

High Speed Rail (Crewe – Manchester)

Background information and data

Historic environment

BID HE-005-0MA02

MA02: Wimboldsley to Lostock Gralam

Historic environment remote sensing report

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Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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1 Introduction

- 1.1.1 This report presents the results of analysis of remote sensing data relating to the historic environment.
- 1.1.2 Baseline data have been collected for the Proposed Scheme in relation to the Wimboldsley to Lostock Gralam area (MA02).
- 1.1.3 All identified heritage assets discussed in this report are shown in the Volume 5 Historic environment Map Book, Map Series HE-01, HE-02, HE-03¹.
- 1.1.4 The historic environment detailed gazetteer is set out in Appendix A of the Historic environment baseline report (see Background Information and Data: BID HE-001-0MA02). It sets out Unique gazetteer identifier (UID) codes for the heritage assets considered in the baseline data; these are used for reference across all the historic environment reports and maps in the Environmental Statement (ES)² and BID reports.
- 1.1.5 The approach to assessing the archaeological potential of the landscape is outlined in the Historic environment summary gazetteer, impact assessment table and archaeological character areas report (HE-002-0MA02³). This breaks the study area down into areas of archaeological character; initially into broad Archaeological Character Areas (ACA), and then more narrowly defined Archaeological Sub-zones (ASZ).
- 1.1.6 The approach used for assessing historic landscape character (HLC) is described in the Historic landscape character areas report (HE-003-0MA02⁴). The approach is used to determine the Historic Landscape Character Area (HLCA). HLCA are areas of coherent or distinctive historic landscape characteristics.
- 1.1.7 Within the historic environment reporting, various reference numbers have been used to provide a unique identifier to the heritage assets, HLCA, ACA/ASZ, geophysical survey anomalies and remote sensing features identified. These unique identifiers are referenced throughout the ES, BID reports and Map Books, and in summary are as follows:

¹ High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement, Volume 5 Historic environment Map Book*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

² High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

³ High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement, Wimboldsley to Lostock Gralam, Summary gazetteer, impact assessment table and archaeological character areas, Volume 5: Appendix HE-002-0MA02*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

⁴ High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement, Wimboldsley to Lostock Gralam, Historic landscape character areas, Volume 5: Appendix HE-003-0MA02*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

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- heritage assets have been given a Unique gazetteer identifier (UID), for example MA02_0001. These have been allocated to all heritage assets within the gazetteer of heritage assets, provided in Volume 5: Appendix HE-002-0MA02 (summary gazetteer) and BID HE-001-0MA02 (detailed gazetteer);
- HLCA have been given a unique identifier, for example MA02_HLCA02. These have been allocated to all HLCA within the HLC assessment, provided in Volume 5: Appendix HE-003-0MA02;
- archaeological character areas and archaeological sub-zones have been given a unique identifier, for example: archaeological character area MA02_AC01; and archaeological sub zone MA02_AC01.002. These have been allocated to all of the assessed archaeological character areas and archaeological sub-zones, provided in Volume 5: Appendix HE-002-0MA02;
- geophysical survey areas and features identified through the geophysical survey have been allocated a unique identifier, for example: geophysical survey area MA02_GP001, and geophysical survey feature MA02_GP001.001. These have been allocated to all of the identified geophysical survey areas and features, provided in BID HE-004-0MA02; and
- features identified through remote sensing have been allocated a unique identified, for example MA02_RS001. These have been allocated to all of the identified remote sensing features, provided in BID HE-005-0MA02.

2 Remote sensing

2.1 Introduction

- 2.1.1 This report sets out the results of a review, and the systematic mapping, recording, analysis and interpretation of potential archaeological sites from aerial photographs and LiDAR⁵ data within the Wimboldsley to Lostock Gralam area.
- 2.1.2 The remote sensing was undertaken in accordance with the guidance and standards set out in:
- the Historic England standards for aerial investigation and mapping (formerly known as the National Mapping Programme, NMP)⁶; and
 - the Forum on Information Standards in Heritage (FISH) vocabularies⁷.

2.2 Survey objectives

Aims of the survey

- 2.2.1 The aim was to accurately map and record the form and extent of archaeological features visible as cropmarks, soil marks, earthworks or structures in order to inform the assessment of baseline conditions for the historic environment.

Objectives of the survey

- 2.2.2 The results of the survey have been combined with data from other archaeological assessments carried out as part of the project, such as desk-top studies and geophysical surveys in order to help analyse the archaeological potential of the Proposed Scheme.

⁵ LiDAR (meaning 'light detection and ranging') is a surveying method that measures distance to a target by illuminating the target with pulsed laser light and measuring the reflected pulses with a sensor; this can be used to identify archaeological earthwork evidence.

⁶ Winton, H. (2018), *Standards for Aerial Investigation and Mapping projects*, Historic England internal document.

⁷ FISH (2020), *Heritage Data; Linked Data Vocabularies for Cultural Heritage*. Available online at: <https://www.heritagedata.org/blog/vocabularies-provided/>.

2.3 Survey methodology

2.3.1 This section provides an overview of the survey methods. The aims and general method for the remote sensing assessment are set out in the Generic Written Scheme of Investigation (HE-006-00000⁸).

Data collection

2.3.2 The data collection phase of the survey took place between April 2017 and December 2018. The following sources were consulted:

- historic aerial photographs;
- online aerial and satellite-derived images;
- HS2 vertical aerial photographs;
- Environment Agency vertical aerial photographs;
- HS2 (BLOM Aerofilms) LiDAR data;
- Environment Agency LiDAR data;
- Historic Environment Record (HER) data;
- National Record of the Historic Environment (NRHE) data;
- National Heritage List for England (NHLE) data; and
- historic cartographic sources.

Data processing

2.3.3 The following processing steps have been carried out on the data used in this survey:

- all spatial data was collated and generated in GIS (Geographic Information System) ArcMap 10.5 using the British National Grid (EPSG: 2770) map projection;
- both the HS2 Ltd and Environment Agency LiDAR datasets were processed using the software Relief Visualisation Toolkit (RVT 1.3) to create eight different advanced visualisation models, prior to their import into GIS ArcMap 10.5;
- the HS2 Ltd and Environment Agency vertical aerial photographic cover was already georeferenced and required no further processing; and
- selected archive aerial photographs were orthorectified (processed to accurately fit the map and terrain) using the software Aerial 5.33 prior to their import into GIS.

⁸ High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement, Generic written scheme of investigation for non-intrusive archaeological survey, Volume 5: Appendix HE-006-000000*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

Data presentation

- 2.3.4 A general location plan showing the survey area is shown on Figure 1 at a scale of 1:75,000. Details of sites or features transcribed during this project are presented at a scale of 1:5,000 on Figures 2 to 14 inclusive.
- 2.3.5 When interpreting the results, several factors are taken into consideration, including the nature of archaeological features being investigated, the local conditions at the site (geology, topography etc.). The identified features are categorised by their potential origin and divided into categories that are used in the graphical interpretation of the remote survey data:
- bank;
 - ditch;
 - levelled ridge and furrow;
 - extant ridge and furrow;
 - extent of area;
 - services;
 - structure; and
 - large cut feature.
- 2.3.6 The identified categories are subsequently discussed by the period in which they most likely originated.

Assumptions and limitations

- 2.3.7 The results and subsequent interpretation of data from remote sensing surveys should not be treated as an absolute representation of the underlying archaeological and non-archaeological remains. Confirmation of the presence or absence of archaeological remains can only be achieved by intrusive archaeological investigation of sub-surface deposits.
- 2.3.8 HER, NRHE and NHLE data was obtained in 2018. Any information added to these databases after that time will not have been available as a reference during survey.
- 2.3.9 The Cambridge University Collection of Aerial Photographs (CUCAP) archive of historic aerial photographs was closed for consultation at the time of this remote sensing survey. Although a small proportion of the collection was available online, the limited nature and low resolution of the images was inadequate for aerial analysis.
- 2.3.10 Local collections of aerial photography held by the Cheshire Archaeology Planning Advisory Service (CAPAS) HER were not consulted for this remote sensing survey.
- 2.3.11 In some areas, the HS2 Ltd purpose-flown LiDAR and aerial orthophotography did not cover the full extent of the Proposed Scheme. This was most impactful on the sections of the study area to the north-east of Lostock Green to the boundary of Pickmere to Agden area (MA03, see BID HE-004-0MA03), where only Environment Agency LiDAR data was available, and

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around Byley in the location of RAF Cranage, where no LiDAR data was available. The absence of LiDAR data for these parts of the landscape will have limited the ability of the survey to identify extant earthwork features. The lack of height data may also have imposed a small degree of inaccuracy on the aerial transcriptions, as it was not possible to apply height data to the orthorectifications of historic aerial photographs.

- 2.3.12 The HS2 Ltd purpose-flown LiDAR survey took place during the summer, when leaf canopies, foliage and crop growth created unfavourable conditions for the collection of bare earth points. As a result, the quality of the Digital Terrain Model (DTM) generated from this LiDAR data is of low quality for areas beneath tree cover and may not represent a true ground surface model in areas of crops or dense foliage. Where available, the use of Environment Agency LiDAR data of a lower resolution has partially mitigated this issue.

3 Remote sensing survey results

3.1 Survey location

- 3.1.1 The study area for this remote sensing survey covers the entire length of Wimboldsley to Lostock Gralam area (MA02), which falls within both Cheshire East, and Cheshire West and Chester.
- 3.1.2 The study area generally comprised a 700m-wide strip centred on the route of the Proposed Scheme (350m either side). This provided a buffer to offer contextual information for all recorded sites. In total, the archaeological remote sensing survey for the Wimboldsley to Lostock Gralam area covered an area of 10.4km².
- 3.1.3 An additional area of assessment is located approximately 3.2 km to the east of the route of the Proposed Scheme, where an area of 4km² was also subject to remote sensing survey. The centroid of this additional study area is located at National Grid Reference (NGR) 373230 369630, which lies near the centre of the former RAF Cranage Airfield. The eastern and western extents of this additional study area were flanked by B5081 Byley Lane and the M6 respectively. The B5082 Northwich Road marks the approximate northern extent, as does Moss Lane to the south.

3.2 Archaeological background

- 3.2.1 At the end of the last glaciation, the retreat of the ice sheet resulted in the deposition of glacial outwash of tills, sands and gravels. In depressions within the glacial tills, characteristic wetlands known as meres and mosses⁹ formed throughout the Cheshire Plain. Holford Moss (MA02_HLCA07⁴) represents one of the largest and may have been exploited in the prehistoric period for fishing and hunting game. Recognised prehistoric activity within the study area is sparse, with no recorded heritage assets from the Mesolithic, Neolithic and Bronze Age. Individual findspots of Bronze Age metalwork have been discovered. Iron Age ditched and banked farmstead enclosures (MA02_0009, MA02_0014) and salt production sites have been identified on the River Weaver and River Croco in Middlewich. Roman period activity within the study area is centred on the forts in Northwich and the scheduled monument of King Street Roman Fort in Middlewich (MA02_0085). Associated with the forts were civilian industrial sites associated with salt production. The forts were interconnected by Roman roads including Watling Street (Margary 7a, MA02_0191), and King Street between Middlewich and Northwich (Margary 70a, MA02_0154). There is the potential for continued occupation from the Iron Age of small rural enclosed farmsteads and of settlement along the road network.

⁹ Mosses or mosslands are areas of wetland formed from peat.

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- 3.2.2 In the early medieval period, the area continued to be sparsely populated. Patterns of settlement, manors and agricultural field systems began to appear. Hamlets including Davenham, Bostock, Lach Dennis, and Over (now Winsford) were established towards the end of the early medieval period. The first towns were established at Middlewich and Northwich and had important salt production industries. Otherwise, settlements were isolated moated farmsteads such as Holford Hall (MA02_0188) and those surviving as earthworks at Kinderton Hall (MA02_0087), Bostock Hall (MA02_0094) and Drakelow Hall (MA02_0127). Throughout the medieval period, new land was brought into agricultural use through assarting of woodland and the enclosure of heathland. The medieval agricultural landscape is visible as trackways or roads, and field systems containing ridge and furrow earthworks.
- 3.2.3 During the post-medieval period, there was a change from mixed subsistence to dairy farming. This resulted in the creation of larger farms and estates. Over time, wealthy individuals from trade and industry built large country houses with estates, such as at Lea Hall (MA02_0020), Bostock Hall (MA02_0104), and Whatcroft Hall (MA02_0124). From the 18th century, new infrastructure of canals, turnpike roads and railways were built. Industrial salt production replaced the medieval industry. There was increased mining and brine pumping and, as the salt industry declined from the 19th century, there was widespread subsidence in the salt producing areas. The salt industry was replaced by the chemical industry and light manufacturing. The three major settlements of mid Cheshire (Middlewich, Winsford and Northwich) expanded as residential settlements and new road infrastructure was built. During the Second World War, land within the study area was used for military bases, in particular RAF Cranage Airfield (MA02_214), and the scheduled World War II defences of the former airfield of RAF Cranage (MA02_218) remain present within the landscape.

3.3 Survey results

- 3.3.1 The results of this survey are summarised below by period. Since the data from the visualised LiDAR and the aerial photographs are mutually supporting the results have not been separated by source.
- 3.3.2 The remote sensing survey mapped 108 individual features, labelled from MA02_RS001 to MA02_RS108. These areas indicate the extent of sites, landscapes or parts of landscapes recorded. They are summarised in the gazetteer of identified features in Section 4 (Table 1).

Prehistoric (1,000,000 BC – AD 43)

- 3.3.3 The only evidence identified by the remote sensing survey which indicates the presence of prehistoric remains are three ditched curvilinear features (MA02_RS059/MA02_0271), located to the east of the M6. These features may have formed part of a ditched enclosure. The cropmark evidence comprises a larger ditch which makes a right-angle turn to the west.

Annexing it are two smaller ditches on its eastern side, which may indicate later extensions to the enclosure. Due to the apparent form of the cropmarks, a tentative Iron Age date is suggested for their origin, although dating of the features is difficult from aerial evidence alone and no other prehistoric features have previously been recorded within the vicinity.

Roman (AD 43 – 410)

- 3.3.4 A roughly rectangular arrangement of ditched linear features (MA02_RS023/MA02_0322) was visible on aerial photographs, within a field to the south of the Bostock Hall estate (MA02_0104), east of Bank Farm (MA02_0093). The channel or ditch transcribed as part of this survey is possibly that of a water feed trench, which would have been used to bring water to working areas. These features have been tentatively interpreted as a possible Roman industrial site due to their location adjacent to a watercourse, and in conjunction with the discovery of three lead salt pans in 1986, approximately 275m to the north-east (MA02_0082). The pans at that site were buried in the ground, stacked on top of each other. No salt-making debris was uncovered and there are no salt-brine springs. This suggested that the pans were not in-situ. Coal and clinker from nearby in the field suggests the pans were brought here and buried before being smelted down and recast¹⁰. A Roman coin was also previously found within this field and the farmer has reported the presence of Roman artefacts on his land¹¹.

Medieval (1066 – 1540)

- 3.3.5 A group of banks and ditches (MA02_RS010/MA02_0016), visible as earthworks on aerial photographs and LiDAR data, appears to show two rectangular enclosures in fields to the east of Twelve Acres farmhouse. The south-western enclosure consists simply of a rectangular outline, with a possible opening on the western side. The north-eastern enclosure includes several banks and mounds. Linear ditched features to the west and east of the enclosures appear to form part of a branching network; the east-west branch of which meets or forms the northern edge of the north-eastern enclosure. Although the features could represent an enclosed or moated settlement, their form and setting within an agricultural landscape of ridge and furrow suggests a more likely interpretation as the remnants of enclosures related to stock management or other agricultural activities. The branching linear features could represent trackways or hollow ways but could alternatively be the remains of boundary features.
- 3.3.6 An area of small enclosures visible on LiDAR data to the west of Yew-Tree Farm is interpreted as a possible area of settlement or industrial works (MA02_RS019/MA02_0335). The features are immediately adjacent to the south of a road noted in the 1842 Davenham

¹⁰ Lion Salt Works Trust (1998), *The Mundling Stick*, Newsletter of the Lion Salt Works Trust, 4/3; Turner, R. C. (1986), *Three Lead Salt Pans from Bostock*, unpublished document.

¹¹ Pers comm during consultation.

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tithe map¹². It is notable that the west and north field boundary around the features has a curved form, a shape echoed in the ditch that forms the northern part of these features, potentially suggesting a sub-circular perimeter. The HER contains the records of a deserted medieval village and the lazaret house of Vale Royal Abbey that it is speculated were within Stanthorne, although no precise location has been identified. The form of the features and association with the road would be consistent with such sites, but such identification is not possible from the available evidence.

- 3.3.7 The majority of the features recorded as part of the remote sensing survey comprised 44 grouped fields, with traces of medieval or post-medieval ridge and furrow cultivation. This was visible on the LiDAR and aerial photographs as extant earthworks. The majority of ridge and furrow is concentrated in the southern end of the study area (Figures 2 to 5, MA02_RS002 to MA02_RS009, and MA02_RS011 to RS021). This corresponds with areas of medieval and early post-medieval field systems identified during Historic Landscape Characterisation Assessment (referred to as 'Ancient Fields' in HLCA areas MA02_HLCA01 and MA02_HLCA02, see HE-003-0MA02⁴).
- 3.3.8 Further north, more dispersed patterns of ridge and furrow are recorded. These appear to form two main groupings. The first grouping is in the Dane Valley and on the escarpment above the valley around Whatcroft Hall (MA02_0124). Extant and levelled ridge and furrow is visible in the valley floor of the River Dane (MA02_RS025, MA02_RS027 to MA02_RS029) and in the vicinity of Whatcroft Hall (MA02_RS026, MA02_RS031 to MA02_RS036, Figures 6 and 7). Whatcroft Hall is the location of a potential moated site (MA02_0120) and shrunken village (MA02_0123) located along Whatcroft Lane. There is a close correlation with Ancient Fields identified in this area (see HE_003_0MA02, MA02_HLCA02).
- 3.3.9 The second grouping comprises dispersed groups of ridge and furrow observed between Whatcroft and Lostock Green (MA02_RS032 to MA02_RS050). They are clustered around farmsteads such as Brook Farm (MA02_0132), Higgins Lane Farm (MA02_0141), High House (MA02_0161) and Melvin Holme (MA02_0163). This suggests mixed arable farming and dairy farming were occurring on the Stublach and Lostock Plain (see HE_003_0MA02, MA02_HLCA03 and MA02_HLCA05). It may suggest earlier farmsteads were associated with the brick-built 18th and 19th century farmhouses mentioned above.
- 3.3.10 Despite the agricultural nature of the landscape, no ridge and furrow were recorded in the study area further north of Lostock Green. Based on current understanding of the historic landscape, the area was enclosed in the post-medieval period (see MA02, HLCA06, HE-003-0MA02). There is no clear reason why the land would not have been cultivated with ridge and furrow in the medieval and early post-medieval periods. It is notable that no other features were identified by remote sensing within this section of the study area, so it is possible that the absence is due to masking or destruction of the earthworks, whether

¹² Unknown (1842a), *Tithe Map of the Township of Stanthorne in the Parish of Davenham in the County of Chester*, Cheshire Archives and Local Studies, EDT 367/2.

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through later land use and alteration, or due to natural factors and processes such as soft ground or alluviation. It is also possible that earthworks were not visible in the available aerial survey data due to factors relating to unfavourable conditions for identification, such as the ground conditions, time of day/year and the angle or aspect of capture. LiDAR coverage for this section was limited to the 1m Environment Agency LiDAR, but this should have been adequate for the identification of ridge and furrow.

- 3.3.11 Further east, within the RAF Cranage study area, another grouping of ridge and furrow was recorded to the north and east of Byley, and to the west of Cranage. The area in the vicinity of the former Second World War RAF Cranage airfield, to the east of the West Coast Main Line (WCML) also displayed evidence of medieval agricultural practices in the form of ridge and furrow plough marks. These were apparent on both the historic and modern aerial imagery. Some particularly well-preserved examples were recorded around the village of Byley, several of which extend to the north, alongside the B5081 Byley Lane (MA02_RS053-5, MA02_RS105), and to the east along Moss Lane towards Cranage (MA02_RS051-2, MA02_RS082, MA02_RS084, MA02_RS098, MA02_RS100, MA02_RS106). At the centre of the study area, beneath the location of the former RAF Cranage runways, there is cropmark evidence of a ditched field system (MA02_RS104). This evidence is only apparent on certain aerial images, so its interpretation is tentative.

Post-medieval (1540 – 1901)

- 3.3.12 The areas of extant and levelled ridge and furrow recorded across the study area and discussed above (see 3.3.7) may be post-medieval in date, although it is difficult to determine the date of ridge and furrow from aerial survey evidence alone. The survival of the ridge and furrow evidence demonstrates a continuity of agricultural land use within the landscape from the post-medieval to the modern period.
- 3.3.13 A possible hollow way or trackway (MA02_RS005/MA02_0266), comprising two east-west aligned sections either side of the railway tracks, was recorded to the north of Wimboldsley Hall. The western section of the feature, to the north of Wimboldsey Hall, follows the alignment of a footpath or trackway shown on Ordnance Survey maps since 1875, but extends eastward in a way not shown in the maps to suggest an earlier route that continued to the east of the railway tracks. The hollow way respects the edges of the ridge and furrow fields and does not align with the railway bridge, suggesting that it predates the railway and is of post-medieval or earlier date. Although no additional evidence of hollow ways or trackways is visible, the arrangement of ridge and furrow field boundaries suggests the eastern terminus of the hollow way might have joined a north-south aligned route.

Modern (1901 – present)

- 3.3.14 A sand extraction pit (MA02_RS030) is visible on the eastern bank of the Trent and Mersey Canal, within an agricultural field. This is recorded on the 1911 Ordnance Survey mapping¹³ as a Sand Pit.
- 3.3.15 The majority of modern features recorded as part of this survey of the Wimboldsley to Lostock Gralam area were identified in the additional study area between Byley and Cranage. This mainly relates to the buildings, aircraft taxiways, defences and runways that formed part of the Second World War airfield RAF Cranage.
- 3.3.16 A number of the surviving features identified in this survey are part of the scheduled monument of the former Second World War defences surrounding RAF Cranage airfield (MA02_0218). These comprise the battle headquarters (MA02_RS063), anti-aircraft emplacement (MA02_RS064) in one location, pill boxes (MA02_RS101, MA02_RS107, MA02_RS062 and MA02_RS072) and the concrete sleeping shelter (MA02_RS108).
- 3.3.17 The layout of the RAF Cranage airfield was transcribed from aerial photographs during the survey and is described below. However, little remains in the modern landscape as air strips and taxiways have been reclaimed into farmland, structures were dismantled in the 1950s and the remnants of the logistics portion of the site was redeveloped between 2004-2010 as a gas storage facility. A small section (approximately 100m) of the original road system (MA02_RS074/MA02_0324) might still exist, where it joins the B5081 Byley Lane to the south of the main access to the facility. It is also possible that remnants of the road system and structural foundations might also remain in the undeveloped and overgrown parts of the site, particularly to the west of the facility. Beyond the area of redevelopment, most elements relating to the airfield are no longer present, but where features have survived it will be mentioned below.
- 3.3.18 From historic aerial photographs, the expanse of RAF Cranage could be seen as consisting of logistics buildings, hangars and a connecting road system, with airstrips to the east and defences surrounding the airfield. Hangars at the site included eight Type 2 aircraft hangars (MA02_RS066) and four J-type hangars (MA02_RS060, MA02_RS087, MA02_RS094). One of the J-type hangars (MA02_RS094) has two associated Nissen Huts (MA02_RS095). The site of another of the J-type hangars (MA02_RS087/MA02_0274) is now occupied by a warehouse that appears to be of modern construction. It is possible, but unlikely, that elements of the original hangar may have been incorporated into its construction. This hangar was adjacent to the taxiway (MA02_RS086), now destroyed, which connected RAF Cranage to the Vicker's-Armstrong shadow factory. Additional phasal taxiways (MA02_RS075/MA02_0273) were also observed within the area bounded by B5081 Byley Lane, the M6 and B5082 Northwich Road. Although mostly removed or buried, some parts of the taxiways are still visible as remains,

¹³ Ordnance Survey (1911), *Cheshire County Series, Map Sheet XLI.NW*, 2nd edition.

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field boundaries or cropmarks in the fields between the Moss Lane commercial estate and the gas storage facility.

- 3.3.19 In addition to the extant features included in the scheduled monument designation (see 3.3.13), defences around the airfield also included an anti-aircraft battery (MA02_RS083/MA02_0323), landing obstacles (MA02_RS097), and a possible anti-aircraft battery command centre (MA02_RS085/MA02_0325). The banks and depression associated with the anti-aircraft battery are still present in the landscape and the structure of the command centre appears to survive in good condition.
- 3.3.20 Likely aircraft engineering sites (MA02_RS067-8, MA02_RA091), now destroyed, would have functioned as the living facilities and administrative centre for the personnel of RAF Cranage. Two rectangular cut features, now destroyed, were observed which are thought to be the remains of the emergency water supply (MA02_RS069). The waterworks for this Second World War site lie to the west and are identifiable from two clarifying pits that remain present as earthworks (MA02_RS088-9/MA02_0275). A group of features identified as possible extractive pits (MA02_RS090/MA02_0325), still visible to the north of Byley, may alternatively have been associated with the Second World War waterworks. A spread of buildings, now destroyed, alongside a north-south aligned hedgerow has been interpreted as the refuelling sites of the aircrafts (MA02_RS073, MA02_RS099). A potential watch office (MA02_RS093) and a hexagonal type FW3/22 pillbox (MA02_RS096) were also identified from historic aerial imagery, although the watch office has been destroyed by development and the pillbox is no longer present. On the periphery of the study area, frying-pan shaped dispersal pens were constructed (MA02_RS056-8, MA02_RS076). These are areas of hardstanding, used for parking aircraft in a state of readiness. Two of these features have been destroyed, but one (MA02_RS056/MA02_0327) is still present in the field south of King's Lane. An additional area of aircraft parking (MA02_RS065) was also identified but is no longer visible in the landscape.

3.4 Remote sensing survey conclusions

- 3.4.1 A total of 108 individual or grouped possible archaeological features were identified by the survey, 45 of which were not previously recorded by the HER, NRHE or NHLE. These include:
- a series of ditched enclosures that may represent the remains of an Iron Age Enclosure;
 - the earthwork remains of a possible Roman industrial site;
 - the possible earthwork remains of medieval or post-medieval settlement or industrial site to the west of Yew Tree Farm were also identified in the survey;
 - a series of rectilinear enclosures were identified at Twelve Acres farmhouse, potentially indicating enclosed or moated settlements or agricultural enclosures of the medieval period;
 - an area of small enclosures to the west of Yew-Tree farm, possibly indicating a medieval settlement or industrial works;

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- fifty-three of the features were extant or levelled ridge and furrow, related to medieval and post-medieval agriculture;
- a post-medieval hollow way north of Wimboldsey Hall; and
- the remains of the Second World War airfield and defences at Cranage Airfield.

- 3.4.1 The possible ditched Iron Age enclosure (MA02_RS059/MA02_0271) identified in the survey would be consistent with an Iron Age landscape of farmsteads and small settlements that is demonstrated within the study area by enclosed sites in Wimboldsley parish (MA02_0009, MA02_0014) and within the wider Cheshire landscape at sites such as Bruen Stapleford and Poulton.
- 3.4.2 The identification of a possible Roman industrial site (MA02_RS023/MA02_0322) to the south of the Bostock Hall estate potentially expands on the existing knowledge of Roman industry in this location. The site provides evidence, albeit limited, of industrial activity. This may have been similar to Roman salt working identified in Middlewich (see BID HE-001-0MA02), or at rural locations such as Shavington south of Crewe (see BID HE-001-0MA01), during the Roman period. The evidence at this site is limited, and it is also possible that the remains relate to other industrial activity or to a different period. Further investigation would be required to develop a greater understanding of the nature of this site.
- 3.4.3 The enclosures (MA02_RS010/MA02_0016) in the fields to the east of Twelve Acres farmhouse are considered to relate to stock management, forming part of the medieval agricultural landscape of stock management and ridge and furrow agriculture. Another series of small enclosures (MA02_RS019/MA02_0335) observed to the west of Yew-Tree farm may represent the site of a small, enclosed settlement and road. The site also sits within an agricultural context but may potentially be related to a deserted medieval village or the lazar house of Vale Royal Abbey that are thought to be somewhere within Stanthorne.
- 3.4.4 Extensive ridge and furrow were recorded across the study area. This was mostly concentrated to the south and the patterns became more dispersed moving to the centre of the study area. The observed patterns are consistent with the medieval and post-medieval field systems identified as part of the HLCAs MA02_HLCA01, MA02_HLCA02. Towards the northern end of the study area, disperse patterns of ridge and furrow were clustered around farmsteads, suggesting a mixed arable and dairy farming on the Stublach and Lostock Plain, consistent with the landscape characters MA02_HLCA03 and MA02_HLCA05. Within the RAF Cranage study area, dispersed areas of ridge and furrow were recorded to the north of Byley and to the west of Cranage.
- 3.4.5 Between expanses of ridge and furrow, characteristic spaces may be indicative of hollow ways or trackways, the evidence of which may not survive. The hollow way (MA02_RS005/MA02_0266) recorded to the north of Wimboldsley Hall demonstrates a section of a post-medieval or earlier route through the agricultural landscape. Part of the route has continued in use as a footpath or trackway, but the evidence shows an earlier alignment that predates the railway line of the London Northwestern Railway (LNWR)

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Northwich branch, and which may have connected to a wider network that is no longer visible.

- 3.4.6 The airfield at RAF Cranage was a dominant part of the landscape during the Second World War and an important aspect of the region's military history. Most of the airfield is no longer present, although some elements still survive. The best-preserved remains are those of the defences that are included within the scheduled monument of the World War II defences of the former airfield of RAF Cranage (MA02_0218). In addition, some buildings, fragmentary roads and parts of the taxiways also remain from RAF Cranage Airfield (MA02_0214). Outside of the scheduled remains, most evident are some remains of the former taxiways, and one surviving frying-pan shaped dispersal site, in the field south of King's Lane. In addition to the surviving defences of the scheduled monument, five elements of the RAF Cranage airfield have been identified as at least partially surviving: the road system (MA02_RS074/MA02_0324), taxiways (MA02_RS075/MA02_0273), anti-aircraft battery earthworks (MA02_RS083/MA02_0323), command centre (MA02_RS085/MA02_0325) and dispersal pen (MA02_RS056/MA02_0327). There is also a small possibility that foundations or structural elements of one of the J-Type hangars may have been preserved within the structure of a modern warehouse (MA02_RS087/MA02_274), but this is impossible to determine from the remote sensing evidence.

4 Gazetteer of identified remote sensing features MA02

4.1.1 The following gazetteer provides a summary of the identified features.

Table 1: Gazetteer of identified features in MA02

Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
MA02_RS001		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	Four areas of ridge and furrow are visible on LiDAR as extant earthworks across fields between the A530 Nantwich Road to the north-west and Park Hall Farm to the south-east. They would likely have originally been contiguous with one another and with the levelled ridge and furrow recorded as MA02_RS002, but have been subdivided by later field boundaries.	Figure 2	368809 361976
MA02_RS002		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Five areas of levelled ridge and furrow are visible on historic aerial photographs as cropmarks across the fields between A530 Nantwich Road to the north-west, and Park Hall Farm to the south-east. Likely to have originally been contiguous with one another and with the extant ridge and furrow recorded as MA02_RS001, they have been subdivided by later field boundaries.	Figure 2	368886 362108

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
MA02_RS003		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Five areas of levelled ridge and furrow are visible as cropmarks on historic aerial photographs across a large single field to the east of Wimboldsley Hall, east of the West Coast Main Line (WCML) and north of A530 Nantwich Road. This group of ridge and furrow earthworks appears to be of an early date due to their layout and nature. Although this area is now a large single field, the original plot boundaries are visible as curvilinear ditch cropmarks, punctuated by occasional surviving single trees. Likely to have extended to the west prior to being truncated by the WCML (recorded as MA02_RS004). A likely contemporary former hollow way lies adjacent to the northern edge of this group (MA02_RS005).	Figure 2	368638 362414
MA02_RS004		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Three areas of levelled ridge and furrow of different orientations are visible as cropmarks within a large field between Wimboldsley Hall to the west and the WCML to the east. Likely to have extended to east prior to truncation by the WCML (recorded as MA02_RS003). Likely originally contiguous with	Figure 2	368452 362322

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					the extant ridge and furrow recorded as MA02_RS006.		
MA02_RS005	MA02_0266	Hollow way	Ditch	Medieval Post-medieval	A possible hollow way is visible as an earthwork on both historic aerial photographs and LiDAR. The gently curvilinear ditch is visible in two segments for over 600m on an east to west alignment on the northern side of Wimboldsley Hall. Feature is adjacent to likely contemporary ridge and furrow (MA02_RS003).	Figure 2	368266 362473
MA02_RS006		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	Seven areas of ridge and furrow are visible on LiDAR as extant earthworks across fields on both sides of the WCML, to the east and north-east of Wimboldsley Hall. Several of these separately transcribed areas would originally have been contiguous but have been divided by later field boundaries.	Figure 2	368303 362687
MA02_RS007		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	An extensive spread of fifteen areas of levelled ridge and furrow are visible as cropmarks across fields which lie on either side of the WCML between Wimboldsley Grange to the north-west, and A530 Nantwich Road to the south-east. Their directions indicate that a number of these plots, originally	Figure 2	368417 363202

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					contiguous, have been subdivided by later field boundaries (some of which correspond with field boundaries indicated on the first edition OS map ¹⁴).		
MA02_RS008		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	A substantial extent of levelled ridge and furrow comprising 21 individually transcribed plots is visible as cropmarks on historic aerial photographs. These extend across an area from Yewtree Farm to the south-east and Wimboldsley Grange to the south-west, northwards for approximately 550m. Their directions indicate that a number of these plots, originally contiguous, have been subdivided by later field boundaries (some of which correspond with field boundaries indicated on the first edition Ordnance Survey map ¹⁴). Possible earlier settlement features are visible as underlying earthworks within some of these plots (MA02_RS010, MA02_0016).	Figure 3	368558 363698
MA02_RS009		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	A large plot of ridge and furrow is visible on LiDAR as extant	Figure 3	368791 363644

¹⁴ Ordnance Survey (1882a), *Cheshire County Series, Map Sheet XLIX*, 1st edition.

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					earthworks within a field on the north-western side of Wimboldsley, on the western side of the A530 Nantwich Road. The direction of the earthworks suggests this would originally have been contiguous with the ridge and furrow recorded as MA02_RS008, but has been divided from it by later field boundaries.		
MA02_RS010	MA02_0016	Bank Enclosure Enclosed settlement Moat Hollow way	Bank Ditch	Medieval	A possible former moated settlement site is visible on both historic aerial photographs and LiDAR as earthworks within fields to the north-west of Wimboldsley and to the north-east of Wimboldsley Grange. The possible moated element comprises an irregular trapezoid enclosure measuring approximately 100m x 90m. Curvilinear ditches also visible as earthworks appear to approach this feature from the east, north, and south. These ditches have been interpreted as possible former hollow ways. A further ditched rectilinear enclosure is visible to the southwest of this feature as cropmarks on historic aerial photographs. This has been	Figure 3	368524 633718

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					interpreted as either a further moated site, a settlement enclosure ditch or field boundary ditch. It measures approximately 100m x 120m.		
MA02_RS011		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Five areas of levelled ridge and furrow are visible on historic aerial photographs as cropmarks across fields which lie to the north of Wimboldsley, on the eastern side of the A530 Nantwich Road.	Figure 3	368890 364086
MA02_RS012		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	An extensive spread of twenty-six individually transcribed areas of levelled ridge and furrow is visible as cropmarks across fields to the north of Wimboldsley, on the western side of the A530 Nantwich Road. They extend as far west as Lea Hall Farmhouse, and as far north as Lea House Farm. Their alignments indicate that a number of these plots, originally contiguous, have been subdivided by later field boundaries (some of which correspond with field boundaries which are no longer extant, but	Figure 3	368394 364198

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					which are recorded on the first edition Ordnance Survey map ¹⁵).		
MA02_RS013		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	Three areas of extant ridge and furrow are visible on LiDAR as earthworks to the south of Lea House Farm, on either side of the A530 Nantwich Road.	Figure 4	368855 364473
MA02_RS014		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Nine individually transcribed areas of levelled ridge and furrow are visible on historic aerial photographs as cropmarks. These extend from Lea House Farm in the south-east, to Dairy House Farm (Stanthorpe Park Mews) to the west, and northwards to Clive Green Lane. One of the plots of ridge and furrow lies on the northern side of Clive Green Lane. Their alignments indicate that a number of these plots, originally contiguous, have been subdivided by later field boundaries (some of which correspond with field boundaries which are no longer extant, but which are recorded on the first edition Ordnance Survey map ¹⁶).	Figure 4	368459 364762

¹⁵ Ordnance Survey, (1882), *Cheshire County Series, Map Sheet XLI*, 1st edition.

¹⁶ Ordnance Survey (1882b), *Cheshire County Series, Map Sheet XLI*, 1st edition.

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
MA02_RS015		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Four areas of levelled ridge and furrow are visible on historic aerial photographs as cropmarks within fields between Park Farm to the west, and Wallange Paddocks Farm to the east. The Shropshire Union Canal, Middlewich Branch forms the northern boundary of this area, and likely truncated two of these plots. The southernmost of these areas consists of particularly straight and long ridges and furrows, which is suggestive the later agricultural machinery of post-medieval cultivation.	Figure 4	368732 365345
MA02_RS016		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	An area of extant ridge and furrow is visible as earthworks to the north of Park Farm, on the northern side of the Shropshire Union Canal, Middlewich Branch. It is likely that this was contiguous with the now levelled ridge and furrow recorded as MA02_RS015 on the south-eastern side of the canal, prior to being bisected by its construction.	Figure 4	368326 365443
MA02_RS017		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	An area of levelled ridge and furrow is visible as cropmarks to the north-west of Park Farm, on the north-western side of the	Figure 4	368237 365441

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					Shropshire Union Canal, Middlewich Branch. The eastern edge of this plot appears to have been slightly truncated in the modern period; the former north-eastern corner has been isolated from the main body of the plot by a modern field boundary.		
MA02_RS018		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	An area of levelled ridge and furrow is visible as cropmarks on the south-western side of Yew Tree Farm, north of the Shropshire Union Canal, Middlewich Branch.	Figure 4	368473 365686
MA02_RS019	MA02_0335	Road Industrial site Enclosure Settlement	Extent of Area	Medieval Post-medieval	A former trackway, road, or hollow way is visible on LiDAR and historic aerial photographs as an earthwork to the west of Yew Tree Farm. It is also recorded on the 1842 Stanthorne tithe map ¹⁷ . This flanks the northern edge of an area of irregular and unclear earthworks which have been interpreted as either an area of former settlement or industrial works. Within the northern part of this area are what appear to be small enclosures which may	Figure 4	368197 365816

¹⁷ Unknown (1842a), *Tithe Map of the Township of Stanthorne in the Parish of Davenham in the County of Chester*, Cheshire Archives and Local Studies, EDT 367/2.

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					represent buildings or domestic plots, though they are impossible to define clearly. No related HER records are present at this location, but a DMV and the lazar house of Vale Royal Abbey are recorded on the HER and proposed to be at unknown locations within the Stanthorne area. These features may be a candidate for such sites, but it is not possible to confirm on the available evidence.		
MA02_RS020		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	Two areas of extant ridge and furrow are visible on LiDAR as earthworks within fields to the west of Coalpit Lane, and to the north and north-east of Yew Tree Farm.	Figure 5	368513 365862
MA02_RS021		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Three areas of levelled ridge and furrow are visible on historic aerial photographs as cropmarks within fields to the south of the A54 Middlewich Road and west of Birch Lane. This lies to the north and west of Yew Tree Farm. The central of these three plots was formerly part of Long Moss, as shown on the tithe map.	Figure 5	368662 366480
MA02_RS022		Ridge and furrow	Extant ridge and furrow	Medieval	Area of faint extant ridge and furrow observed within enclosed	Figure 5	368677 367218

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
				Post-medieval	agricultural ground to the north-east of A533 Bostock Road. The earthwork was observed as levelled to the west.		
MA02_RS023	MA02_0322	Industrial site Salt works	Ditch	Roman	Cropmarks of a rectilinear ditched enclosure indicating a possible salt working site are visible on historic aerial photographs within a long narrow field to the north of Greenhays Farm and east of Oldhall Farm on the north-eastern side of the A533 Bostock Road. A stream forms the northern extent of the field, which runs north-eastwards into the River Dane. The cropmark feature is largely rectangular in shape, with a possible entrance gap at the south-western corner, and a possible extension to the south-eastern corner. The cropmark channel is possibly that of a water feed trench which would be used to bring water to working areas. Further features may be present within and associated with this site, however the possible cropmark traces visible on the historic aerial photographs are impossible to define clearly. An interpretation as a possible Roman salt working site is	Figure 5	368474 367358

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					suggested due to the location of the feature adjacent to a watercourse, the presence of other salt industry evidence nearby (Salt Pans from Bostock; approx. 275m northeast, MA02_0082), as well as the proximity of a Roman coin findspot within the same field approximately 75m to the west of the cropmark.		
MA02_RS024	MA02_0267	Boundary	Bank	Medieval Post-medieval	Two linear banks are visible on LiDAR as earthworks within a field between Oldhall Farm to the south-west, and the River Dane to the north-east. This location is on the north-eastern side of the A533 Bostock Road. The two linear banks, one of which is visible in two segments, are aligned north to south and north-east to south-west, on a south-facing slope. They may be former field boundaries not recorded on the tithe map and historic Ordnance Survey maps.	Figure 5	368413 367644
MA02_RS025		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Levelled ridge and furrow is visible on historic aerial photographs as cropmarks within a field between the River Dane to the south-west, and the Trent and Mersey Canal to	Figure 6	368588 368073

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					the north-east. This lies approximately 800m to the south-east of Bostock Hall Farm.		
MA02_RS026		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Two adjacent areas of levelled ridge and furrow of different alignments are visible on historic aerial photographs as cropmarks within a large field on the eastern side of the Trent and Mersey Canal. This lies approximately 300m to the west of Dairyhouse Farm.	Figure 6	368686 368237
MA02_RS027		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	Three areas of ridge and furrow are visible on LiDAR as earthworks within a field bounded by meanders of the River Dane to the west, and the Trent and Mersey Canal to the east. It is likely that these earthworks continued eastwards prior to being truncated by the construction of the canal. Two of these plots would originally have been contiguous, but have been divided by a later (no longer extant) field boundary. The earthworks in the south-eastern part of this field retain more definition than elsewhere.	Figure 6	368532 368245
MA02_RS028		Ridge and furrow	Levelled ridge and furrow	Medieval	Four areas of levelled ridge and furrow are visible on historic	Figure 6	368414 368543

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
				Post-medieval	aerial photographs as cropmarks within a large field bounded to the east by meanders of the River Dane. Bostock Hall Farm lies approximately 330m to the west. It appears that two of these individually transcribed plots would originally have been contiguous, but cropmark traces are not visible between them. It is possible that these remains have been removed, probably by later agricultural activity.		
MA02_RS029		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Two areas of levelled ridge and furrow are visible on historic aerial photographs as cropmarks within a field bounded by a meander of the River Dane to the west, and the Trent and Mersey Canal to the east. This lies approximately 500m to the north-east of Bostock Hall Farm. It is likely that the ridge and furrow would have continued to the east, prior to truncation by the construction of the canal.	Figure 6	368220 368925
MA02_RS030		Sand pit	Extent of Area	Modern	LiDAR imagery shows an irregular area of excavation beneath a patch of woodland on the north-eastern bank of the Trent and Mersey Canal. This lies	Figure 6	368536 368759

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					approximately 750m to the north-east of Bostock Hall Farm. The 1911 second edition Ordnance Survey map ¹⁸ records this as a Sand Pit.		
MA02_RS031		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Eight areas of levelled ridge and furrow are visible on historic aerial photographs as cropmarks within an extensive spread of fields on the eastern side of the Trent and Mersey Canal. These fields lie between Bostock Hall Farm to the south-west and Whatcroft Hall Lane to the north. There is an HER record for the site of a Second World War bombing decoy site within the central two fields of this group, although there is no evidence of this is visible on the historic aerial photographs or on the ground. All eight of these individually transcribed areas of ridge and furrow have the same alignment, and therefore may originally have been contiguous as part of the unenclosed medieval or early post-medieval agricultural landscape. They have	Figure 6	368587 369251

¹⁸ Unknown (c.1842), *Stanthorne tithe map*, Cheshire Archives and Local Studies, EDT 367/2.

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					subsequently been divided by later field boundaries, some of which are still extant.		
MA02_RS032		Ridge and furrow	Levelled ridge and furrow	Post-medieval	An area of levelled ridge and furrow is visible on historic aerial photographs as cropmarks within a field to the north-east of Bridge Farm, on the south-eastern side of Whatcroft Hall Lane. The ridges and furrows are visible as straight uniform lines which are suggestive of post-medieval agricultural machinery, such as the steam plough.	Figure 7	368500 370161
MA02_RS033		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	Three areas of ridge and furrow are visible on LiDAR as extant earthworks within fields to the north-east of Bridge Farm, on the north-western side of Whatcroft Hall Lane. These fields lie within a bend of the Trent and Mersey Canal, on the south-western side of the Northwich Branch of the LNWR. The ridges and furrows of the easternmost of these three plots are very wide and straight and in that respect contrast with the other two areas.	Figure 7	368484 370356
MA02_RS034		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Three adjacent areas of levelled ridge and furrow are visible on historic aerial photographs as	Figure 7	368040 370862

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					cropmarks within fields between Manor Farm to the west, and the Trent and Mersey Canal and the Northwich branch of the LNWR to the east. The northern boundary of the central of these three plots appears to have been truncated by a substantial pond which may have resulted from the construction of the Trent and Mersey Canal to the east.		
MA02_RS035		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Two adjacent areas of levelled ridge and furrow of different orientations are visible on historic aerial photographs as cropmarks within a long narrow field on the eastern side of the Trent and Mersey Canal. This is situated on the northern side of Whatcroft Hall Lane. It is likely that these areas of ridge and furrow were truncated by the construction of the canal.	Figure 7	368638 370617
MA02_RS036		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	Two areas of extant ridge and furrow are visible on LiDAR as earthworks within observed within two fields to the north of Whatcroft Hall Lane and east of the Trent and Mersey Canal. Their identical direction suggests they were contiguous prior to being	Figure 7	368724 370663

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					subdivided by the still extant enclosure field boundaries. They also have the same direction as one of the adjacent plots of levelled ridge and furrow recorded as MA02_RS0035.		
MA02_RS037		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	Two areas of faintly extant ridge and furrow are visible on LiDAR as earthworks at either end of a narrow strip of land between the Trent and Mersey Canal to the north-east and the Northwich branch line railway to the south-west. The two areas have the same alignment, suggesting they would originally have been contiguous. It is likely they were truncated by both the construction of the canal and the railway. The northernmost of these two plots has an area at its northern end which retains more definition of the earthworks than elsewhere.	Figure 7	368497 370633
MA02_RS038		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Three adjacent areas of levelled ridge and furrow of differing alignments are visible within a single large field to the south-east of Higginslane Farm. This is situated between the A530 King Street to the east and the Trent	Figure 7	368777 370978

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					and Mersey Canal to the west. The differing alignments and clear breaks between the plots were indicative of the original layout of this former area of unenclosed cultivation. The westernmost of these three plots appears likely to have been originally contiguous with the adjacent extant area of ridge and furrow recoded as MA02_RS039.		
MA02_RS039		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	An area of extant ridge and furrow is visible on LiDAR as earthworks within a field on the eastern side of Higginslane Farm. This is situated between the A530 King Street to the east and the Trent and Mersey Canal to the west. This appears likely to have been originally contiguous with the adjacent area of levelled ridge and furrow recoded as MA02_RS038.	Figure 8	368641 371162
MA02_RS040		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Four individually transcribed plots of levelled ridge and furrow are visible on historic aerial photographs as cropmarks within what is now a large single area on the western side of Higginslane Farm. This lies on the eastern side of the Trent and Mersey Canal, and to the south of Davenham	Figure 8	368351 371050

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					Road. The alignments of the ridges and furrows implies that three of these plots would originally have been contiguous but have been subdivided by later, no longer extant, field boundaries. It is likely that the construction of the canal truncated these areas of ridge and furrow to the west. The eastern corner of the ridge and furrow closest to the farm has been destroyed by the construction of a farm building.		
MA02_RS041		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	An area of extant ridge and furrow is visible on LiDAR as earthworks within a field bounded to the south by Davenham Road and to the west by the Trent and Mersey Canal. observed within enclosed agricultural ground to the north of Davenham Road and east of the Trent and Mersey Canal. It is likely that this area originally formed part of a contiguous landscape of open fields alongside the adjacent plots of levelled ridge and furrow recorded as MA02_RS040 and MA02_RS042. The alignment of the ridges and furrows is at a right angle to the orientation of those two levelled areas.	Figure 8	368327 371500

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
MA02_RS042		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Four areas of levelled ridge and furrow are visible on historic aerial photographs as cropmarks in fields to the west, north and north-west of Pear Tree Farm Cottages, on the northern side of Davenham Road. Marshall's Gorse woodland lies to the north. One of these plots has been disturbed by the addition of several interconnected modern drainage channels, although the earthworks of the ridge and furrow are still legible. Would have originally formed part of a contiguous landscape of open fields alongside the adjacent plot of extant ridge and furrow recorded as MA02_RS041.	Figure 8	368586 371579
MA02_RS043		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	Within the area of woodland named Marshall's Gorse, on the southern side of the Gadbrook Park Distribution Centre; two areas of extant ridge and furrow are visible as earthworks on LiDAR imagery. Their alignments suggest they would originally have been contiguous, although this is not visible on the LiDAR. The development of the industrial site	Figure 8	368521 371873

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					to the north is likely to have truncated these earthworks.		
MA02_RS044		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	An area of levelled ridge and furrow is visible on historic aerial photographs as cropmarks within a field to the east of the A530 King Street and of Marshall's Gorse. This is situated to the south of High House, on the northern side of Gad Brook.	Figure 8	368925 371945
MA02_RS045		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Five areas of levelled ridge and furrow are visible on historic aerial photographs as cropmarks within the fields surrounding High House. This location lies between the A556 Northwich Bypass to the north, the B5082 Penny's Lane to the east and the A530 King Street to the west. A 1996 desk-based assessment ¹⁹ noted the possibility of a brick kiln site within the field on the south-western side of High House, as suggested by the 1842 Rudheath tithe map ²⁰ field name (Plot 319: Brick Kiln Field). This was followed in 1996 by a	Figure 8	368720 372351

¹⁹ L-P Archaeology (2013), *Warmingham to Lostock Brine Pipeline: Archaeological Desk-Based Assessment*.

²⁰ Unknown (1842b), *Tithe Map of the Township of Rudheath in the Parish of Davenham in the County of Chester*, Cheshire Archives and Local Studies, Ref: EDT 345/2.

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					geophysical survey ²¹ which found heavy ground disturbance and no responses clearly indicating surviving kiln-type features. Two trenches in the same year identified no direct kiln production sites, although a ditch-like feature was found to be filled with much burnt and fired clay. Three metal detector findspots, including Roman and medieval artefacts, are recorded within the southern half of the northwesternmost field of this group. The ridges and furrows of the easternmost field comprise very straight and narrow uniform lines which are suggestive of post-medieval agricultural machinery, such as the steam plough.		
MA02_RS046		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Two adjacent areas of levelled ridge and furrow of different alignments are visible on historic aerial photographs as cropmarks within a field which lies between Melvin Holme to the north-west and Clay Bank Farm to the south-east. This is situated on the	Figure 9	369173 372527

²¹ Geophysical Surveys of Bradford (1996), *Gadbrook Park Northwich*, unpublished report, Bradford.

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					northern side of the B5082 Penny's Lane. It is likely these areas would originally have formed a part of the same unenclosed agricultural landscape as the levelled ridge and furrow recorded as MA02_RS045, on the far side of the road.		
MA02_RS047		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	An area of extant ridge and furrow is visible on LiDAR as a small patch of earthworks on the northern side of Melvin Holme. This is situated on the north-eastern side of the B5082 Penny's Lane. This would originally have formed part of the same unenclosed agricultural landscape as the adjacent areas of levelled ridge and furrow recorded as MA02_RS046 and MA02_RS048.	Figure 9	369143 372738
MA02_RS048		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Three areas of levelled ridge and furrow are visible on historic aerial photographs as cropmarks within fields to the north of Melvin Holme and to the south-east of Beech House, on the south-eastern side of the A556 Northwich Bypass. The northernmost two areas are likely to have been originally contiguous, but have been	Figure 9	369073 372869

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					subdivided by a later field boundary.		
MA02_RS049		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	A single isolated patch of faintly extant ridge and furrow is visible on LiDAR as earthworks within the paddock or small field to the rear of number 39 Birches Lane, Lostock Green. This is situated on the northern side of Birches Lane, between the church to the south-east, and Greenside Drive to the north-west.	Figure 9	369534 373631
MA02_RS050		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	Three areas of extant ridge and furrow are visible on LiDAR as earthworks within fields adjacent to Springbank Farm, to the west of Birches Lane. All three areas have the same alignment of ridges and furrows, and are likely to have originally been contiguous prior to their subdivision by later field boundaries. The westernmost area has been truncated to the west by a modern utilities excavation.	Figure 9	369095 373953
MA02_RS051		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	An area of levelled ridge and furrow is visible on historic aerial photographs as cropmarks across the playing field of Byley Primary School; the area of allotments adjacent to the south-east; and	Figure 13	372551 369334

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					the paddocks adjacent to the north-east. This is situated on the northern side of Moss Lane.		
MA02_RS052		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	An area of extant ridge and furrow is visible as earthworks on both the historic and 2019 aerial imagery. Likely to be associated with a further area of nearby extant ridge and furrow to the west-north-west (recorded as MA02_RS053). Located on the northern side of Moss Lane, Byley; opposite the Rectory to St John's Church.	Figure 13	372328 369404
MA02_RS053		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	An area of ridge and furrow visible from both the historic and 2019 aerial imagery. Likely to be associated with similar remains two field along to the south-south-east. Located to the north of Moss Lane and the east of the B5081 Byley Lane.	Figure 13	372178 369446
MA02_RS054		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	An area of ridge and furrow is visible from both the historic aerial imagery and the 2019 aerial imagery. Located to the west of the B5081 Byley Lane.	Figure 12	371950 369770
MA02_RS055		Ridge and furrow	Extant ridge and furrow	Medieval Post-medieval	An area of ridge and furrow is visible from both the historic aerial imagery and the 2019 aerial	Figure 13	372269 369756

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					imagery. Located to the west of the B5081 Byley Lane.		
MA02_RS056	MA02_0327	Dispersal pen Hardstand Frying-pan type	Extent of area	Modern	Areas of hardstanding used for parking aircraft in a state of readiness. The examples identified at RAF Cranage are of the frying-pan shape variation. Located on the southern side of King's Lane. The feature is still present.	Figure 13	373235 370306
MA02_RS057	MA02_0214	Dispersal pen Hardstand Frying-pan type	Extent of area	Modern	Areas of hardstanding used for parking aircraft in a state of readiness. The examples identified at RAF Cranage are of the frying-pan shape variation. Located underneath and truncated by the M6. The feature has been destroyed.	Figure 14	373745 370116
MA02_RS058	MA02_0214	Dispersal pen Hardstand Frying-pan type	Extent of area	Modern	Areas of hardstanding used for parking aircraft in a state of readiness. The examples identified at RAF Cranage are of the frying-pan shape variation. The feature has been destroyed.	Figure 14	373958 369792
MA02_RS059	MA02_0271	Ditch Boundary ditch Ditched enclosure	Ditch	Iron Age	Three curvilinear cropmarks located on the eastern side of the M6 which seemingly form part of an enclosure. The two smaller ditches on the eastern side may be evidence of extending this	Figure 14	374074 369794

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					feature may be of an Iron Age date. Located to the south-east of the junction between the M6 and King's Lane.		
MA02_RS060	MA02_0214	Aircraft hangar (type j)	Structure	Modern	Two J type hangars used for storage and repairs of aircraft. One is located immediately north of the junction between the M6 and King's Lane and the other to the east of the M6 and south of the B5082 Northwich Road. The hangars have been destroyed.	Figure 14	373707 370234
MA02_RS061	MA02_0214	Airfield building Hangar	Structure	Modern	Several dispersal huts of varying sizes in the southern end of the airfield. Also of note is their close proximity to the scheduled "Battle Headquarters" to the north-east. They are observed in 1946 aerial imagery. The buildings have been destroyed.	Figure 13	373065 369305
MA02_RS062	MA02_0218	Airfield defence site	Structure	Modern	The extant southern pillbox of the scheduled monument of the World War II defences of the former airfield of RAF Cranage. Stands up to about 2m high with an entrance on the northern side together with an entrance porch or blast wall.	Figure 13	373035 369292
MA02_RS063	MA02_2018	Military base	Structure	Modern	Extant structure that forms part of the scheduled monument of the	Figure 13	373232 369456

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
		Air force headquarters			World War II defences of the former airfield of RAF Cranage Battle Headquarters. This would have been used as the command centre for military operations during the Second World War and as it retains much of its original defensive provision is near complete. Part of the RAF Cranage World War II defences scheduled monument.		
MA02_RS064	MA02_0214	Military base Anti-aircraft battery	Structure	Modern	Light anti-aircraft battery emplacement adjacent to the RAF Cranage battle headquarters. Part of the RAF Cranage defences scheduled monument. The structure remains extant.	Figure 13	373227 369446
MA02_RS065	MA02_0214	Aircraft Parking	Extent of area	Modern	Rows of parked aircraft can be observed in oblique aerial imagery from 1940. No evidence relating to this feature is now visible in landscape.	Figures 13 and 14	373104 369148
MA02_RS066	MA02_0214	Aircraft hangar Type t2 transportable	Structure	Modern	Eight transportable hangars within the main compound of RAF Cranage. Earliest aerial images in 1940 indicate that they were dressed in a camouflage cladding on their roofs. The structures are now destroyed.	Figure 13	372933 369908

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
MA02_RS067	MA02_0214	Nissen hut Barracks	Structure	Modern	Sleeping quarters for the personnel of RAF Cranage. Dispersed throughout the broader area of the compound. The buildings are now destroyed.	Figure 13	372732 370071
MA02_RS068	MA02_0214	Airfield building	Structure	Modern	Large permanent structure, possibly a re-purposed farm building, positioned at the western entrance of RAF Cranage compound. The building has been destroyed.	Figure 13	372533 369903
MA02_RS069	MA02_0214	Emergency water supply	Large cut feature	Modern	Emergency water supplies for the RAF Cranage compound. The feature has been destroyed.	Figure 13	372845 369977
MA02_RS070	MA02_0214	Airfield building Water tower	Structure	Modern	Probable water supply tower that is only visible from 1940 oblique aerial images. The structure is no longer present and was probably destroyed in the early 1940s.	Figure 13	372844 370153
MA02_RS071	MA02_0214	Airfield building Aircraft engineering site	Structure	Modern	Several non-permanent buildings within the RAF Cranage compound. They may have been used for engineering and repair activities associated with military aircraft, due to their proximity to the T2 hangars. The buildings have been destroyed.	Figure 13	372940 369860
MA02_RS072	MA02_0218	Airfield defence site	Structure	Modern	Extant pillbox forming part of the scheduled monument of the World War II defences of the	Figure 14	373584 370112

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
		Pillbox type fw3/24			former airfield of RAF Cranage. This large Type 24 (variant) pillbox in the north-east corner of the former airfield, lies in a field on the south side of King's Lane. It has large stepped embrasures that enabled a 360-degree covering fire.		
MA02_RS073	MA02_0214	Airfield building Fuel tanks	Structure	Modern	A cluster of buildings in the south-eastern corner of the airfield. Only present in 1940-19411 aerial imagery, thus they are associated with the pre-X shaped grass runway. Imagery clearly shows fuel tanks and other small buildings, suggesting that this may have been a refuelling site. Located to the north of A530 Middlewich Road and to the west of the M6. The buildings have been destroyed.	Figure 14	373888 369489
MA02_RS074	MA02_0324	Airfield Road	Extent of area	Modern	Road system within the RAF Cranage compound. Possible section survives where it joins the B5081 Byley Lane to the south of the main access to the gas storage facility. Other sections may survive in undeveloped and overgrown parts surrounding the gas storage facility.	Figure 13	372813 369983

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
MA02_RS075	MA02_0273	Airfield Taxiway	Extent of area	Modern	Aircraft taxiways for RAF Cranage. Portions of the trackways are still visible in the 2019 aerial images as cropmarks, with a large surviving section visible in fields between Moss Lane commercial estate to the south and the gas storage facility to the north.	Figure 14	372881 369808
MA02_RS076	MA02_0214	Dispersal pen Hardstand Frying-pan type	Extent of area	Modern	Areas of hardstanding used for parking aircraft in a state of readiness. The ones in RAF Cranage are of the frying-pan shape variation. The feature has been destroyed.	Figure 14	373669 369014
MA02_RS077		Airfield Landing aids	Structure	Modern	A curved alignment of small, circular structures at the southernmost end of the runway. Possibly used as a lighting system to denote the perimeter of the airfield. Only present in 1946 aerial images Located to the north of A530 Middlewich Road and to the west of the M6. The structures have been destroyed.	Figure 14	373407 369008
MA02_RS078		Airfield Trackway	Extent of area	Modern	Remnants of the trackways which are present in 1941 aerial images. Portions of the trackways are possibly still visible in the 2019 aerial images as cropmarks. No extant remains are now visible.	Figures 13 and 14	373515 369524

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
MA02_RS079	MA02_0214	Airfield Runway	Extent of area	Modern	Three grass runways used for landing and take-off at RAF Cranage. Their positioning and length would certainly have varied over the time of its use, due to changing ground conditions. This current transcription illustrates the runways during March of 1946. It is notable that the earlier aerial imagery does not depict any obvious marking in the area. No remains are now visible.	Figures 13 and 14	373424 369632
MA02_RS080	MA02_0214	Airfield Trackway	Extent of area	Post-Medieval Modern	Remnants of the trackways which are present in 1941 aerial images. Portions of the trackways are still observable in the 2019 aerial images as cropmarks, but no surviving parts are visible.	Figure 13	373083 369163
MA02_RS081	MA02_0272	Rectilinear wall foundations	Structure	Post-Medieval	Cropmarks indicate the presence of a rectilinear structure. Possibly associated with the adjacent farm buildings to the north. Located immediately south of the B5082 Holmes Chapel Road and to the west of the M6.	Figure 13	373303 370718
MA02_RS082		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	An area of ridge and furrow is visible from the historic aerial imagery. Modern ground disturbances have truncated any remains.	Figure 13	372825 369373

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
MA02_RS083	MA02_0323	Extractive pit Anti-aircraft battery	Large cut feature	Post-Medieval Modern	An extractive pit/trench which is visible in historic Ordnance Survey mapping and seems to have been reused for defensive purposes for the adjacent AA battery. The earthwork is still present in landscape.	Figure 13	372396 369560
MA02_RS084		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	An area of ridge and furrow is visible from the historic aerial imagery. Modern constructions have now since truncated any evidence of the field system. Within the same area lies the remains of the airfield taxiway which would have connected the base with the arms factory to the south. Located to the north of Moss Lane and the east of the B5081.	Figure 13	372423 369364
MA02_RS085	MA02_0325	Anti-aircraft battery command post	Structure	Modern	Possible Anti-Aircraft Battery Command Centre visible in historic aerial photographs and modern imagery. W shaped blast wall covers its eastern elevation. Gun emplacements and defensive ditch can be found 200m to the north-west. The structure remains extant.	Figure 13	372616 369456
MA02_RS086	MA02_0273	Airfield Taxiway	Extent of area	Modern	Aircraft taxiways for RAF Cranage. Taxiways in the southern end of the site provide access for the	Figure 13	372420 369336

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					Wellington bombers being produced in the nearby "Vickers-Armstrong" shadow factory which then could be tested within the airfield. Located to the north of Moss Lane and the east of the B5081 Byley Lane. The taxiways have been destroyed.		
MA02_RS087	MA02_0274	Aircraft hangar	Structure	Modern	Hangar associated with the taxiing of aircraft from the nearby Vickers Armstrong shadow factory. Historic aerial imagery shows the hangar located adjacently to the north of Moss Lane. The site is now occupied by a warehouse of apparently modern construction but with a similar footprint to the hangar. It is possible that parts of the original structure or foundations may have been incorporated into the modern building, but this is unlikely.	Figure 13	372458 369319
MA02_RS088	MA02_0275	Waterworks	Structure	Modern	Site of a wastewater processing facility. Historic aerial imagery from 1941 clearly shows the extent of the facilities located to the west of the B5081 Byley Lane. The only remains now visible in the landscape are the two clarifying pits and the outlines of	Figure 12	372063 369657

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					structures as cropmarks and debris.		
MA02_RS089	MA02_0275	Waterworks	Extent of area	Modern	Site of a wastewater processing facility. Historic aerial imagery from 1941 clearly shows the extent of the facilities located to the west of the B5081 Byley Lane. The only remains now visible in the landscape are the two clarifying pits and the outlines of structures as cropmarks and debris.	Figure 12	372048 369649
MA02_RS090	MA02_0326	Extractive pit	Large cut feature	Post-Medieval	Area to the north-east of the wastewater processing facility (MA02_RS088-89). A cut feature is present in both present and historic aerial images. The feature is made up of a series of intercutting extraction pits that are still present in landscape.	Figure 12	371966 369847
MA02_RS091	MA02_0214	Airfield Living quarters	Structure	Modern	Living quarters and administration buildings for the personnel of RAF Cranage. The buildings were dispersed throughout the broader area of the compound. All of these buildings have been destroyed.	Figure 13	372758 370099
MA02_RS092	MA02_0214	Airfield Taxiway	Extent of area	Modern	Aircraft taxiways for RAF Cranage. A road or trackway still follows the curved line of the western section	Figure 13	373109 369134

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					of the taxiway, but the eastern half appears to be destroyed.		
MA02_RS093	MA02_0214	Watch office Watch office 17658/40	Structure	Modern	Watch office tower which, due to its dimensions, could be a "fighter satellite 17658/4 variant". The building was located adjacently south of King's Lane, but has been destroyed.	Figure 13	373040 370428
MA02_RS094	MA02_0214	Aircraft hangar (type j)	Structure	Modern	J type hangars used for storage and repairs of aircraft. The hangars have all been destroyed.	Figure 13	373168 370102
MA02_RS095	MA02_0214	Airfield building Nissen hut	Structure	Modern	Two Nissen huts to the north-east of the RAF Cranage compound. Due to their proximity to the airfield taxiways they are were likely to be associated with the dispersal of aircraft. The huts have been destroyed.	Figure 13	373011 370231
MA02_RS096		Pillbox (type fw3/22	Structure	Modern	Hexagonal shaped pillbox of the type FW3/22 variation. Originally located immediately south of the east-west grass runway, but is no longer present.	Figure 13	372953 369472
MA02_RS097	MA02_0276	Anti-landing obstacle	Structure	Modern	Obstacles to prevent enemy aircraft landing during the Second World War are visible as a lattice/grid pattern of structures laid out across fields which now lie to the south of the RAF Cranage airfield and runway. The	Figure 13	372698 369185

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					structures are only present in the aerial imagery from 1940, and were seemingly removed by 1941. The small roughly rectangular structures vary slightly in size, shape and spacing. The components were light coloured in appearance, and may have been concrete blocks or something more improvised, such as haystacks/bales. The intention was to deny the opportunity for easy landing. The structures were located on either side of Moss Lane but were intentionally temporary and no evidence now remains in the landscape.		
MA02_RS098		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	An area of ridge and furrow is visible from the 1941 aerial imagery as located to the north of A530 Middlewich Road and to the west of the M6. Modern ground disturbances have truncated any remains.	Figure 14	373511 369042
MA02_RS099	MA02_0214	Airfield building Fuel tanks Munition	Structure	Modern	A cluster of buildings in the south-east corner of the airfield. The buldings are only present in aerial imagery from 1940-1941, and are thus considered to have been associated with the pre-X shaped grass runway. Aerial imagery	Figure 14	373872 369378

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Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					clearly shows fuel tanks and other small buildings at this location, suggesting that this area was a refuelling site. The site was located to the north of A530 Middlewich Road and to the west of the M6 but no remains are now visible.		
MA02_RS100		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	An area of ridge and furrow is visible from the 1941 aerial imagery as located to the south of A530 Middlewich Road and adjacent to the M6. Modern ground disturbances have truncated any remains.	Figure 14	373897 368702
MA02_RS101	MA02_0218	Airfield defence site Pillbox	Structure	Modern	The extant eastern pillbox of the scheduled monument of the World War II defences of the former airfield of RAF Cranage. The structure is up to about 1.5m high with traces of possible entrances on the east and west sides.	Figure 14	373828 369252
MA02_RS102	MA02_0214	Aircraft Parking	Extent of area	Modern	Rows of parked aircraft observed in 1941 imagery. No evidence of the site is now present in the landscape.	Figure 13	373384 370148
MA02_RS103		Extractive pit Geological marks	Large cut feature	Medieval Post-Medieval	Area of concentrated ground disturbances located adjacent to the east of the M6 and south of	Figure 14	373814 370297

Background Information and Data
 Historic environment
 BID HE-005-0MA02
 MA02: Wimboldsley to Lostock Gralam
 Historic environment remote sensing report

Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
					the B5082 Northwich Road. Cropmarks shown in present and 1959 imagery could perhaps be evidence of extractive pits of an unknown date. Alternatively, the features could be the result of geological marks..		
MA02_RS104		Ditch Field system	Ditch	Medieval Post-Medieval	Aerial imagery from 1945 and 1959 indicate the presence of several interconnecting linear ditches that may have formed part of a field system. The interpretation of the area is tentative as in later images the evidence becomes sporadic and less clear. The field system represents the land boundaries that had previously been allocated here before the land was claimed by the RAF.	Figure 13	372997 369641
MA02_RS105		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	An area of ridge and furrow is visible from the historic aerial imagery as located to the west of the B5081 Byley Lane.	Figure 12	371987 369933
MA02_RS106		Ridge and furrow	Levelled ridge and furrow	Medieval Post-medieval	Ridge and furrow field system visible in both 1989 and modern aerial imagery. A modern field drain truncates the feature from north to south.	Figure 14	372418 369565

Background Information and Data
 Historic environment
 BID HE-005-0MA02
 MA02: Wimboldsley to Lostock Gram
 Historic environment remote sensing report

Reference	Asset UID	Feature category	Feature type	Period	Comment	Figure	NGR
MA02_RS107	MA02_0218	Airfield defence site Pillbox	Structure	Modern	The western pillbox of the scheduled monument of the World War II defences of the former airfield of RAF Cranage. The structure survives as archaeological remains in the form of a grass-covered rubble mound of about 12m in diameter.	Figure 13	372481 369825
MA02_RS108	MA02_0218	Airfield building Night shelter	Structure	Modern	Extant concrete sleeping shelter of the scheduled part of the World War II defences of the former airfield of RAF Cranage. The structures would have provided night accommodation for airmen. Internally, there were eleven two bunk cubicles separated by brick partitions either side of a central passageway.	Figure 14	373916 369445

5 List of acronyms

5.1.1 The following acronyms in Table 2 have been used in this report.

Table 2: List of acronyms

Acronym	Meaning
ACA	Archaeological Character Area
ASZ	Archaeological Sub-zone
BID	Background Information and Data
CAPAS	Cheshire Archaeology Planning Advisory Service
CUCAP	Cambridge University Collection of Aerial Photographs
DEFRA	Department for Environment, Food & Rural Affairs
GIS	Geographical Information System
HER	historic environment record
HLC/HLCA	historic landscape character/ Historic Landscape Character Area
LiDAR	Light Detection and Ranging
LNWR	London Northwestern Railway
NGR	National Grid Reference
NHLE	National Heritage List for England
NMP	National Mapping Programme
NRHE	National Record of the Historic Environment
PRoW	Public Right of Way
RAF	Royal Air Force
RVT	Relief Visualisation Toolkit
UID	Unique gazetteer identifier
WCML	West Coast Main Line

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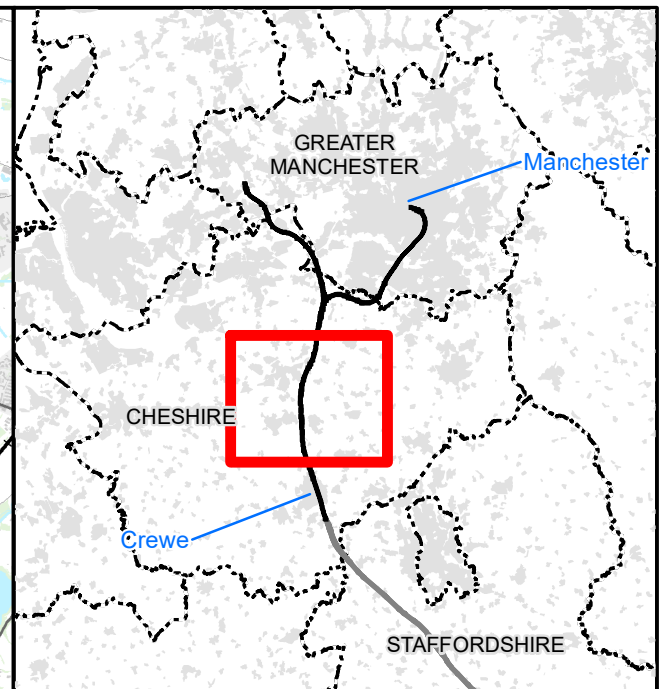
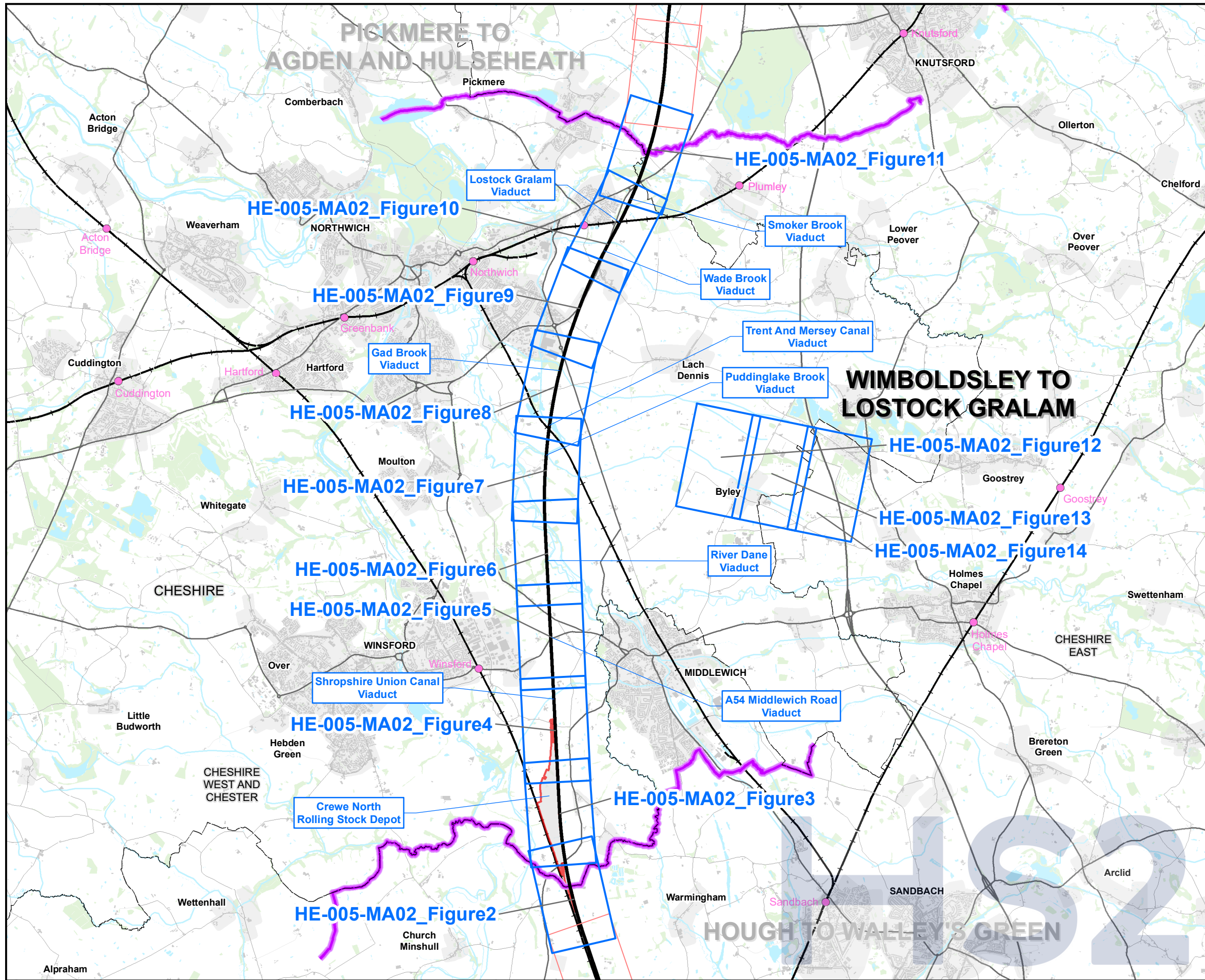
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Map Series Information:

These maps show the results of the remote sensing surveys in relation to the land required for the construction of the Proposed Scheme.

- Main Map Legend**
- Route in tunnel
 - Route on surface
 - Depot, station, headhouse or portal building
 - Community area boundary
 - Existing railway station
 - County boundary
 - District/Borough boundary
 - Map sheets included in this community area
 - Map sheets not included in this community area

Map Number	HE-005_MAO2_Figure1
Map Name	Remote Sensing Survey Index map
Community Area MA02: Wimboldsley to Lostock Gralam	

Note: Not all data layers in the legend are represented on every map.

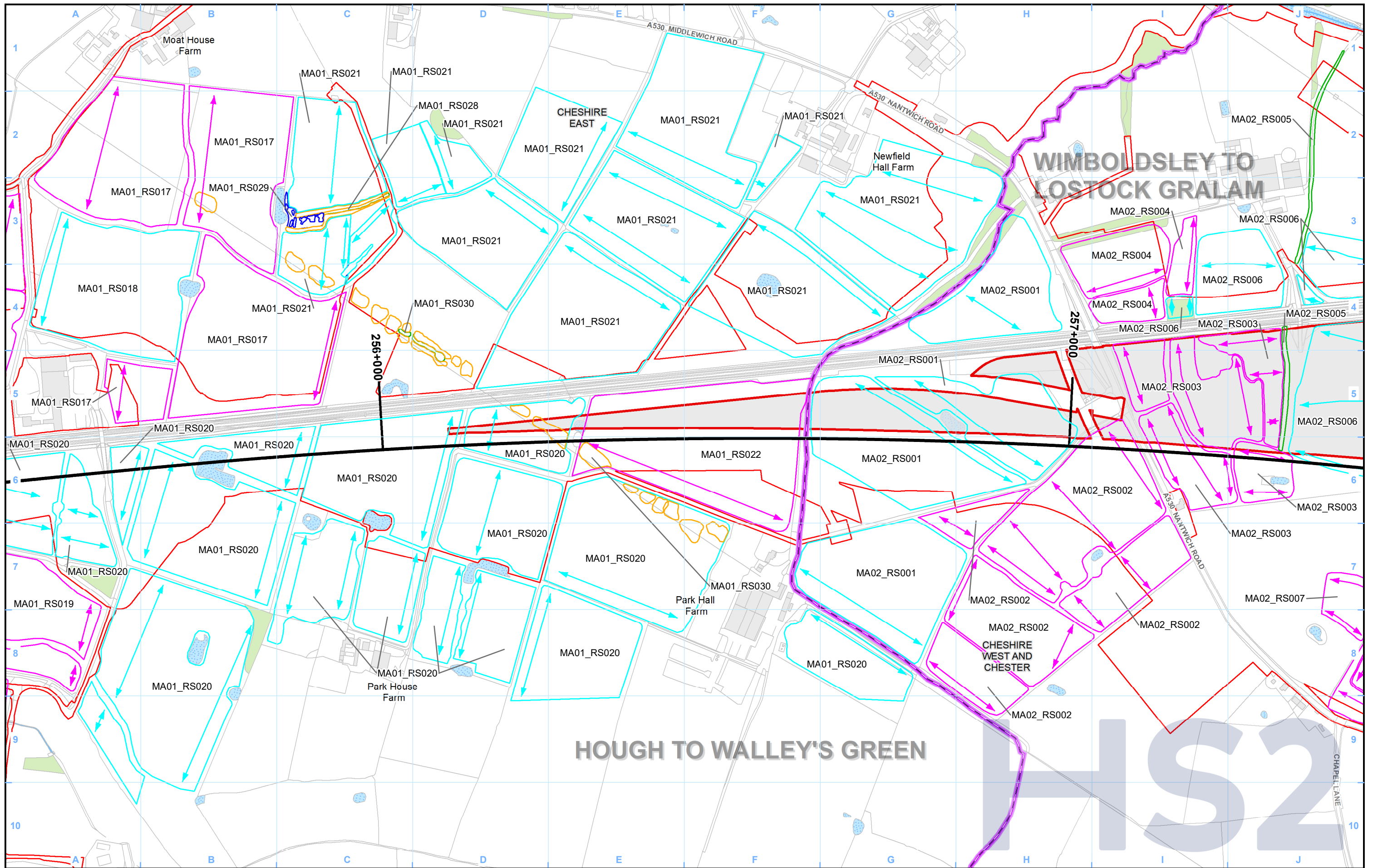
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Legend		
	Remote sensing feature type	

Map Number	HE-005_MA02_Figure2
Map Name	Remote Sensing Survey Interpretation
	Community Area MA02: Wimboldsley to Lostock Gralam

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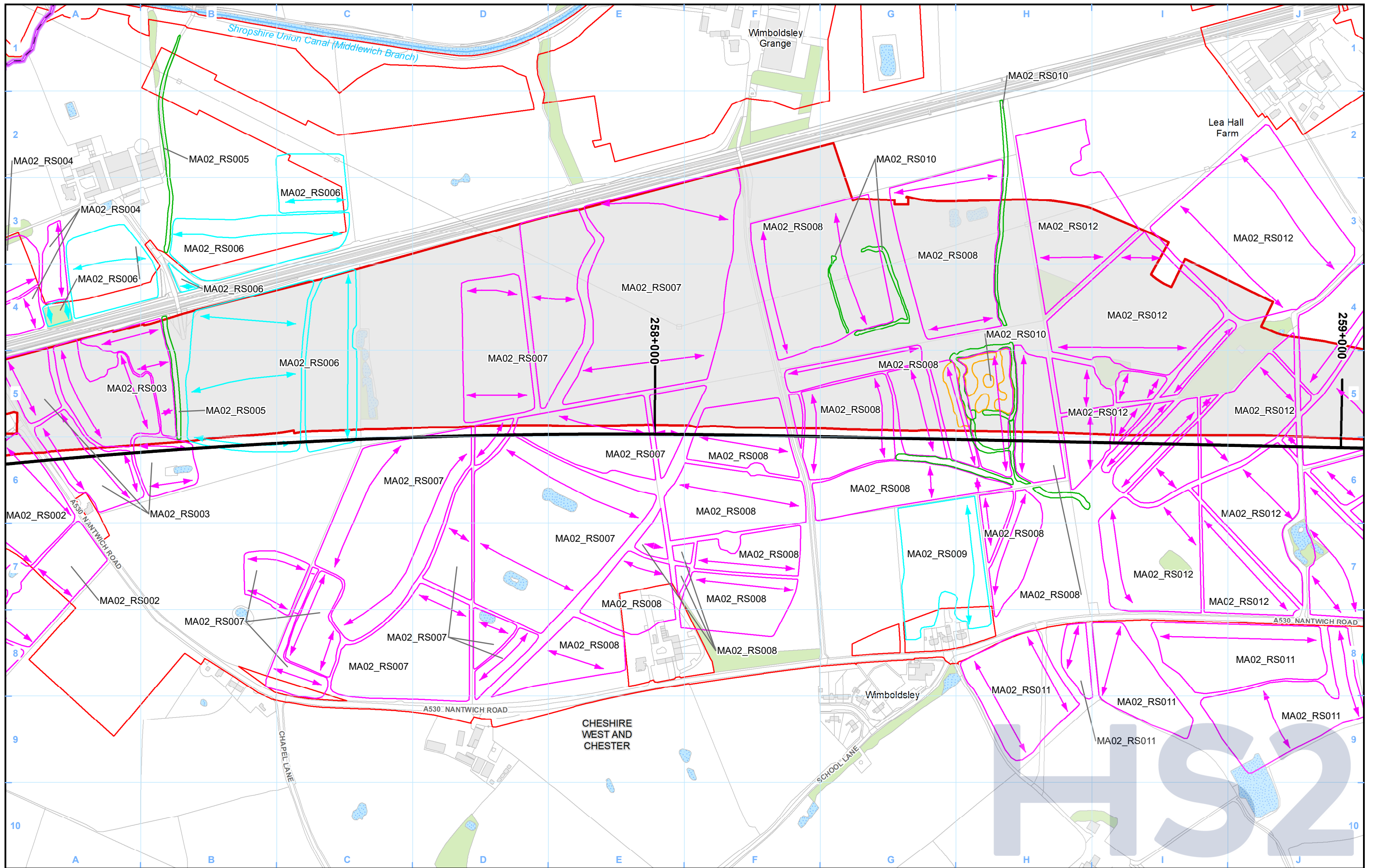
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Legend		
	Remote sensing feature type	

Map Number HE-005_MA02_Figure3

Map Name Remote Sensing Survey Interpretation

Community Area MA02: Wimboldsley to Lostock Gralam

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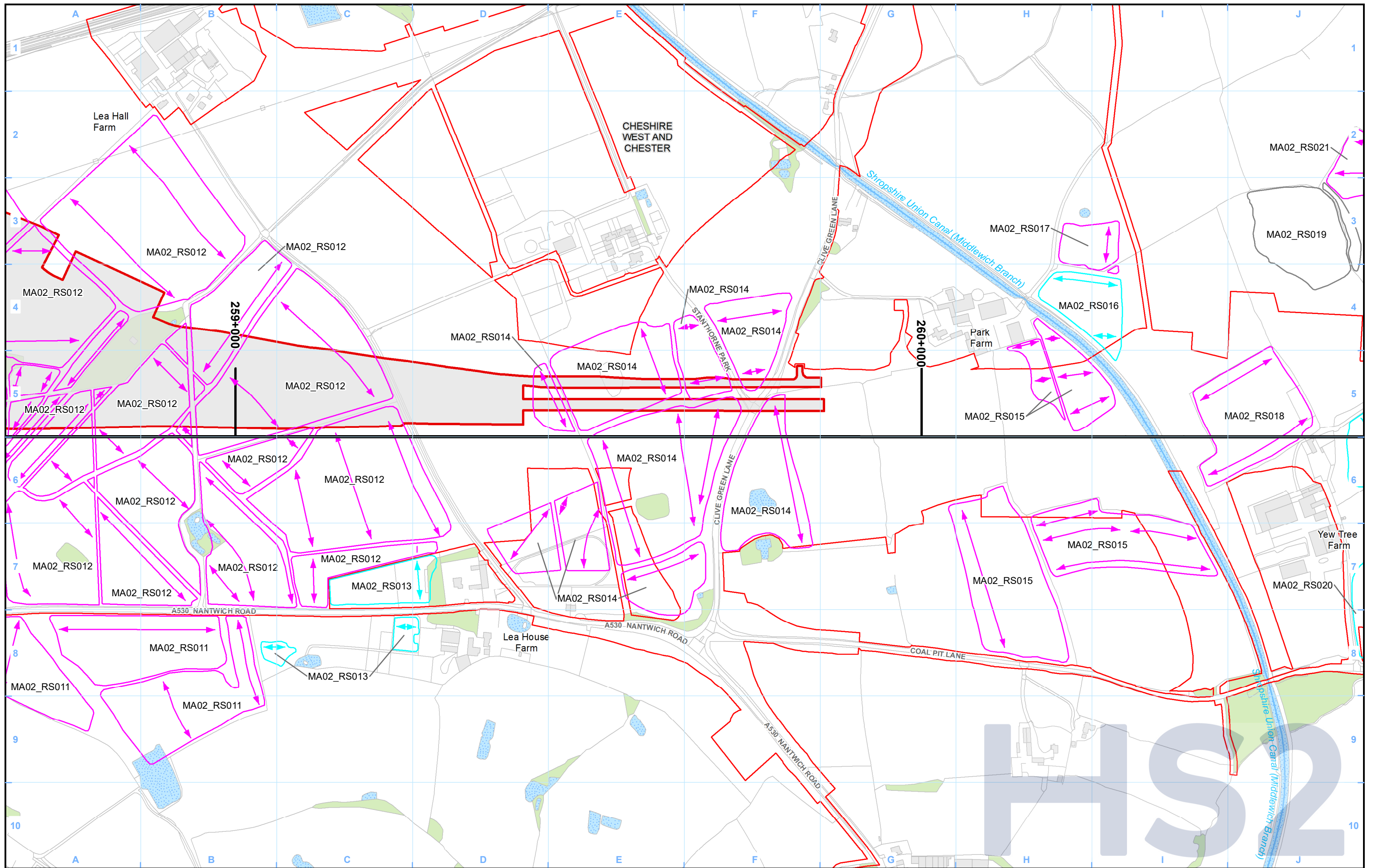
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Legend

Route in tunnel	Watercourse	Extant ridge and furrow area
Route on surface	Water body	Extant ridge and furrow direction
Depot, station, headhouse or portal building	Remote sensing feature type	Extent of area
Land potentially required during construction	Bank	Large cut feature
Community area boundary	Ditch	Services
County boundary	Levelled ridge and furrow area	Structure
District/Borough boundary	Levelled ridge and furrow direction	T-hachure

Map Number HE-005_MA02_Figure4

Map Name Remote Sensing Survey Interpretation

Community Area MA02: Wimboldsley to Lostock Gralam

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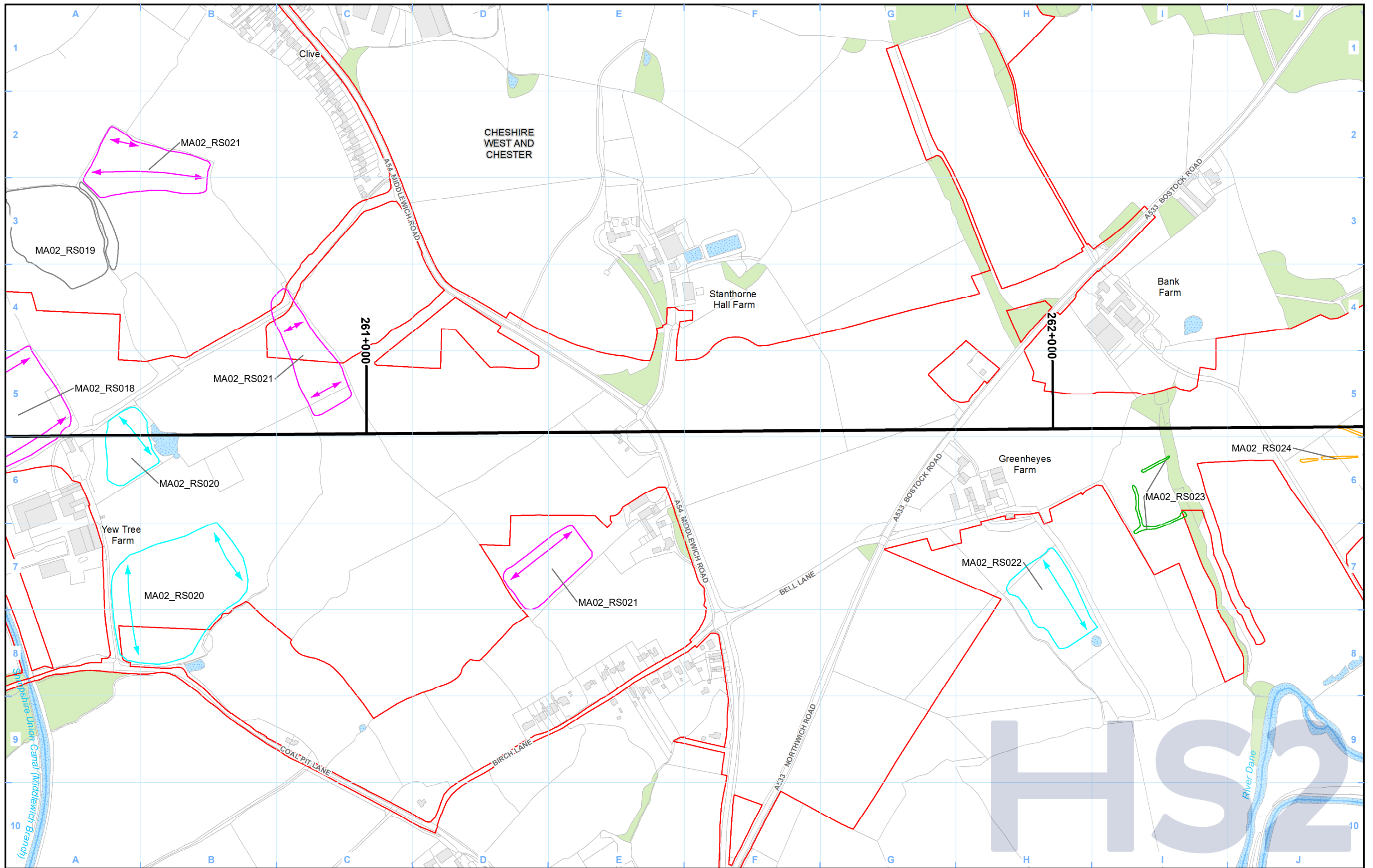
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Legend		
	Remote sensing feature type	

Map Number HE-005_MA02_Figure5

Map Name Remote Sensing Survey Interpretation

Community Area MA02: Wimboldsley to Lostock Grlam

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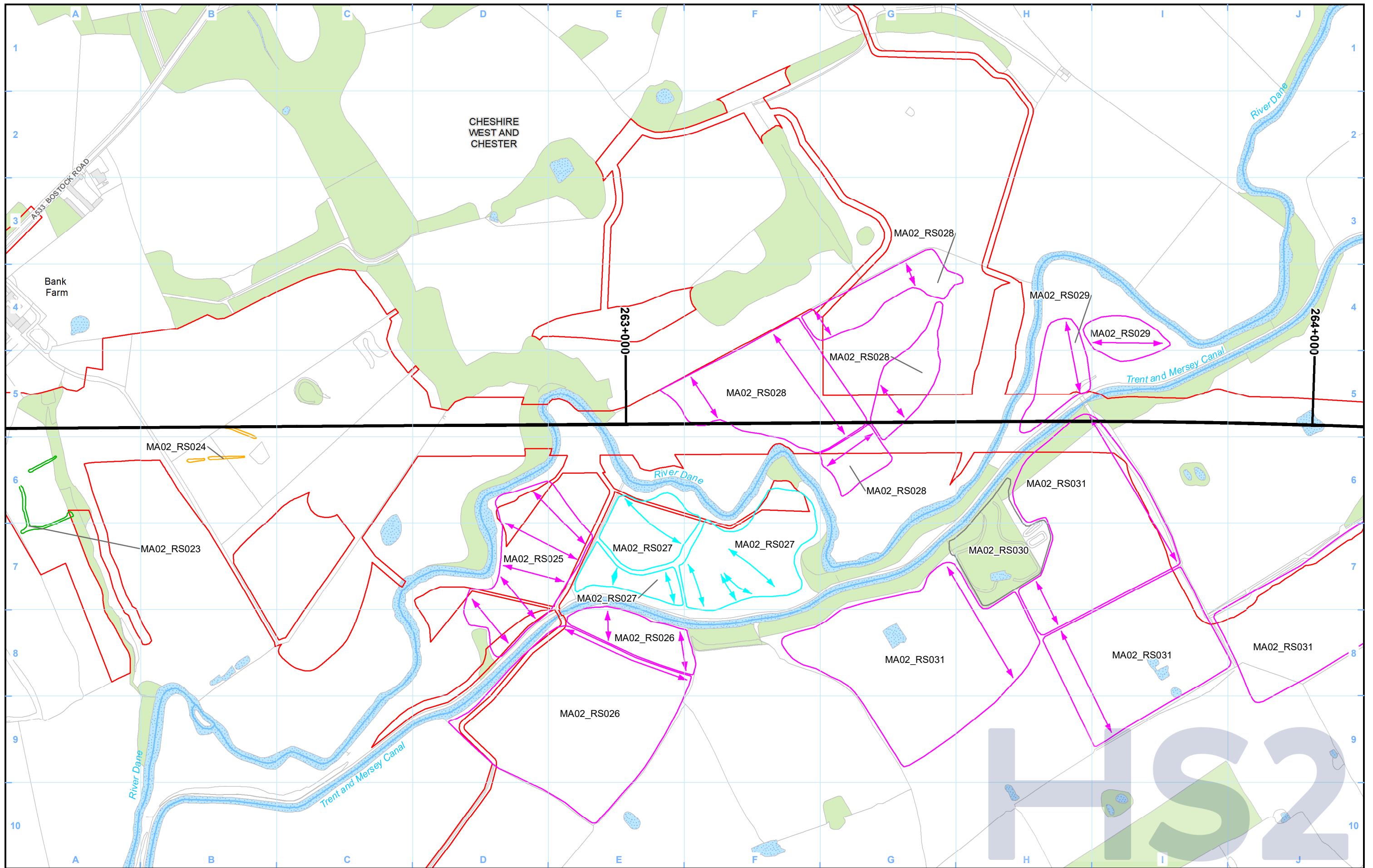
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Legend	
	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Land potentially required during construction
	Community area boundary
	County boundary
	District/Borough boundary
	Watercourse
	Water body
	Remote sensing feature type
	Bank
	Ditch
	Levelled ridge and furrow area
	Levelled ridge and furrow direction
	Extant ridge and furrow area
	Extant ridge and furrow direction
	Extent of area
	Large cut feature
	Services
	Structure
	T-hachure

Map Number	HE-005_MA02_Figure6
Map Name	Remote Sensing Survey Interpretation
	Community Area MA02: Wimboldsley to Lostock Gralam

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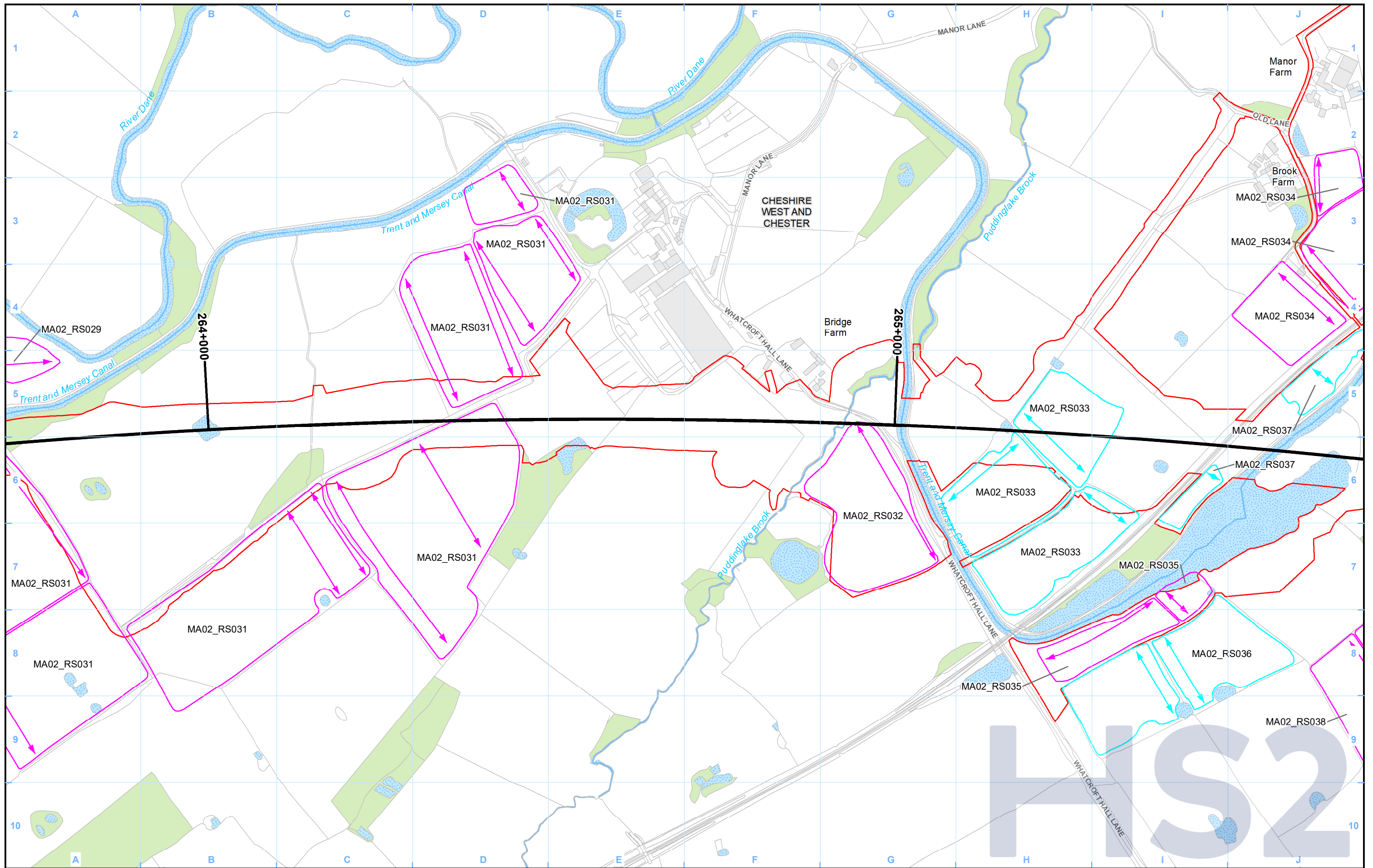
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Legend		
	Remote sensing feature type	

Map Number	HE-005_MA02_Figure7
Map Name	Remote Sensing Survey Interpretation
	Community Area MA02: Wimboldsley to Lostock Gralam

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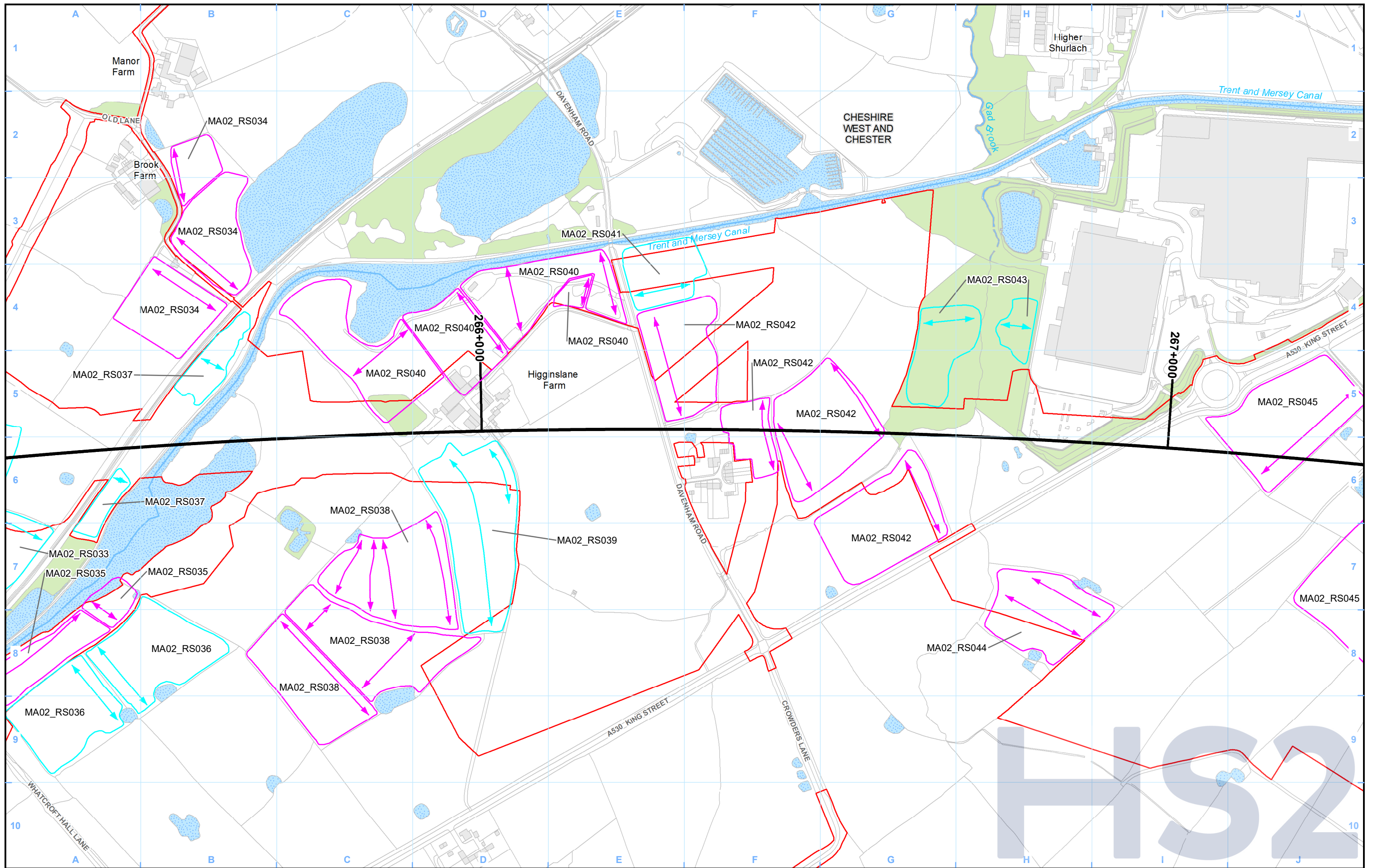
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Legend	
	Watercourse
	Water body
	Remote sensing feature type
	Bank
	Ditch
	Levelled ridge and furrow area
	Levelled ridge and furrow direction
	Extent of area
	Large cut feature
	Structure
	T-hachure

Map Number HE-005_MA02_Figure8

Map Name Remote Sensing Survey Interpretation

Community Area MA02: Wimboldsley to Lostock Gralam

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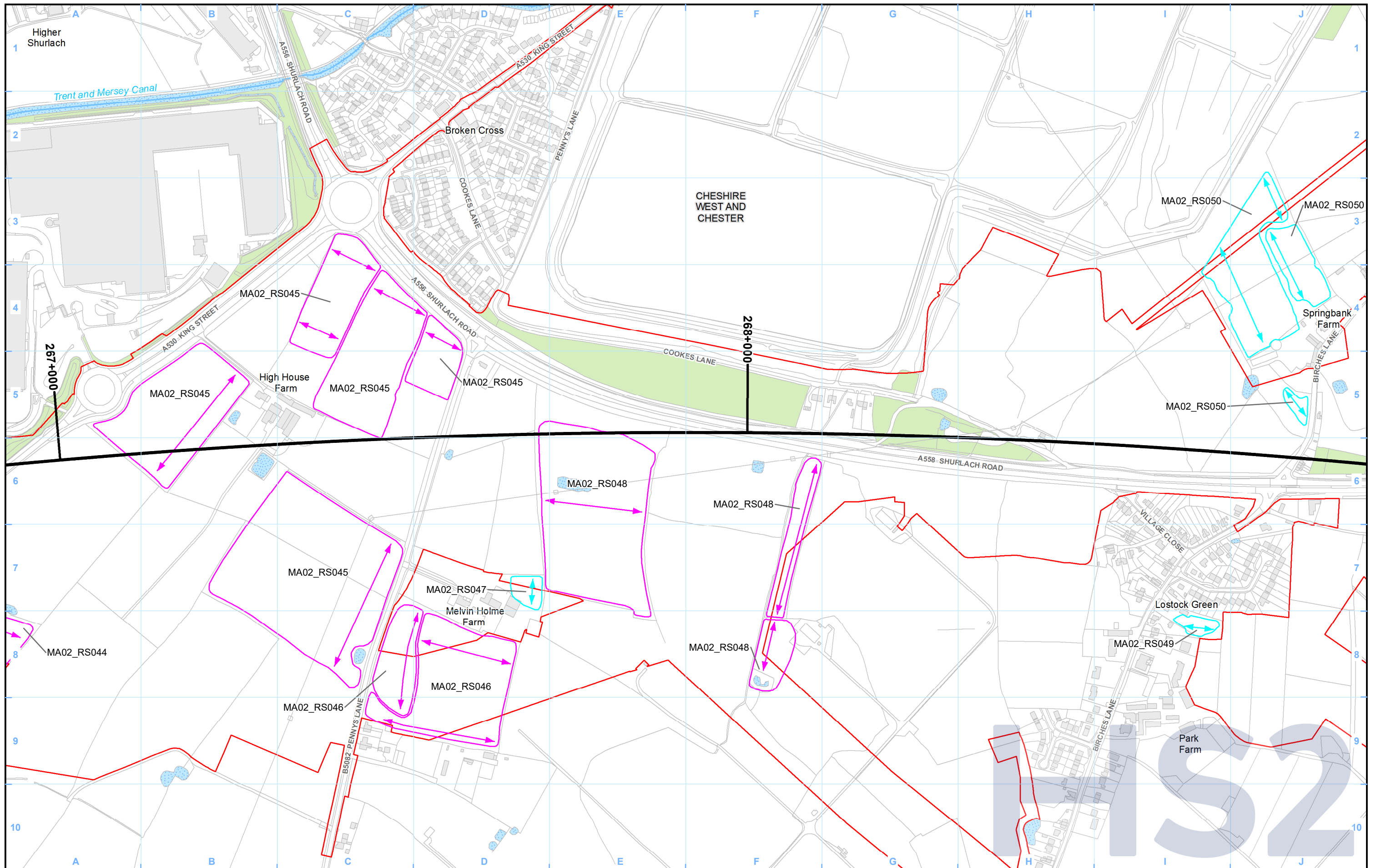
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Legend		
	Remote sensing feature type	

Map Number	HE-005_MA02_Figure9
Map Name	Remote Sensing Survey Interpretation
	Community Area MA02: Wimboldsley to Lostock Gralam

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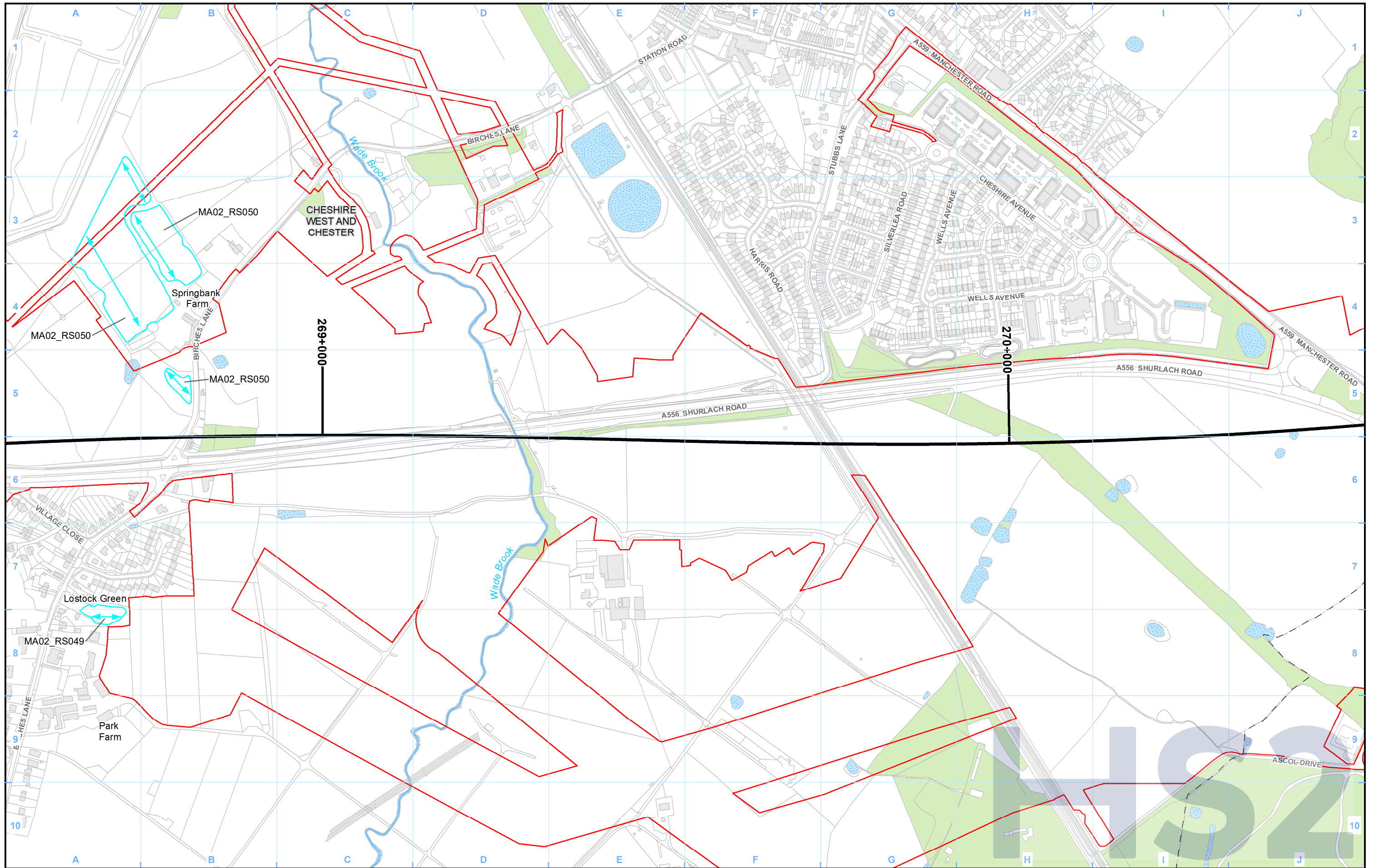
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	Remote sensing feature type	

Map Number HE-005_MA02_Figure10

Map Name Remote Sensing Survey Interpretation

Community Area MA02: Wimboldsley to Lostock Gralam

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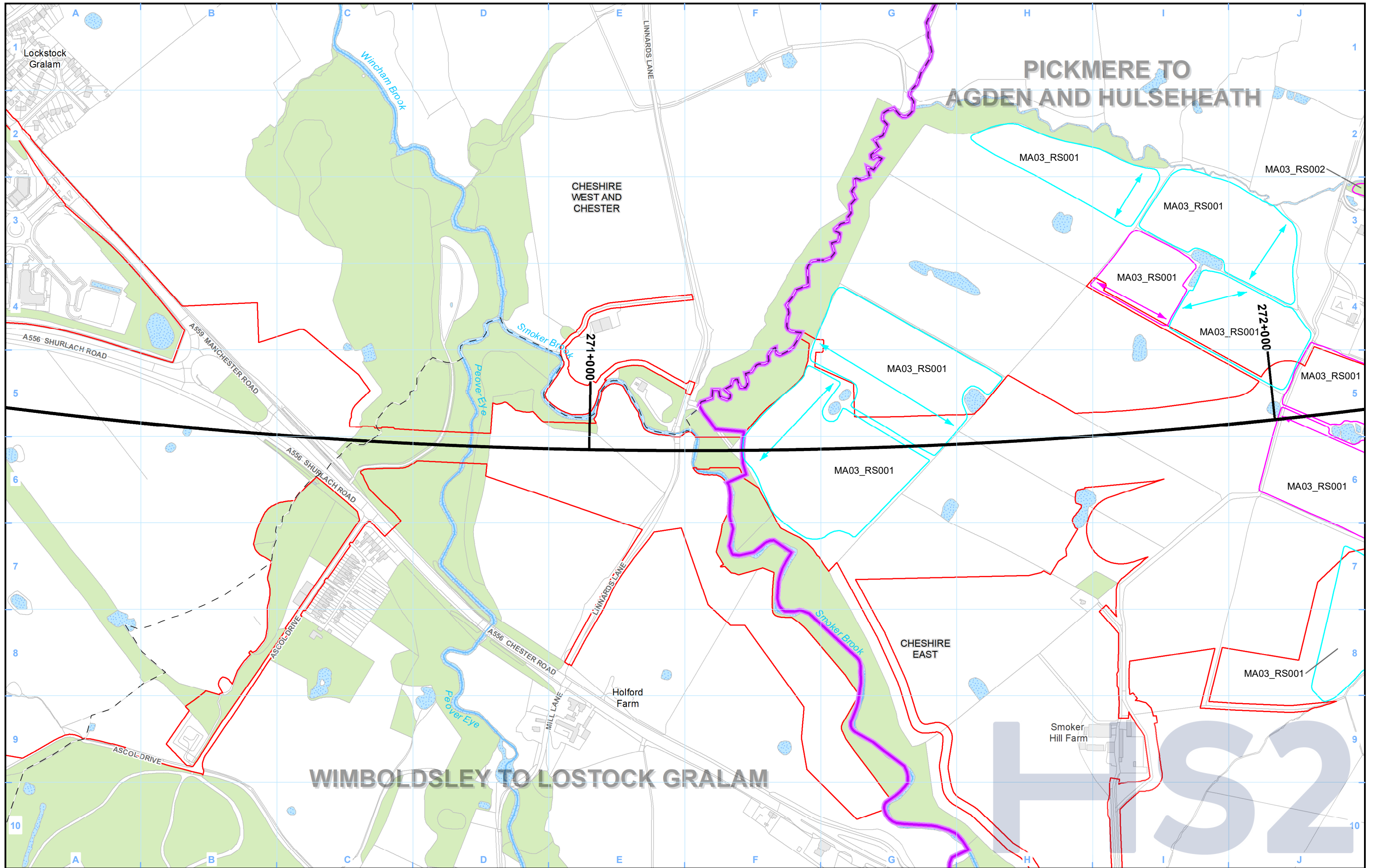
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Legend

Route in tunnel	Watercourse	Extant ridge and furrow area
Route on surface	Water body	Extant ridge and furrow direction
Depot, station, headhouse or portal building	Remote sensing feature type	Extent of area
Land potentially required during construction	Bank	Large cut feature
Community area boundary	Ditch	Services
County boundary	Levelled ridge and furrow area	Structure
District/Borough boundary	Levelled ridge and furrow direction	T-hachure

Map Number HE-005_MA02_Figure11

Map Name Remote Sensing Survey Interpretation

Community Area MA02: Wimboldsley to Lostock Gralam

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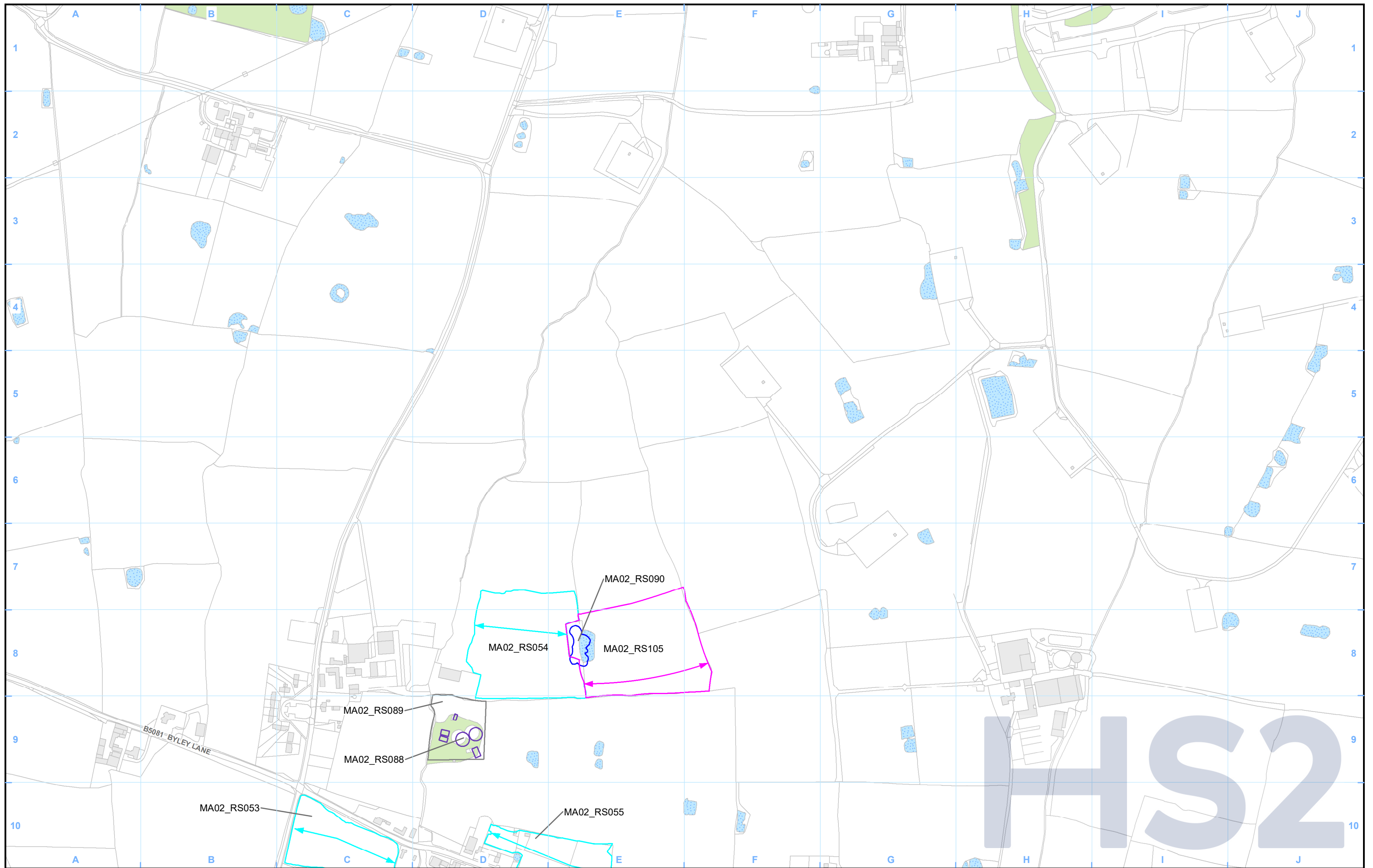
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Legend		
	Remote sensing feature type	

Map Number HE-005_MA02_Figure12

Map Name Remote Sensing Survey Interpretation

Community Area MA02:
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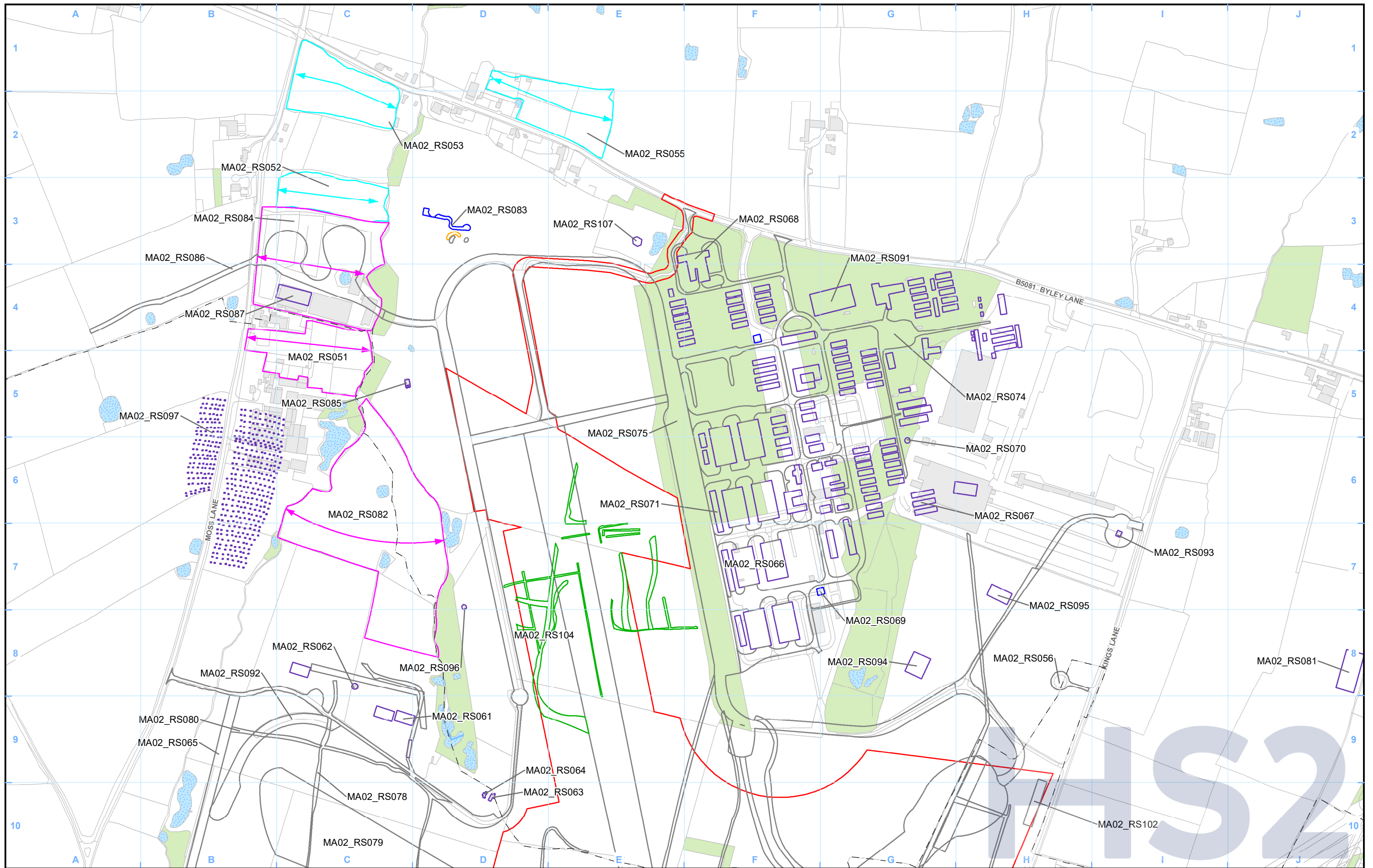
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Legend	
	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Land potentially required during construction
	Community area boundary
	County boundary
	District/Borough boundary
	Watercourse
	Water body
	Remote sensing feature type
	Bank
	Ditch
	Levelled ridge and furrow area
	Levelled ridge and furrow direction
	Extant ridge and furrow area
	Extant ridge and furrow direction
	Extent of area
	Large cut feature
	Services
	Structure
	T-hachure

Map Number HE-005_MA02_Figure13

Map Name Remote Sensing Survey Interpretation

Community Area MA02: Wimboldsley to Lostock Glam

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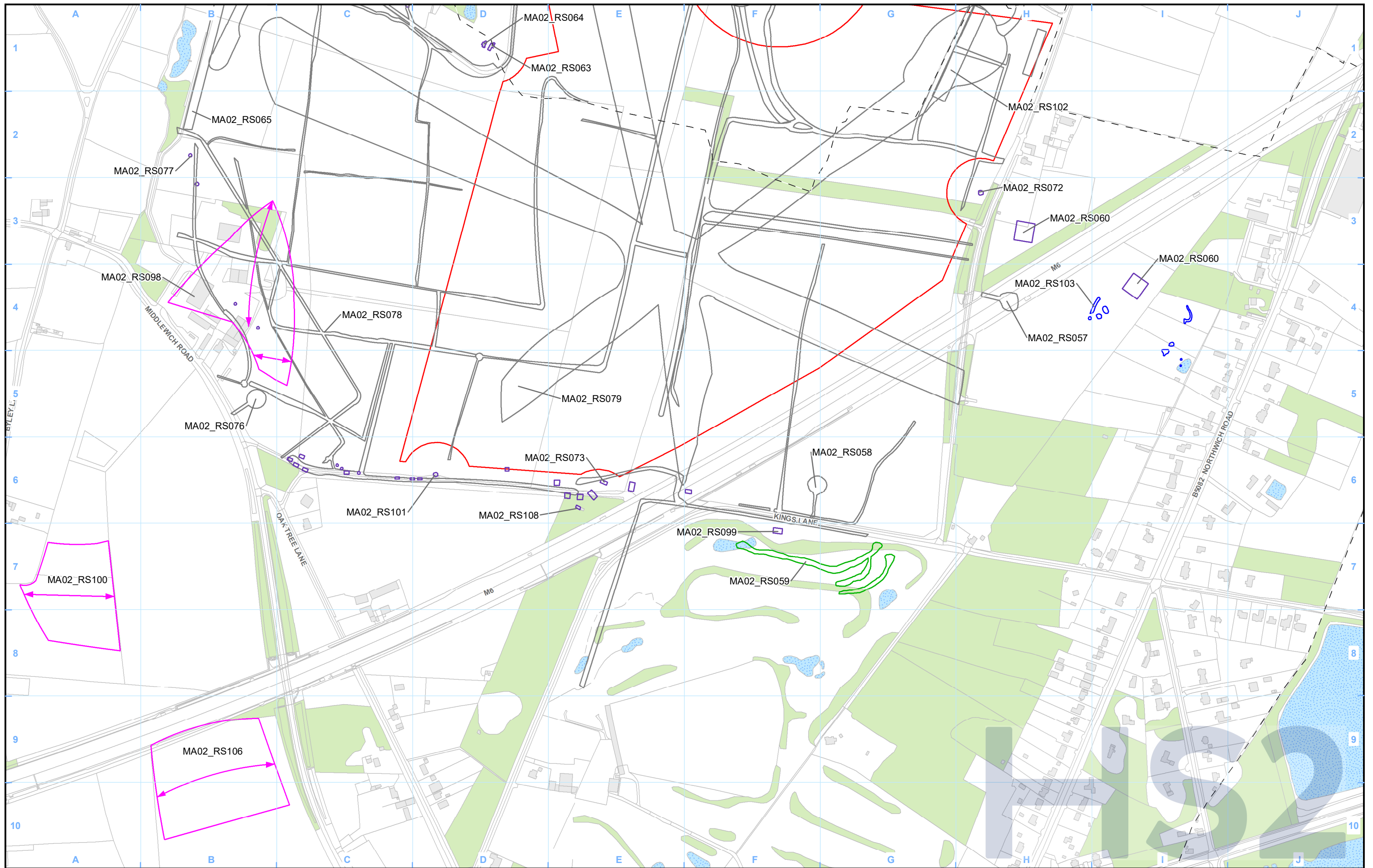
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Legend		
	Remote sensing feature type	

Map Number HE-005_MA02_Figure14

Map Name Remote Sensing Survey Interpretation

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