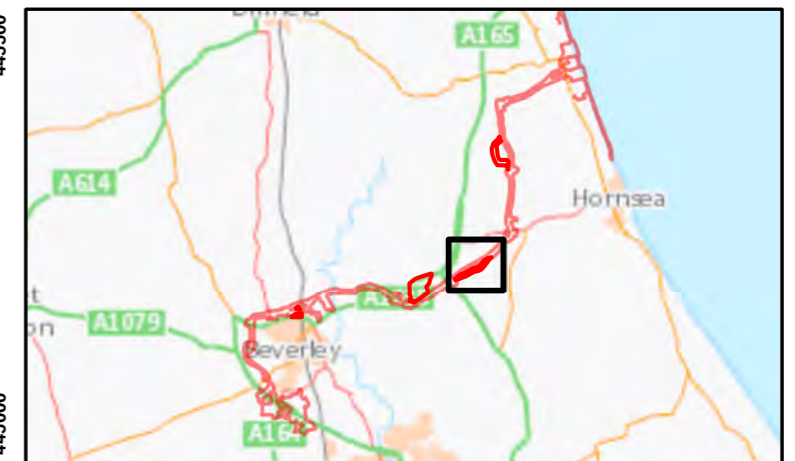
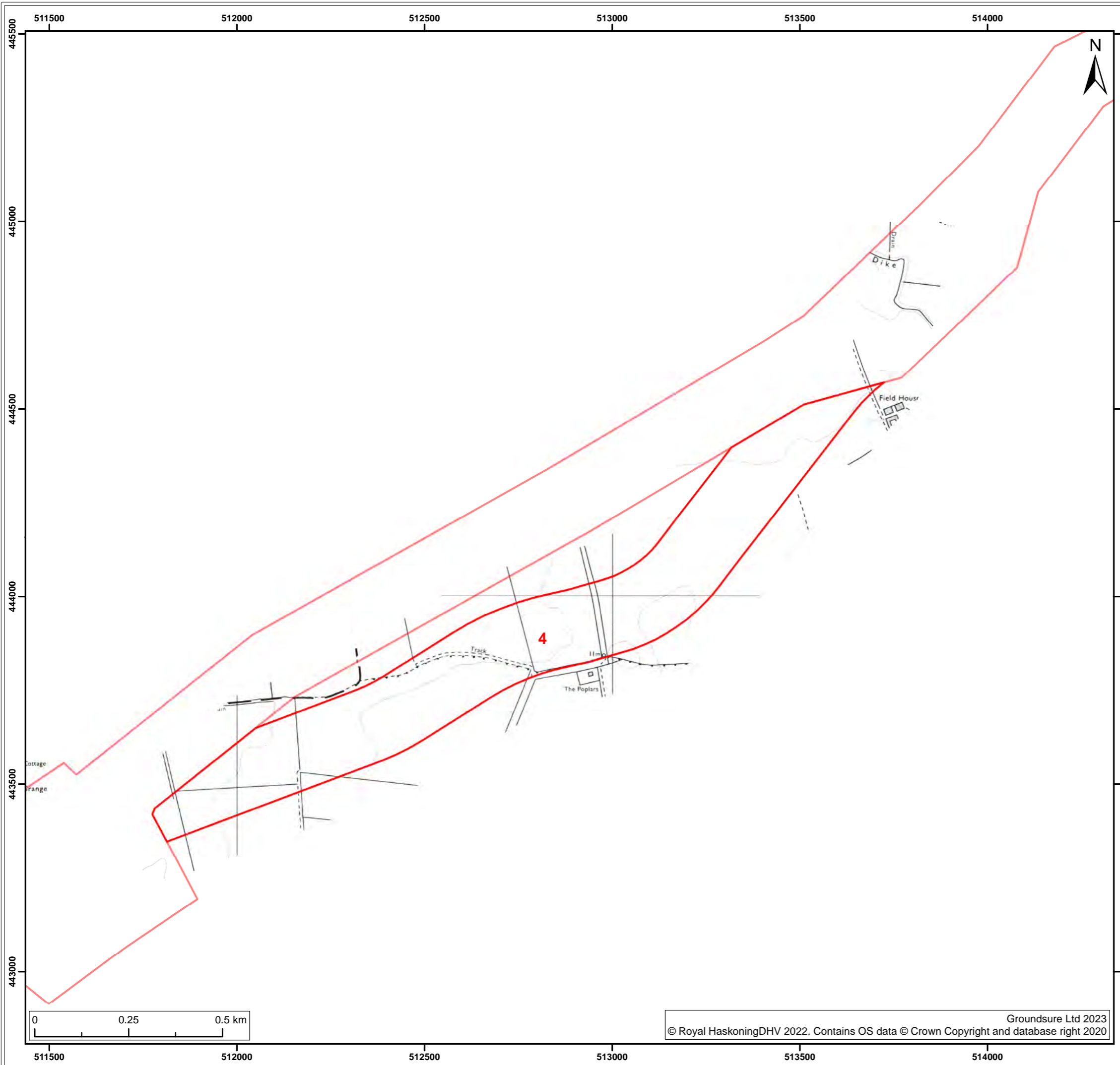
Title:
 Ordnance Survey Mapping 1973 - 1982
 Page 4 of 4

Figure: 22-10-19d Drawing No: PC2340-APS-ON-ZZ-DR-Z-0466

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

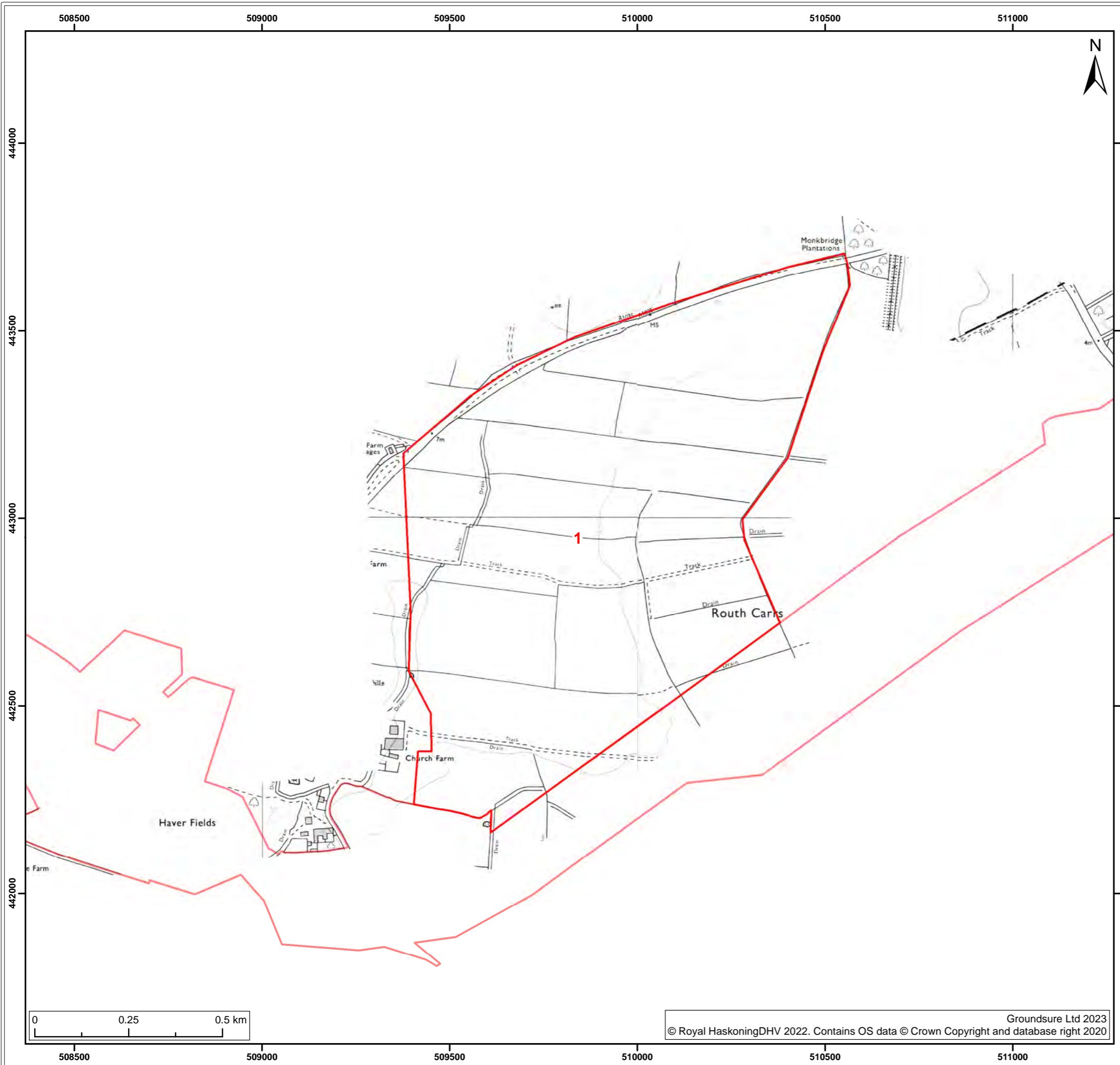
Title:
Ordnance Survey Mapping 1988 - 1993
Page 1 of 3

Figure: 22-10-20a Drawing No: PC2340-APS-ON-ZZ-DR-Z-0467

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

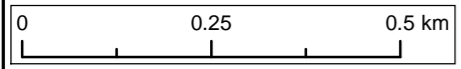
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

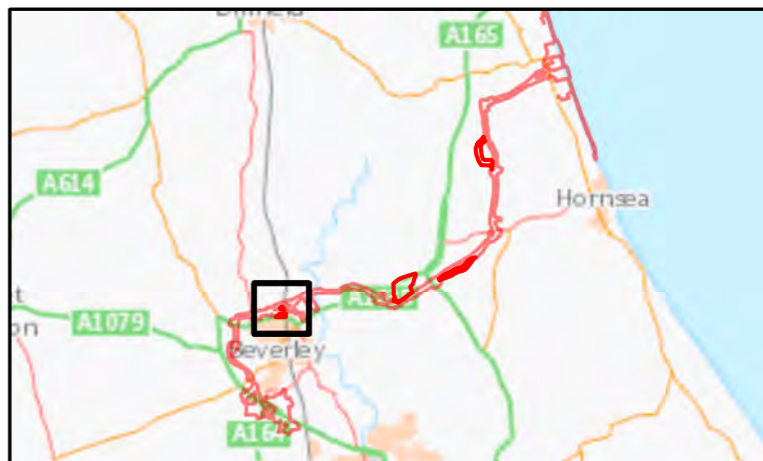
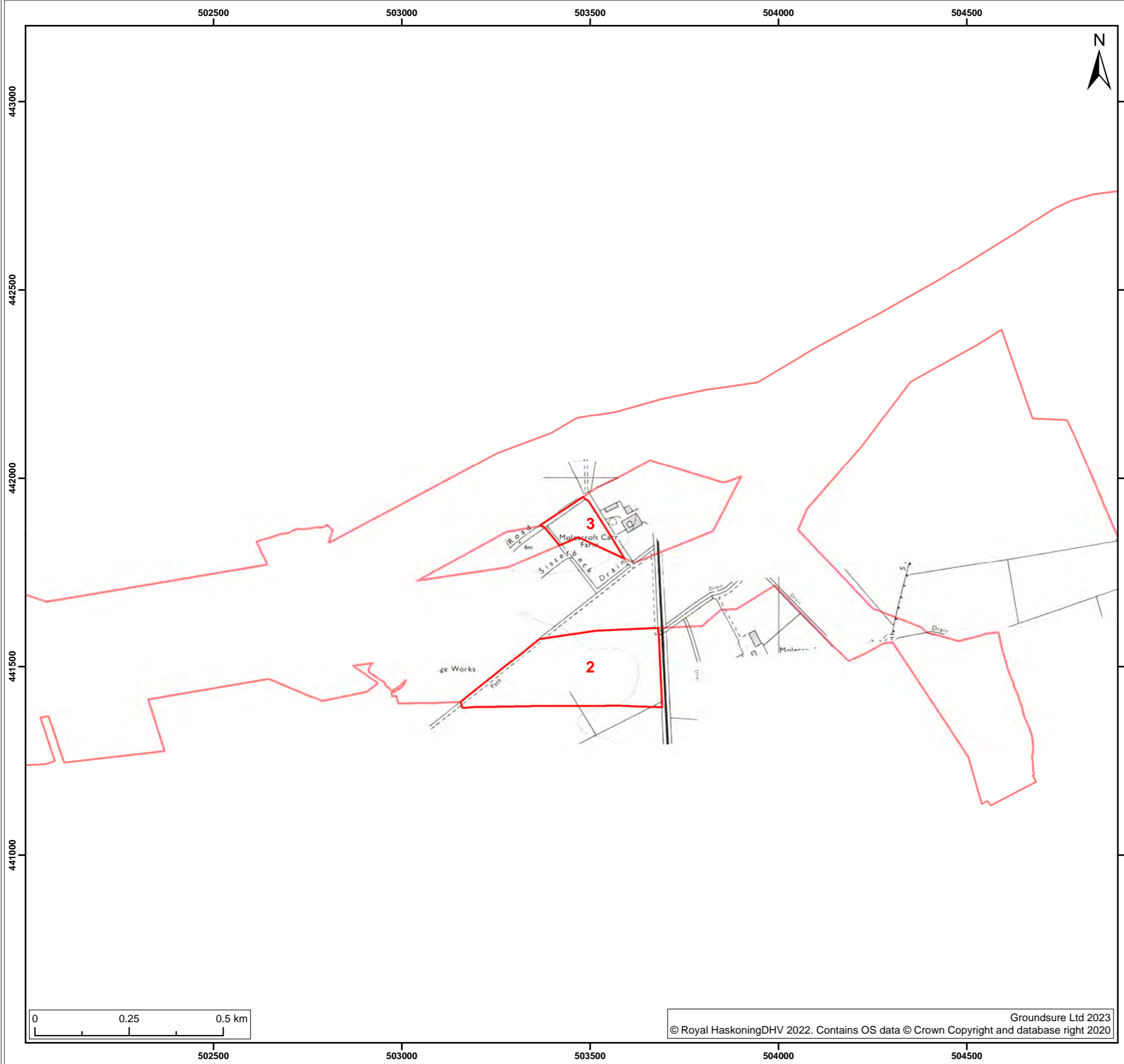
Title:
Ordnance Survey Mapping 1988 - 1993
Page 2 of 3

Figure: 22-10-20b Drawing No: PC2340-APS-ON-ZZ-DR-Z-0467

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





Legend:
 Onshore Study Area
 Additional Onshore Study Areas

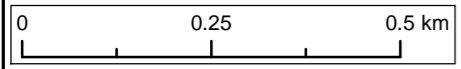
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

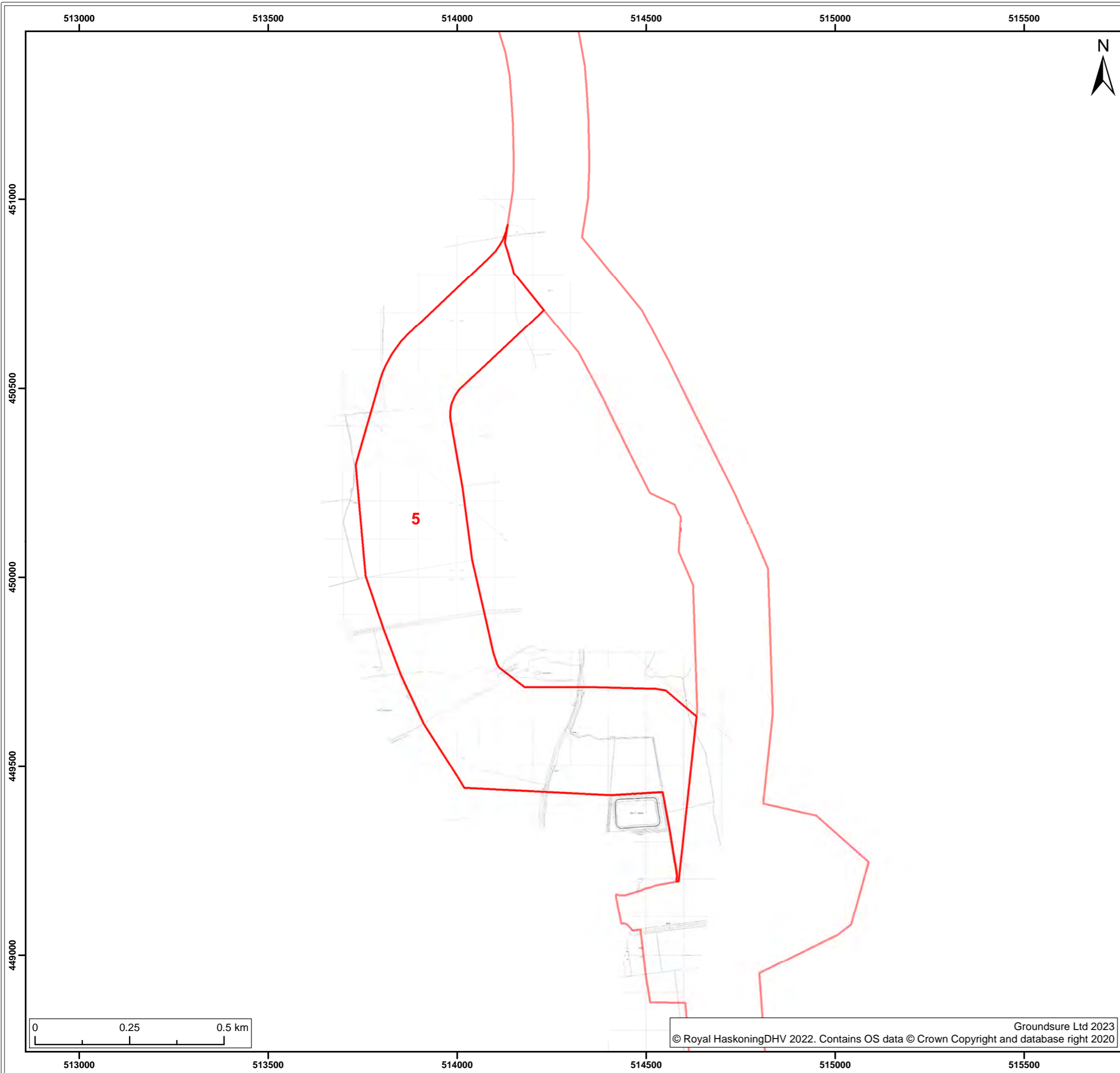
Title:
 Ordnance Survey Mapping 1988 - 1993
 Page 3 of 3

Figure: 22-10-20c Drawing No: PC2340-APS-ON-ZZ-DR-Z-0467

Co-ordinate system: British National Grid Page Size: A3 Scale: 1:10,000

Project: Dogger Bank South Offshore Wind Farms
 Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology





Legend:
 Onshore Study Area
 Additional Onshore Study Areas

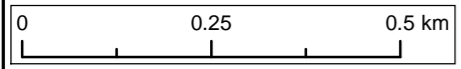
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

Title:
 Ordnance Survey Mapping 1995
 Page 1 of 3

Figure: 22-10-21a Drawing No: PC2340-APS-ON-ZZ-DR-Z-0468

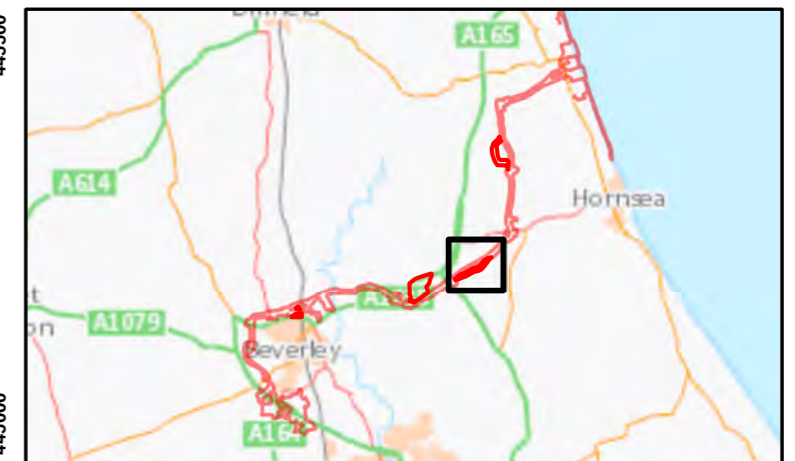
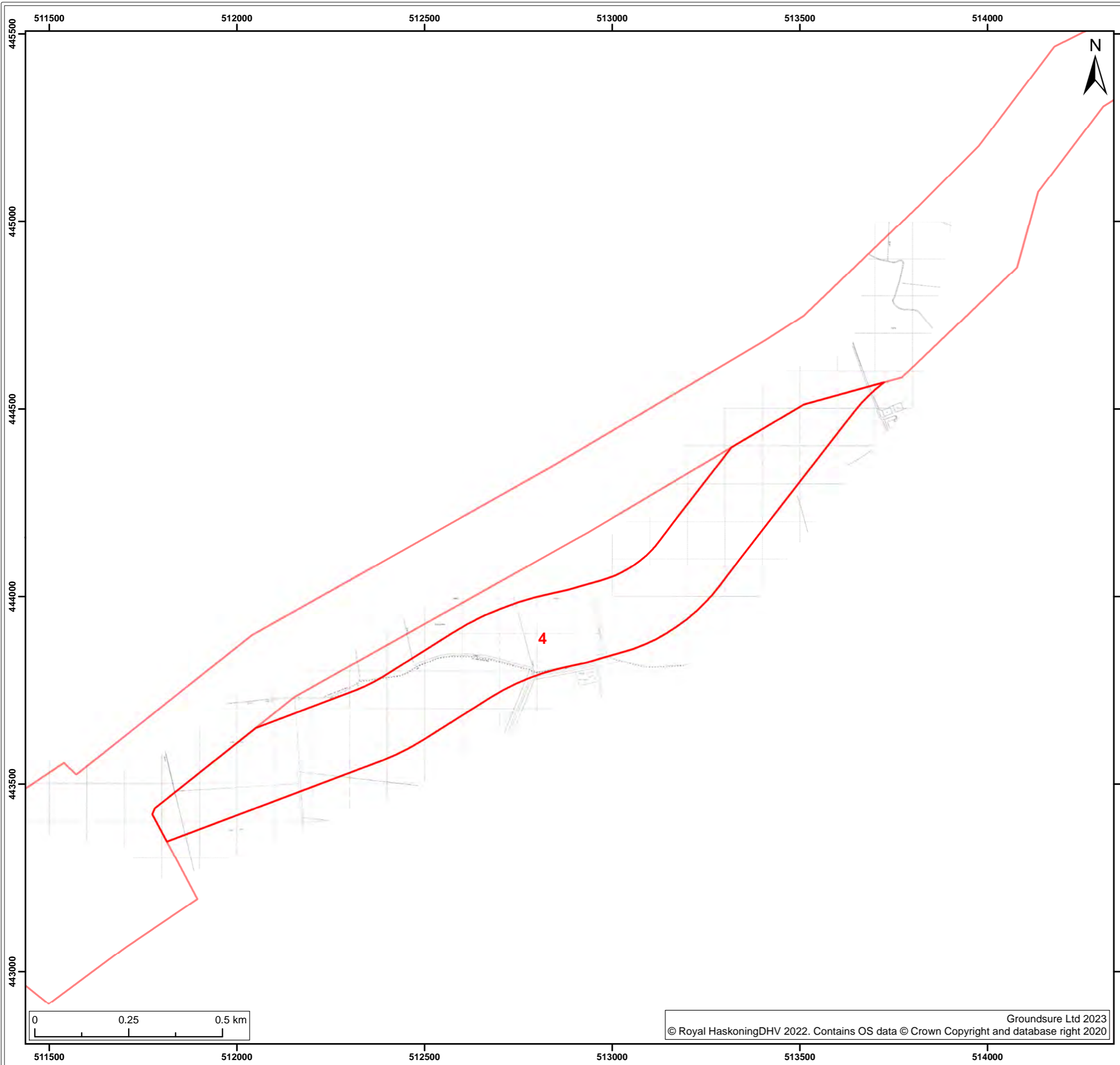
Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---



Groundsure Ltd 2023
 © Royal HaskoningDHV 2022. Contains OS data © Crown Copyright and database right 2020





Legend:

- Onshore Study Area
- Additional Onshore Study Areas

SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC

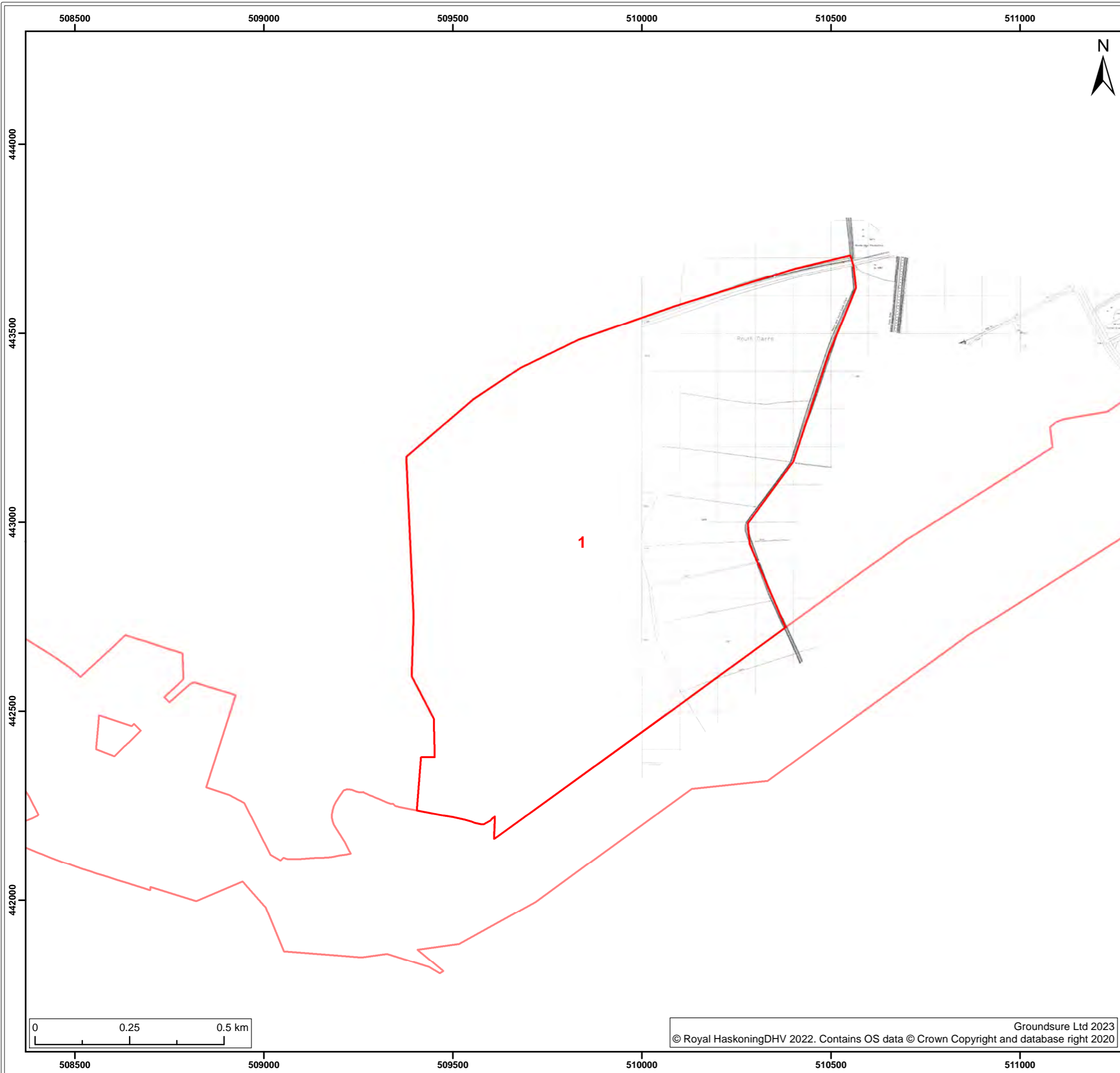
Title:
Ordnance Survey Mapping 1995
Page 2 of 3

Figure: 22-10-21b Drawing No: PC2340-APS-ON-ZZ-DR-Z-0468

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---





Legend:
 Onshore Study Area
 Additional Onshore Study Areas

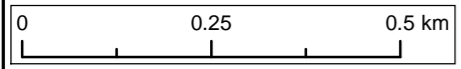
S2	P01	08/09/2023	Suitable for Information	ASJ	CC	CC
SUI	REV	DATE	DESCRIPTION	DRW	CHK	APR

Title:
 Ordnance Survey Mapping 1995
 Page 3 of 3

Figure: 22-10-21c Drawing No: PC2340-APS-ON-ZZ-DR-Z-0468

Co-ordinate system: British National Grid	Page Size: A3	Scale: 1:10,000
--	------------------	--------------------

Project: Dogger Bank South Offshore Wind Farms	Report: Appendix 22-10 Assessment of Airborne and Satellite Remote Sensing Data and Map Regression Analysis for Archaeology
--	---



**RWE Renewables UK Dogger
Bank South (West) Limited**

**RWE Renewables UK Dogger
Bank South (East) Limited**

**Windmill Hill Business Park
Whitehill Way
Swindon
Wiltshire, SN5 6PB**

