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HS2

High Speed Rail (Crewe to Manchester)

Background information and data

Historic environment

BID HE-004-0MA03

MA03: Pickmere to Agden and Hulseheath

Historic environment field survey report

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Department for Transport

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1 Introduction

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1.1.2 Baseline data have been collected for the Proposed Scheme in relation to the Pickmere to Agden and Hulseheath area (MA03).

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 and HE-03[1].

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-001-0MA03). 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-002-0MA03[3]). 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-003-0MA03[4]). The approach is used to determine historic landscape character areas (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, Pickmere to Agden and Hulseheath, Summary gazetteer, impact assessment table and archaeological character areas, Volume 5: Appendix HE-002-0MA03.* 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, Pickmere to Agden and Hulseheath, Historic landscape character areas, Volume 5: Appendix HE-003-0MA03.* Available online at: https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement.

- heritage assets have been given a Unique gazetteer identifier (UID), for example MA03_0001. These have been allocated to all heritage assets within the gazetteer of heritage assets, provided in Volume 5: Appendix HE-002-0MA03 (summary gazetteer) and BID HE-001-0MA03 (detailed gazetteer);
- historic landscape character areas have been given a unique identifier, for example MA03_HLCA02. These have been allocated to all HLCA within the Historic landscape character assessment, provided in Volume 5: Appendix HE-003-0MA03;
- archaeological character areas and archaeological sub-zones have been given a unique identifier, for example: archaeological character area MA03_AC01; and archaeological sub zone MA03_AC01.002. These have been allocated to all of the assessed archaeological character areas and archaeological sub-zones, provided in Volume 5: Appendix HE-002-0MA03;
- geophysical survey areas and features identified through the geophysical survey have been allocated a unique identifier, for example: geophysical survey area MA03_GP001, and geophysical survey feature MA03_GP001.001. These have been allocated to all of the identified geophysical survey areas and features, provided in BID HE-004-0MA03; and
- features identified through remote sensing have been allocated a unique identified, for example MA03_RS001. These have been allocated to all of the identified remote sensing features, provided in BID HE-005-0MA03.

2 Geophysical survey

2.1 Introduction

2.1.1 This report provides the results of geophysical surveys undertaken within the Pickmere to Agden and Hulseheath area.

2.1.2 The geophysical surveys were undertaken in accordance with the guidance and standards set out in:

- Generic written scheme of investigation for non-intrusive archaeological survey[5];
- Standards and Guidance for Archaeological Geophysical Survey [6];
- Geophysical Survey in Archaeological Filed Evaluation: Research and Professional Services Guidelines[7]; and
- Guidelines for the Use of Geophysics in Archaeology, Questions to Ask and Points to Consider[8].

2.1.3 The aims and general method for the geophysical survey are as set out in the GWSI (HE-006-00000).

2.1.4 Survey locations were identified in accordance with the method for risk assessment and survey prioritisation presented in Technical Note: Risk-based approach to prioritising archaeological surveys which is in the Environmental Impact Assessment Scope and Methodology Report (SMR)[9].

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

[6] Chartered Institute for Archaeologists (CIfA) (2020), *Standards and Guidance for Archaeological Geophysical Survey,* Reading.

[7] David, A., Linford, N. and Linford, P. (2008), *Geophysical Survey in Archaeological Field Evaluation: Research and Professional Services Guidelines*, English Heritage, Swindon. On 1 April 2015 the part of English Heritage responsible for this guidance note changed its name to Historic England, this note remains valid but has not been updated to reflect this rebranding.

[8] Schmidt, A. R., Linford, P., Linford, N., David, A., Gaffney, C. F., Sarris, A. and Fassbinder, J. (2016), *Europae Archaeologogiae Consilium (EAC) Guidelines for the Use of Geophysics in Archaeology, Questions to Ask and Points to Consider*, Namur, Belgium.

[9] High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement, Environmental Impact Assessment Scope and Methodology Report, Volume 5: Appendix CT-001-00001*. Available online at: https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement.

2.2 Survey objectives

Aims of the survey

2.2.1 The aim of this survey is to establish the presence/absence, extent and character of detectable archaeological assets within the survey area, including both the testing of previously recorded assets and the identification of additional locations of archaeological potential not previously recorded.

Objectives of the survey

2.2.2 The results of the surveys have been combined with data from other archaeological assessments carried out as part of the project, such as desk-top studies, aerial photographic transcription and LiDAR[10] data, in order to analyse the archaeological potential of the survey locations.

2.3 Survey methodology

2.3.1 This section provides an overview of the used survey methods.

Data collection

2.3.2 The detailed magnetic survey was chosen as an efficient and effective method of locating archaeological anomalies. The surveys were undertaken between 17 December 2018 and 6 February 2019 as well as September 2020 using Bartington Grad-01-1000L sensors, variously configured for use on a magnetometer cart (six sensors at 0.8m intervals/ eight sensors at 0.5m intervals) or a manually carried frame (four sensors at 1m intervals).

Data processing

2.3.3 A zero median traverse function was used to remove the striping apparent in the raw data. In some cases, where beneficial, a high-pass filter was also applied to smooth the data.

2.3.4 The unprocessed and processed data sets have been presented in this report in greyscale format, the unprocessed data at a range of -8nT to 8nT and the processed at -3nT to 3nT. A comparison of the plots shows how the processing has removed the effects of drift in instrument calibration and maximised the clarity and interpretability of the detected anomalies.

[10] 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.

Data presentation

2.3.5 A general site location plan showing all ten of the individual survey areas is shown on Figure 1 at a scale of 1:75,000. Large-scale, fully processed (greyscale) data, unprocessed magnetometer data and accompanying interpretative plots of each individual survey area are presented at a scale of 1:2,500 in Figures 2 to 34 inclusive.

2.3.6 When interpreting the results, several factors are taken into consideration, including the nature of archaeological features being investigated and the local conditions at the site (geology, phenology, topography etc.). Anomalies are categorised by their potential origin and divided into categories that are used in the graphical interpretation of the magnetic data:

- archaeology definitive/probable;
- archaeology possible;
- industrial/burnt flint;
- extraction;
- agricultural historic;
- agricultural modern;
- natural;
- ferrous;
- magnetic disturbance;
- uncertain; and
- modern service.

Assumptions and limitations

2.3.7 The results and subsequent interpretation of data from geophysical 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 The magnetic background of the survey areas has proven conducive to good results, with a variety of anomalies detected from varying sources, with various strengths across the length of the survey corridor.

2.3.9 Magnetic disturbance has mainly been limited to the peripheries of the survey areas. However, an area of made ground is visible in MA03_GP001 from use by the Cheshire Showground. Overhead electricity lines created ferrous halos within MA03_GP004 and MA03_GP005. These were unlikely to hide anomalies with clear anomalies detected in both these survey areas.

2.3.10 The survey data within MA03_GP011 was dominated along its south-western edge by an intense magnetic response from a pair of pipelines. These hindered the processing of some of the shorter traverses at the southern end of the area, resulting in some slight striping in the processed data.

3 Geophysical survey results

3.1 Introduction

3.1.1 Geophysical Survey was undertaken at ten locations in the Pickmere to Agden and Hulseheath area, comprising:

- Providence Farm, Pickmere Lane, Pickmere (MA03_GP001), see Figures 2 to 7;
- South of Flittogate Lane, Tabley Inferior (MA03_GP002), see Figures 8 to 10;
- Arley Brook and Tabley Brook, Budworth Road, Tabley (MA03_GP003), see Figures 11 to 13;
- Hoo Green Lane, Hoo Green (MA03_GP004), see Figures 14 to 16;
- South of North Cheshire ridge road (A50 Warrington Road/Knutsford Road), Hoo Green (MA03_GP005), see Figures 17 to 19;
- North of North Cheshire ridge road (A50 Warrington Road/Knutsford Road), Hoo Green (MA03_GP006), see Figures 20 to 22;
- Broom Manor, Peacock Lane, High Legh (MA03_GP007), see Figures 23 to 25;
- Agden Hall (MA03_GP008), see Figures 26 to 28;
- South of Gorse Cottage, High Legh (MA03_GP011), see Figures 29 to 31; and
- Moss Farm, Peacock Lane, High Legh (MA03_GP012), see Figures 32 to 34.

3.1.2 The survey results are presented for each of the above areas, providing a brief background to the survey location, the results obtained and a brief discussion of those results.

3.1.3 In the following paragraphs magnetic anomalies identified in the course of the survey are discussed across each survey area within classification types based on their origin. Only anomalies that are distinctive or unusual are discussed individually. Where appropriate, such congruent groups of anomalies and individual anomalies have been identified by alphanumeric identifiers, e.g. MA03_GP001.001 refers to a feature or group of features within survey area MA03_GP001.

3.2 Providence Farm, Pickmere Lane, Pickmere - MA03_GP001

Survey location

3.2.1 The survey area comprised nine arable fields centred on NGR 370499 376589 located to the south-east of Pickmere Radio Telescope (MA03_0078). Smoker Hill Farm is to the east and Linnards Lane is to the south. The survey covered an area of 14.1ha. The site topography was relatively flat with a slight rise from south to north, from 33m Above Ordnance Datum

(mAOD) to 37 mAOD. The underlying geology was mapped as mudstone with superficial deposits of glacial till.

3.2.2 The survey area was located within the Providence Farm ASZ (MA03_AC01.003). The ASZ covers the plain on higher ground between Smokers Brook and Wincham Brook in the south and Tabley Brook and Arley Brook to the north. It is bounded to the east by the Chester to Manchester Roman road (MA03_0119). The ASZ is within HLCA MA03_HLCA01: Pickmere, and the current use is agricultural land with isolated farmsteads and dwellings with a late post-medieval field pattern. The eastern corner was formerly part of Tabley Park but is now the Cheshire Showground. The topographically higher land indicates a potential for prehistoric funerary monuments such as round barrows near the High Legh Knutsford Ridge. It is possible that Roman roadside settlement may be located along the route of the Chester to Manchester Roman road (MA03_0119) to the east. Despite this, the only recorded evidence for remains from these periods is an Iron Age/Roman farmstead and enclosure in the neighbouring Tabley Brook/ Arley Brook ASZ (MA03_AC01.005). There is a potential for medieval settlement from surviving farmsteads within the ASZ. The possible location of the Tabley Inferior possible deserted settlement (MA03_0110) is located within the ASZ. The place name evidence of Arley Moss and Bate Heath refers to open land or forest clearings. This suggests that some of the area was not farmland in the medieval period.

Survey results

Agricultural historic

3.2.3 In the south of the survey area, a former field boundary (see Figures 3 and 4, anomalies MA03_GP001.003) following the alignment of other field boundaries within the area was detected, although not depicted on the 1841 Great Budworth Tithe Map[11]. Areas of extant or levelled ridge and furrow, identified during remote sensing analysis at the southern end of the survey area (MA03_RS001), and a group at the northern end (MA03_RS002) were not identified during the geophysical survey.

Agricultural modern

3.2.4 Parallel linear anomalies were identified throughout the survey area. These relate to modern field drains. These drains typically follow the alignment and pattern of former ploughing regimes.

[11] Unknown (1841) *Tithe Map of the Township of Pickmere in the Parish of Great Budworth in the County of Chester*, Cheshire Archives and Local Studies, Ref: EDT 324/2.

Natural

3.2.5 Numerous low magnitude discrete anomalies are identified across the survey area. These are due to the variation in the depth and composition of the soils and superficial deposits from which the soil was partly derived.

Magnetic disturbance

3.2.6 Magnetic disturbance around the field edges was due to ferrous material within, or adjacent to field boundaries. In the centre of the survey area, a spread of magnetically enhanced anomalies was identified, which follow the lines of cultivation (see Figures 3, 4, 6 and 7, MA03_GP001.001). This cluster of anomalies was caused by ferrous material that was spread over the survey area during ploughing.

Modern service

3.2.7 A service pipe (see Figures 3, 4, 6 and 7, anomalies MA03_GP001.002) was recorded in the centre of the survey area on the eastern side of the data, heading in a general north to south direction.

Conclusions

3.2.8 The survey has identified a buried service pipe and anomalies which reflect the historical agricultural landscape in the form of an early field boundary predating the post-medieval planned enclosure as well as extant and levelled ridge and furrow anomalies. No archaeological or possible archaeological anomalies have been identified.

3.3 South of Flittogate Lane, Tabley Inferior - MA03_GP002

Survey location

3.3.1 The survey area consisted of five pasture fields measuring 8.9ha centred on NGR 370724 377953, located to the south-west of Flittogate Lane and south of the northern entrance of the Cheshire Showground. The survey area is relatively flat, with a slight rise from 42 mAOD in the south to 45 mAOD in the north. The underlying geology was mapped as mudstone with superficial deposits of glacial till.

3.3.2 The survey area was located within the Providence Farm ASZ (MA03_AC01.003), see above MA03_GP001 Survey location description for a summary.

Survey results

Extraction

3.3.3 On the north side of the survey area, near Clay House Farm, two areas of magnetic disturbance (see Figures 9 and 10, anomalies MA03_GP002.003) were identified. These anomalies are interpreted as former marl pits[12], later used as ponds. The high magnetic response was probably caused by the magnetic properties of the material used to backfill these ponds.

Agricultural historic

3.3.4 The survey identified four former field boundaries, in the north-west part of the survey area (see Figures 9 and 10, anomalies MA03_GP002.004 to MA03_GP002.007). These field boundaries are depicted on the 1881 Ordnance Survey map[13]. A number of parallel linear anomalies that were identified during the magnetic survey are likely to be the remains of levelled and extant ridge and furrow based on the results of the remote sensing analysis. These are identified as MA03_RS004, aligned south-west to north-east (BID HE-005-0MA03). One of the former field boundaries (MA03_GP002.007) defines the limit of the levelled ridge and furrow, to the north of the access track.

Agricultural modern

3.3.5 A series of linear anomalies identified in the south and north-west corner of the survey area, were interpreted as modern field drains.

Natural

3.3.6 Numerous low magnitude discrete anomalies are identified across the survey area. These are likely to be due to the variation in the depth and composition of the soils and superficial deposits from which the soil was partly derived.

Magnetic disturbance

3.3.7 Magnetic disturbance around the field edges was due to ferrous material within, or adjacent to the field boundaries and the recent use of the area as the Cheshire Showground. The former use of the Cheshire Showground has likely resulted in deposits of made ground which can mask underlying anomalies.

[12] Marl pits were an early method of agricultural improvement. They were dug in Cheshire from the medieval period onwards to extract marl, a calcareous soil, which was then spread on fields to improve soil fertility.

[13] Ordnance Survey (1881), *Cheshire County Series, Map Sheet XXVI*, 2nd edition, Scale 1:10,560.

Modern service

3.3.8 Three dipolar linear anomalies were identified in the northernmost fields of the survey area (see Figure 9 and 10, MA03_GP002.001 to MA03_GP002.008). These anomalies were interpreted as buried service pipes.

Conclusions

3.3.9 The survey has detected no definite archaeological or possible archaeological anomalies, with the exception of four former field boundaries. A number of parallel linear anomalies that were identified during the magnetic survey are likely to be the remains of levelled and extant ridge and furrow based on the results of the remote sensing analysis (MA03_RS004). The results are dominated by modern features, including services, field drains and magnetic disturbance likely to derive from recent use of the area as the Cheshire Showground.

3.4 Arley Brook and Tabley Brook, Budworth Road, Tabley - MA03_GP003

Survey location

3.4.1 The survey area comprised a single 8ha arable field centred on NGR 370710 378819, bounded by Budworth road to the north-west, B5391 Pickmere Lane to the east, and a minor watercourse to the south. The topography was gently sloping, rising from 39 mAOD in the south-east of the site to 44 mAOD in the north-west of the survey area. The underlying geology was mapped as mudstone with superficial deposits of glacial till.

3.4.2 The survey area was located within the Tabley Brook/Arley Brook ASZ (MA03_AC01.005). The ASZ covers a shallow stream valley following the watercourses of Tabley and Arley Brooks. Accumulations of alluvial sands and gravel are mapped along the courses of the brooks. The ASZ is within the MA03_HLCA01: Pickmere and the watercourses are bounded by areas of Ancient Woodland and post-medieval plantation, which grew up where land was less favourable for cultivation. The HLCA has characterised these areas as less favourable for post-medieval cultivation and therefore archaeological remains are likely to be preserved along watercourses. Both the Tabley and Arley Brooks have geoarchaeological potential for preserved environmental remains associated with alluvial deposits located alongside the watercourses. A site at Arley Hall, west of the ASZ, appears to have been exploited as a Roman furnace site and may suggest Arley Brook as a centre for industrial activity, where the water supply and woodland could be easily exploited.

Survey results

Archaeology possible

3.4.3 A clear, high magnitude circular anomaly (see Figures 12 and 13, anomalies MA03_GP003.002; MA03_0143) measuring 6m in diameter has been identified in the west of the survey area. Another large discrete anomaly was identified, within this anomaly. These two anomalies were interpreted to be of possible archaeological origin due to their highly magnetic response and shape that does not match any of the agricultural or geological anomalies previously identified in the survey area. Aerial photographs suggest a potential Second World War anti-aircraft defence structure such as a searchlight battery.

3.4.4 Several linear and discrete anomalies were identified in the survey that form the shape of a truncated circular anomaly (see Figures 12 and 13, MA03_GP003.003; MA03_0143), approximately 12m in diameter. These anomalies do not follow the lines of cultivation and the elevated magnetic signal differentiates them from the discrete geological anomalies identified in the survey area. Due to their position near MA03_GP003.002, the feature may relate to possible accommodation tracks around the Second World War defence structures.

3.4.5 The survey has identified an irregularly shaped magnetic anomaly of possible archaeological potential (see Figures 12 and 13, MA03_GP003.001; MA03_0143) located in the western extent of the survey area. It measures 8m in length and is aligned north to south. The highly elevated magnetic response and relative position to the anti-aircraft defence structure, indicates a related Second World War feature.

Agricultural historic

3.4.6 An area of levelled ridge and furrow, identified during remote sensing analysis (MA03_RS008) was not detected by the geophysical survey.

Agricultural modern

3.4.7 A series of parallel linear anomalies in the north-eastern corner of the survey area, running broadly east to west, relate to modern field drains which typically follow the alignment and pattern of former ploughing regimes.

Natural

3.4.8 Numerous low magnitude discrete anomalies are identified across the survey area. These are likely to be due to the variation in the depth and composition of the soils and superficial deposits from which the soil was partly derived.

Magnetic disturbance

3.4.9 Magnetic disturbance around the field edges was due to ferrous material within, or adjacent to the boundaries.

Conclusions

3.4.10 The survey has detected three archaeological anomalies which produced highly magnetically elevated discrete responses. They include a group of Second World War anti-aircraft defence structures (MA03_0143) shown on aerial imagery of the area. One may represent a searchlight battery (MA03_GP003.002) and the second an anti-aircraft related feature. Linear anomalies close-by represent accommodation tracks/features around the Second World War structures. Elsewhere, levelled ridge and furrow were identified in the north-eastern corner of the survey area and magnetic disturbance around the field boundaries.

3.5 Hoo Green Lane, Hoo Green - MA03_GP004

Survey location

3.5.1 The survey area consisted of a mixture of arable and pasture fields covering approximately 26ha. It is bounded by Hoo Green Lane to the north and west and is centred on NGR 371529 382141. The topography of the survey area was around 65 mAOD and generally flat. The underlying geology was mapped as mudstone with superficial deposits of glacial till.

3.5.2 The survey area was located within the Over Tabley Plain ASZ (MA02_AC02.001). The ASZ is located on an area of till deposits that form the Over Tabley Plain, an area of undulating agricultural land. The ASZ is within HLCA MA03_HLCA01: Pickmere and MA03_HLCA02: Tabley, which display different field patterns; the former, rectangular fields from post-medieval enclosure. The latter, more irregular rectilinear fields from the medieval period. The North Cheshire Ridge Roman road forms the northern boundary of the ASZ (MA03_0116). The Historic Environment Record (HER) records remains of ring ditch cropmarks of Bronze Age funerary monuments and a Roman period carved head. The settlement of Over Tabley is recorded in the Domesday survey. Within this ASZ, there are the possible remains of Strettle deserted medieval settlement (MA03_0113). Budworth bombing decoy site (MA03_0114) is located south of the M6. Where the ASZ is bisected by the M6, remains are unlikely to survive. The time depth of the landscape through preserved field patterns indicate potential for undisturbed archaeological remains to be present within the ASZ. This is supported by evidence from surveys and the HER.

Survey results

Extraction

3.5.3 A large area of magnetic disturbance, in the south-west corner of the survey, corresponds with the location of a pond, as depicted on the 1848 Mere Tithe Map[14], formerly a marl pit (see Figures 15 and 16, anomaly MA03_GP004.009 and Footnote 10). The high magnetic response was probably caused by the magnetic properties of the material used to backfill the pond.

Agricultural historic

3.5.4 Former field boundaries (see Figures 15, 16, 18 and 19, anomalies MA03_GP004.011 to MA03_GP004.017) were recorded as weak linear anomalies; these are depicted on the 1881 Ordnance Survey map[13]. The survey identified a band of weak magnetic response intersecting the former field boundaries, including in between MA03_GP004.013 and MA03_GP004.016, east of MA03_GP004.012 and east of MA03_GP004.014. These features are much more ephemeral and segmented than the field boundaries. They are likely small drainage ditches corresponding to small ponds depicted on the 1848 Mere Tithe Map[14].

3.5.5 Although areas of levelled ridge and furrow were identified during remote sensing analysis within the survey area, they have not been identified during the geophysical survey.

Agricultural modern

3.5.6 A series of linear anomalies identified within the survey area, oblique to the extant field boundaries and exhibiting a 'speckled' appearance, are caused by modern field drains. Parallel linear anomalies in the south-western field, running north-west to south-east are also likely to be field drains. These typically follow the alignment and pattern of former ploughing regimes.

Natural

3.5.7 Numerous low magnitude discrete anomalies are identified across the survey area. These are likely due to the variation in the depth and composition of the soils and superficial deposits from which the soil was partly derived.

[14] Unknown (1848) *Tithe Map of the Township of Mere in the Parish of Rostherne in the County of Chester*, held at; Cheshire Archives and Local Studies, Ref: EDT 269/2.

Ferrous

3.5.8 Six negative spike-like anomalies were identified in the north of the survey area. These ferrous anomalies (see Figures 15, 16, 18 and 19, MA03_GP004.010) are of unknown modern origin. They appear to form a rectangle with a set of anomalies within MA03_GP005.

Magnetic disturbance

3.5.9 Within the dataset large areas of magnetic disturbance (see Figures 15, 16, 18 and 19, anomalies MA03_GP004.004, to MA03_GP004.008), either side of anomalies MA03_GP004.002 and MA03_GP004.003, were caused by the ferrous response of the electricity towers.

3.5.10 Magnetic disturbance around the field edges was due to ferrous material within, or adjacent to the boundaries.

Modern service

3.5.11 The survey results contain three dipolar linear anomalies (see Figures 15, 16, 18 and 19, MA03_GP004.001 to MA03_GP004.003) running parallel through the centre of the survey area on a north to south alignment following the route of overhead electricity pylons. The third dipolar linear anomaly was identified in the western part of the survey area and interpreted as buried service pipes.

Conclusions

3.5.12 No archaeological or possible archaeological anomalies have been identified. The survey identified a series of former field boundaries depicted on Ordnance Survey maps which were amalgamated into larger fields during the post-medieval period. A pair of parallel high dipolar responses correspond with the electricity pylons running north to south through the area. A large area of magnetic disturbance, in the south-west corner of the survey, corresponds with a former marl pit (see Footnote 10), later used as a pond.

3.6 South of North Cheshire ridge road (A50 Warrington Road/Knutsford Road), Hoo Green - MA03_GP005

Survey location

3.6.1 The survey area consisted of four pasture fields measuring 18ha, centred on NGR 371520 382646, located immediately south of the Roman road – The North Cheshire Ridge (Margary 70aa) (A50) (MA03_0116), west of its junction with Hoo Green Lane. However, only the north-

western field, approximately 7ha in extent, was available for access during the survey. The site was located on a south-facing slope, lying between 64m and 72 mAOD. The underlying geology was mapped as mudstone with superficial deposits of glacial till.

3.6.2 The survey area was located within the Over Tabley plain ASZ (MA02_AC02.001) see above MA03_GP004 Survey location description for a summary.

Survey results

Archaeology possible

3.6.3 The survey has identified five high magnitude rectangular anomalies (see Figures 18, 19, 21 and 22, anomalies MA03_GP005.014 to MA03_GP005.018) in the centre of the survey area. Due to their regular shape and distinct magnetic signal, they are of possible archaeological origin, and potentially associated with the local brick making industry or a saw pit as indicated by the tithe apportionment field name 'Sawpit Croft'[14]. Another high magnitude rectangular anomaly (see Figures 15, 16, 18, 19, 21 and 22, MA03_GP005.019), parallel to the eastern boundary of the survey area, was also detected. This anomaly was also considered to be of possible archaeological origin; however, due to the magnetic disturbance caused by the boundary fence, it was difficult to discern its purpose.

Extraction

3.6.4 The survey detected three large areas of magnetic disturbance. These are interpreted as former marl pits (see Figures 18, 19, 21 and 22, anomalies MA03_GP005.004, MA03_GP005.005, and MA03_GP005.006 and Footnote 10), which are depicted on the 1848 Mere Tithe Map[14] later used as ponds. The disturbance was caused by magnetic objects (brick, tile, iron etc) within the material used to infill the pits.

Agricultural historic

3.6.5 Six former field boundaries (see Figures 18, 19, 21 and 22, anomalies MA03_GP005.008 to MA03_GP005.013) were also identified and these are depicted on the 1848 Mere Tithe Map[14].

Agricultural modern

3.6.6 A series of linear anomalies, oblique to the extant field boundaries were interpreted as being modern field drains.

Natural

3.6.7 Numerous low magnitude discrete anomalies are identified across the survey area. These are likely due to the variation in the depth and composition of the soils and superficial deposits from which the soil was partly derived.

Ferrous

3.6.8 A group of seven negative spike-like anomalies were identified in the south of the survey area (see Figures 15, 16, 18, 19, 21 and 22, MA03_GP005.007) but are of unknown function/origin. They appear to form a rectangle with a set of anomalies detected immediately across Hoo Lane during the survey of MA03_GP004 (See Figure 19, MA03_GP004.010). The anomalies are bisected by Hoo Green Lane and run at right angles to the electricity pylon suggesting they may be modern in origin.

Magnetic disturbance

3.6.9 Within the eastern section of the survey a large area of magnetic disturbance (see Figures 15, 16, 18, 19, 21 and 22, anomalies MA03_GP005.003) was caused by the ferrous response of an electricity tower. Magnetic disturbance around the field edges was due to ferrous material within, or adjacent to the boundaries.

Modern service

3.6.10 A north to south aligned pair of parallel dipolar linear anomalies (see Figures 15, 16, 18, 19, 21 and 22, MA03_GP005.001 and MA03_GP005.002), were recorded in the survey area. They are the continuation of MA03_GP004.002 and MA03_GP004.003 following the route of overhead electricity pylons.

Conclusions

3.6.11 The survey has identified a feature relating to the brick making industry or possible saw pit (anomalies MA03_GP005.014 to MA03_GP005.018), in the centre of the survey area, and an early field boundary running alongside the eastern side of the area. Ponds, formerly extraction for marl, buried service pipes, magnetic disturbance from the overhead pylons and a group of former field boundaries depicted on the Mere Tithe Map were also identified.

3.7 North of North Cheshire Ridge Road (A50 Warrington Road/Knutsford Road), Hoo Green - MA03_GP006

Survey location

3.7.1 The survey consisted of a single 1.78ha arable field, centred on NGR 371612 382968, bounded by Bowden View Lane to the east, the A50 Warrington Road/Knutsford Road to the south and Tanyard Farm to the north. The survey area was flat at 75 mAOD. The underlying geology was mapped as mudstone with superficial deposits of glacial fluvial sand and gravels.

3.7.2 The survey area was located within the North Cheshire Sandstone Ridge and Bucklow Hill ASZ (MA02_AC02.003). The ASZ comprises a low ridge of the Helsby sandstone formation extending from Knutsford in the south-west towards Lymm in the north-east. Bucklow Hill sits at the edge of this slight plateau raised above the Bollin Valley. The land type is defined by areas of former marginal land including place names such as Hulse Heath, Moss Farm, and Moss Lane indicating heath and boggy land that was subsequently improved and enclosed. The ASZ is within the MA03_HLCA04: Hulseheath which characterises the area as broadly post-medieval enclosure fields, with settlement clusters at Hoo Green, Booth Bank and Hulseheath.

3.7.3 There remains the possibility that the ridge was a focus for prehistoric settlement, in particular above 70 mAOD overlooking the surrounding lower valleys and areas of mosses, lowland heath and meres. Excavation as part of the construction of the A556 has produced evidence of a Bronze Age funerary landscape at Bucklow Hill. This included a ring-ditch from a ploughed-out Bronze Age round barrow, and twelve inhumation graves and cremation graves. The North Cheshire Ridge Roman road (MA03_0116) forms the southern boundary of the ASZ. There is the potential that this formed the focus for roadside settlement in the Roman period.

3.7.4 The area appears to have been settled in the early medieval period. There are several settlements recorded in the Domesday Survey, during the medieval period including High Legh, Hough Hall[15] and Bucklow Hill. Other place name evidence includes Hoo Green suggests a spur of land. Evidence of early medieval and medieval settlement is present in the form of moated sites. The remains of Millington deserted medieval settlement (MA03_0118) may be located within the ASZ. Where the ASZ is bisected by the M56 and the A556 Chester Road, remains are unlikely to survive.

[15] Higham N. J. (1988), Hough Hall: Trial Excavation of a Moated Platform in Mere Township, *Medieval Settlement Research Group Annual Report* 3, P20.

Survey results

Extraction

3.7.5 In the north-east corner of the survey area, an area of magnetic disturbance was identified. This corresponds to a former marl pit (see Figures 18, 19, 21 and 22, anomalies MA03_GP006.001 and Footnote 10) depicted on the 1848 Mere Tithe Map[14] later used as a pond. The disturbance was caused by the magnetic properties (brick, tile, iron etc) of the material used to infill the pit.

Agricultural historic

3.7.6 A highly magnetic L-shaped anomaly (see Figures 18, 19, 21 and 22, MA03_GP006.002) was detected in the north-eastern corner of the survey area. This anomaly is a smaller division of the field, depicted on the 1848 Mere Tithe Map[14].

Agricultural modern

3.7.7 Parallel linear trend anomalies on differing alignments, but mostly parallel or at right angles to the current field boundaries, were identified throughout the survey area. These anomalies reflect recent ploughing regimes.

Natural

3.7.8 Numerous low magnitude discrete anomalies are identified across the survey area. These are likely due to the variation in the depth and composition of the soils and superficial deposits from which the soil was partly derived.

Magnetic disturbance

3.7.9 Magnetic disturbance around the field edges was due to ferrous material within, or adjacent to the boundaries.

Conclusions

3.7.10 The survey has identified a large pond initially used for extraction of marl, on the eastern side of the survey, and an L-shaped anomaly (MA03_GP006.002) in the north-eastern corner relating to a smaller sub-division of the current field boundary depicted on Tithe map of the area. Alongside this, anomalies which reflect the agricultural landscape in the form of ploughing trends were identified. No other archaeological or possible archaeological anomalies have been identified.

3.8 Broom Manor, Peacock Lane, High Legh - MA03_GP007

Survey location

3.8.1 The survey area consisted of three pasture fields bound by Chapel Lane to the north, Wrenshot Lane to the south, centred on NGR 371783 383770. The site topography was gently sloping rising from 59 mAOD in the north-west corner to 67 mAOD in the south-east. The underlying geology was mapped as mudstone and siltstone with unknown superficial deposits.

3.8.2 The survey area was located within the North Cheshire Sandstone Ridge and Bucklow Hill ASZ (MA02_AC02.003) see above MA03_GP006 Survey location description for a summary.

Survey results

Extraction

3.8.3 Two areas of high magnetic disturbance located next to the north-western boundary correspond to former marl pits (see Figures 24, 25, 30 and 31, anomalies MA03_GP007.004 and MA03_GP007.005 and Footnote 10) depicted on the 1848 Mere Tithe map[14], later used as ponds. The disturbance was caused by the magnetic properties (brick, tile, iron etc) of the material used to infill the pits.

Agricultural historic

3.8.4 The survey identified a weak linear anomaly (see Figures 24, 25, 30 and 31, MA03_GP007.006) within the southern side of the survey area, on a north-west alignment. This anomaly has been interpreted as a former field boundary depicted on the 1848 Mere Tithe Map[14]. Although areas of levelled ridge and furrow were identified during remote sensing analysis these were not identified during geophysical survey.

Agricultural modern

3.8.5 Parallel linear trend anomalies located mostly parallel or at right angles to the current field boundaries, were identified throughout the survey area. These anomalies reflect the alignment of recent ploughing

3.8.6 A series of linear anomalies, oblique to the extant field boundaries, were identified as field drains.

Magnetic disturbance

3.8.7 Within the dataset a large area of magnetic disturbance (see Figures 24, 25, 30, 31, 33 and 34, anomalies MA03_GP007.003) was recorded. This was caused by the ferrous response of an electricity pylon. Magnetic disturbance around the field edges was due to ferrous material within, or adjacent to the boundaries.

Modern service

3.8.8 The survey results contain two dipolar linear anomalies (See Figures 24, 25, 30 and 31, anomalies MA03_GP007.001 and MA03_GP007.002) which extend north to south and are indictive of ferrous service pipes. The magnetic response suggests that the two pipes, lying side by side, follow the alignment of the overhead power cables.

Conclusions

3.8.9 The survey has identified anomalies which reflect the agricultural landscape in the form of drainage patterns, a former field boundary and marl extraction pit, later used as a pond. There is a large magnetic disturbance from an electricity pylon and two uniformly straight anomalies which follow the overhead powerline route and have been interpreted as modern service pipes.

3.9 Agden Hall - MA03_GP008

Survey location

3.9.1 The survey area consists of a 7ha pasture field located in the parish of Agden, Cheshire, at NGR 371600 385500. It is an L-shaped piece of land which wraps around the eastern and northern boundaries of Agden Hall and is bounded to the south by the M56.

3.9.2 The survey area lies on top of a north-facing scarp with a panoramic view across the valley of the River Mersey. The southern half of the area is flat, at an elevation of just over 60 mAOD, whilst the northern half slopes down to a minimum elevation of approximately 50 mAOD on the northern boundary. The geology of the site is mapped as siltstone overlain by glacial till.

3.9.3 The survey area was located within the Agden Brook ASZ. The ASZ is located along the course of Agden Brook, a feeder stream for the River Bollin and the underlying geology comprises sands and gravel. These have the potential for palaeoenvironmental remains that can provide evidence of past environments dating to the prehistoric to medieval periods. The area around the stream includes the former post-medieval parkland of Agden Hall (MA03_0106) which contains surviving remains of the hall's former gardens (MA03_0144). A 19th century astronomical observatory is believed to have once stood near the eastern boundary of the survey area. The area is largely agricultural in nature with settlement mainly consisting of farmsteads and halls. The ASZ is within the MA03_HLCA06: Agden characterised

by post-medieval enclosure fields, wooded areas along Agden Brook and isolated farmsteads. Prehistoric and Roman remains have been identified within three key areas of the ASZ. They include the area immediately south of the feeder stream where a Bronze Age circular hammer stone and Roman coin hoard were recovered. A Bronze Age enclosure is depicted as cropmarks at Arthill and a findspot of a stone pebble hammer. A field system of rectilinear enclosures has been identified as cropmarks immediately west of the Chester to Manchester Roman road (MA03_0119 and MA06_0145) which bounds the eastern side of the ASZ. Where the ASZ is bisected by the M56 and the A556 Chester Road, remains are unlikely to survive.

Survey results

Archaeology probable

3.9.4 A number of magnetic anomalies located close to Agden Hall are likely to represent archaeological remains of the former garden. In particular, one large curving anomaly (see Figures 27 and 28, MA03_GP008.001) undoubtedly corresponds to the northern boundary of Edward Kemp's garden design. This anomaly is composed, for most of its length, of a chain of intense magnetic anomalies that indicate ferrous material concentrated along the line of the feature.

3.9.5 Just inside the northern garden boundary is a moderately intense rectangular anomaly (see Figures 27 and 28, MA03_GP008.002), approximately 6m by 3m across, which is composed of several closely spaced parallel elements. This probably represents a structural feature, perhaps the remains of a kiln or a set of brick footings for a garden building.

3.9.6 To the east of the hall is a grid-pattern of linear anomalies (see Figures 27 and 28, MA03_GP008.003) aligned squarely to the orientation of the former garden. Although interpretation of these is uncertain, one reasonable possibility would be a series of cinder paths between planting beds.

3.9.7 Various other anomalies in the area of the former garden may relate to former garden features but are too fragmentary and undiagnostic to support specific interpretations.

3.9.8 Beyond the limits of the formal garden there are several weak linear anomalies which relate to the 19th century parkland features depicted on the 1882 Ordnance Survey map[16]. Anomaly MA03_GP008.04 corresponds to a boundary and MA03_GP008.005 and MA03_GP008.006 to rows of trees.

[16] Ordnance Survey (1882), *Cheshire County Series, Map Sheet XVII*, 2nd edition, Scale 1:10,560.

Archaeology possible

3.9.9 Anomaly MA03_GP008.007 perhaps corresponds to a former garden path, although it deviates a little from the mapped location of this feature. A number of minor anomalies, particularly in the north-west of the survey area, may represent ditches and pits of unknown date. However, these are too scattered and disjointed to be regarded as a coherent 'site' and it is unclear how many are indeed archaeological and how many relate to geology or modern features, such as field drains.

Extraction

3.9.10 In the north east of the survey area there is a concentration of large positive magnetic anomalies with broad negative halos (see Figures 27 and 28, anomalies MA03_GP008.008). MA03_GP008.008 corresponds to the location of a large pit shown on the 1882 Ordnance Survey map[16] and indicates the presence of ferrous debris within the backfill of that feature.

3.9.11 A large, well defined area of weak magnetic noise (see Figures 27 and 28, anomalies MA03_GP008.009) in the southern portion of the survey area may represent a rubbish pit containing weakly magnetic materials such as cinders. The streaky appearance of the feature probably indicates disturbance by ploughing.

3.9.12 A smaller circular area of weak magnetic enhancement (see Figures 27 and 28, anomalies MA03_GP008.010) located to the east of MA03_GP008.09 could represent either a large pit or a geological feature. Its regular shape suggests the former interpretation is more likely.

3.9.13 The parallel linear anomalies in the north-western corner of the survey area perhaps relate to an episode of ploughing. Although of uncertain date they follow the alignment of an area of extant ridge and furrow in the field immediately to the north (MA03_RS022).

Agricultural modern

3.9.14 Numerous weak linear anomalies in the south of the survey area have a 'speckled' appearance, with their magnetic polarity alternating repeatedly from positive to negative along their length. Anomalies of this type are highly characteristic of field drains.

3.9.15 Further, less well resolved, examples of field drain anomalies occur in the north of the survey area.

Natural

3.9.16 Numerous low magnitude discrete anomalies are identified across the survey area. These are likely due to the variation in the depth and composition of the soils and superficial deposits from which the soil is partly derived.

Ferrous

3.9.17 Ferrous anomalies are small but intense magnetic anomalies, typically of dipolar form, caused by ferrous (iron or steel) material on the ground surface or in the plough-soil. Most of this material will be trivial pieces of rubbish and scrap metal.

3.9.18 Most of the ferrous anomalies are randomly distributed, with slight concentrations towards the modern field boundaries, around the area of former gardens, and in a broad swathe between the gardens and the site of the former observatory.

Magnetic disturbance

3.9.19 Dense concentrations of ferrous anomalies occur in the south-west and north-west of the survey area, close to modern field entrances, and probably indicate spreads of hardcore material. The southern area might also contain debris from the construction of the adjacent M56.

Uncertain

3.9.20 A row of small positive anomalies in the north-west of the survey area is of uncertain origin.

Modern services

3.9.21 An intense linear anomaly (see Figures 27 and 28, MA06_GP008.011) extending south-eastwards towards MA03_GP008.009 from the farmyard is likely to represent a metal pipe.

Conclusions

3.9.22 The survey has identified a number of features relating to the 19th century garden and parkland around Agden Hall, including the remains of a potential structure. Although of relatively modern date, these features have some historic interest due to their connection with the noted garden designer Edward Kemp.

3.9.23 The survey has not identified any trace of the 19th century astronomical observatory which once stood near the eastern boundary of the survey area. Or the possible ditched enclosure identified during the remote sensing analysis (MA03_RS023-025). However, it should be noted that magnetometer survey is not always an effective means of seeking structural remains and so little weight can be placed on this negative evidence. Strong east to west ploughing trends are illustrated on Figure 26 and may have masked some archaeological features.

3.9.24 None of the detected remains demonstrably pre-date the historic park and gardens but there are a number of minor features which could derive from earlier phases of activity.

3.10 South of Gorse Cottage, High Legh - MA03_GP011

Survey location

3.10.1 The survey area is located to the south of Gorse Cottage and Chapel Lane and the west of Hulseheath, it is centred on NGR 372000 383800. The survey area covers 10.8ha and covers two small grass fields in the north and part of a larger arable field to their south. The western boundary of the area is an arbitrary line, contiguous with the eastern boundary of survey area MA03_GP007.

3.10.2 The survey area has a north-facing aspect, with the ground surface sloping down from approximately 68 mAOD in the south to 56 mAOD to the north. The upper part of the slope is underlain by mudstone and the lower part by siltstone, both of which are largely concealed beneath a drift of glacial till.

3.10.3 The survey area is located within the North Cheshire Sandstone Ridge and Bucklow Hill ASZ (MA02_AC02.003); see above MA03_GP006 Survey location description for a summary.

3.10.4 The partial survival of a medieval field system, characterised by irregularly-shaped fields lying amongst the planned, rectilinear fields of the post-medieval landscape were identified in MA03_HLCA04: Hulseheath. These fields covered the southern half of the survey area until swept away by 20th century consolidation, and fragments still survive to the immediate east and west.

Survey results

Archaeology possible

3.10.5 In the north-east of the survey area is a Y-shaped pattern of linear anomalies (see Figures 30 and 31, MA03_GP011.001; MA03_0170), indicative of ditches. These do not correspond to any known historic boundaries but lie square to the modern fields and are reflected in the surrounding pattern of field drains. They may thus represent medieval or post-medieval boundaries pre-dating the earliest map evidence. The branching arms of the Y embrace a zone of subtle magnetic disturbance; the exact significance of this is uncertain but a patch of rough ground is shown in the same location on the 1881 Ordnance Survey map[13].

3.10.6 Three weak linear anomalies in the south of the survey area may also relate to an early field system. One curving anomaly (see Figures 24, 25, 30 and 31, MA03_GP011.002) corresponds to a possible medieval boundary depicted on historic maps, whilst two anomalies (see Figures 24, 25, 30 and 31, MA03_GP011.003 and MA03_GP011.004) of similar character may represent further, unmapped, boundary ditches of similar date. The western end of anomaly

MA03_GP011.002 expands into a broader, more complex feature, probably indicating the remains of a terraced earthwork that can be seen on the 1881 Ordnance Survey map[13].

3.10.7 Almost immediately north-east of anomaly MA03_GP011.002 is a small zone of subtle magnetic noise containing some very indistinct linear elements. The cause of this is obscure, but it is possible it relates to a patch of disturbed ground or spread of weakly magnetic debris.

3.10.8 One discrete positive anomaly (see Figures 24, 25, 30 and 31, MA03_GP011.005), approximately 2.5m across, may indicate an isolated pit. Elsewhere there is a short weak linear anomaly that perhaps represents a short length of ditch (see Figures 24, 25, 30 and 31, MA03_GP011.006).

Extraction

3.10.9 An intense, 'noisy' magnetic anomaly (see Figures 24, 25, 30 and 31, MA03_GP011.007) near the western end of the site marks a former marl pit (see Footnote 10) depicted on the 1881 Ordnance Survey map[13] later used as a pond. The nature of the anomaly indicates that there is ferrous debris within the backfill of the pond.

Agricultural historic

3.10.10 A network of field boundaries (see Figures 24, 25, 30 and 31, anomalies MA03_GP011.008-MA03_GP01.013), known from historic mapping, extend across the central and southern parts of the survey area. The remains of the boundaries are represented by a variety of different anomaly types.

Agricultural modern

3.10.11 Sets of very weak linear anomalies, typically with a 'speckled' appearance, represent the networks of field drains underlying much of the survey area. These anomalies predominantly reflect the alignment of recent ploughing which also appear to follow the pattern of levelled areas of ridge and furrow identified during the remote sensing analysis. Their layout largely corresponds to that of the historic field boundaries. In one location, near the centre of the survey area, there are two intersecting sets of drains, evidently relating to successive episodes of drainage.

Natural

3.10.12 Numerous low magnitude discrete anomalies are present across the survey area, particularly towards the north. Most are small and amorphous, giving the data a mottled appearance, though a few have linear forms. These are likely to be geological in origin, representing minor features such as small soil-filled hollows or pockets of iron minerals within the natural strata.

Ferrous

3.10.13 Ferrous anomalies are small but intense magnetic anomalies, typically of dipolar form, caused by ferrous (iron or steel) material. They are widespread and abundant throughout the survey data. Most will relate to trivial pieces of buried rubbish and scrap metal, of no archaeological interest.

Magnetic disturbance

3.10.14 In a few locations, densely clustered ferrous anomalies coalesce into patches of magnetic noise. One such patch corresponds to a backfilled pond. The others have no specific interpretation but may, for instance, relate to patches of hardcore in former gateways.

3.10.15 Magnetic halos, which occur sporadically around the field margins, are generally due to modern fences, gates, water troughs and similar metal objects.

Modern services

3.10.16 Two large pipelines run north to south through the western side of the survey area, following closely parallel courses from MA03_GP007 (see Figures 24, 25, 30 and 31, MA03_GP007.001 and MA03_GP007.002). Each is marked by an intense linear anomaly with broad positive and negative halos. Some of the pipeline halos merge with other halos from adjacent electricity pylons.

Conclusions

3.10.17 The survey has detected two clusters of possible archaeological features. Each comprises a group of suspected field system ditches, potentially of medieval or early post-medieval date. An area of weak magnetic noise might indicate the presence of disturbed ground or spreads of debris. Alongside these were an area of former marl extraction, field drains and modern services from electricity pylons.

3.11 Moss Farm, Peacock Lane, High Legh - MA03_GP012

Survey location

3.11.1 The survey area comprised five fields which where were located to the south of Peacock Lane and east of Moss Farm, centred on NGR 371669 384223. The survey area covered 12.30ha. At the time of the survey the fields were in mixed use, with the north-eastern being arable and the rest serving as cattle pasture. The topography of the survey area has a general slope from 63 mAOD in the west to 56 mAOD in the east. It is damp ground and is partially bounded to the south and east by the headwaters of small streams which are

tributaries of the River Bollin. The solid geology of the site comprises faulted outcrops of mudstone siltstone, which are largely overlain by glacial till.

3.11.2 The survey area is located within the North Cheshire Sandstone Ridge and Bucklow Hill ASZ (MA02_AC02.003); see above MA03_GP006 Survey location description for a summary.

Survey results

Extraction

3.11.3 Immediately to the south of Peacock Lane and at the north of the survey area are three areas of magnetic disturbance (see Figures 33 and 34, anomalies MA03_GP012.001 to MA03_GP012.003); the latter being bisected by anomaly MA03_GP012.012, discussed below. These anomalies correspond with former marl pits (see Footnote 10) depicted on the 1882 Ordnance Survey map[16] later used as ponds. The high magnetic responses are probably caused by the magnetic properties of the material used to backfill these ponds.

3.11.4 A further area of magnetic disturbance was identified towards the west of the survey area (see Figures 33 and 34, anomaly MA03_GP012.004), this displayed similar properties to MA03_GP012.001 to MA03_GP012.003, so has also been interpreted as a former extraction area, although no corresponding features are noted on Ordnance Survey maps.

Agricultural historic

3.11.5 A stronger linear anomaly with positive and negative elements running broadly east to west at the west of the survey area corresponds to a former field boundary (see Figures 33 and 34, MA03_GP012.006) depicted on the 1882 Ordnance Survey map[16].

Agricultural modern

3.11.6 Located towards the centre of the survey area on a broadly north to south alignment is an anomaly of alternating polarity (see Figures 33 and 34, MA03_GP012.007), this corresponds to an extant barbed wire fence. A second anomaly on a similar alignment and located around 30m to the east of MA03_GP012.007 corresponds with the posts of a second modern fence line (see Figures 33 and 34, MA03_GP012.008).

3.11.7 A very subtle negative linear anomaly in the south-east corner of the north-west field corresponds to a slight earthwork identified during the survey (see Figures 33 and 34, MA03_GP012.005). This is perhaps a former boundary ditch or drainage channel.

3.11.8 Throughout the survey area are a series of parallel linear anomalies, aligned parallel with or perpendicular to the extant field boundaries interpreted as modern field drains. These anomalies predominantly reflect the alignment of recent ploughing which also follows patterns of levelled ridge and furrow identified during the remote sensing analysis.

Natural

3.11.9 Numerous low magnitude discrete anomalies were identified across the survey area. These are likely due to the variation in depth and composition of the soils and superficial deposits from which the soil was partly derived.

Ferrous

3.11.10 Ferrous anomalies, characterised as individual 'spikes', were identified across the survey area. These spikes are typically caused by ferrous (magnetic) material, either on the ground surface or in the plough-soil. A circular anomaly at the eastern boundary (see Figures 30 and 31, MA03_GP012.009) is probably modern debris along the current field boundary.

Magnetic disturbance

3.11.11 Areas of magnetic disturbance around the field edges were due to ferrous material within, or adjacent to the boundaries. A large area of magnetic disturbance located at the west of the survey area (see Figures 33 and 34, MA03_GP012.010) represents an accumulation of ferrous debris and other magnetic materials (brick, clinker, etc) derived from the adjacent farmyard.

Modern service

3.11.12 Towards the centre of the survey area orientated north to south is a high magnitude linear anomaly, which represents a pipeline identified as carrying high pressure gas by a marker post on Peacock Lane (see Figures 33 and 34, MA03_GP012.011). Further east a narrower anomaly on an east to west alignment also represents the line of a modern service (see Figures 30, 31, 33 and 34, MA03_GP012.012), although no surface markers identify its type.

Conclusions

3.11.13 The survey identified anomalies which reflect the agricultural landscape in the form of former field boundaries and ploughing trends, as well as discrete areas of magnetic disturbance, which corresponds with the sites of former ponds initially for marl extraction. Modern services and disturbance from barbed wire fences were also identified.

3.12 Geophysical survey conclusions

3.12.1 The geophysical surveys undertaken at the 10 locations have provided an overview of the archaeological character of the Pickmere to Agden and Hulseheath area. The ground conditions and overall data quality were good throughout. The surveys largely reflect a pattern of post-medieval agriculture including anomalies representing 19th century land divisions and marl pits. These are remnants of earlier field patterns prior to post-medieval planned enclosure described within MA03_HLCA01. The survival of pockets of Ancient

Woodland to the east within MA03_GP001 demonstrates that this area may have been woodland and heath assarted[17] during the medieval period. Modern features include buried services, ferrous debris and magnetic halos from electricity pylons.

3.12.2 The surveys have detected possible archaeological features within the Arley Brook and Tabley Brook survey area (MA03_GP003), the south of the Northern Cheshire Ridge Road area (MA03_GP005), Agden Hall (MA03_GP008) and South of Gorse Cottage, High Legh (MA03_GP011).

3.12.3 Within MA03_GP003 three possible archaeological anomalies have been identified. They include:

- a circular anomaly measuring 6m in diameter with a central large discrete anomaly (MA03_GP003.002; MA03_0143). The highly magnetic response and shape does not match any agricultural or geological anomalies. Aerial photographs suggest a potential Second World War anti-aircraft defence structure such as a searchlight battery;
- a segmented circular anomaly, approximately 12m in diameter has been interpreted due to its position near MA03_GP003.002 (MA03_0143) as possible accommodation tracks around the Second World War structures; and
- an irregularly shaped 8m long anomaly with a highly elevated magnetic response and relative position to the searchlight battery, likely also relates to the Second World War (MA03_GP003.001; MA03_0143).

3.12.4 Within the northern field of MA03_GP005 a small group archaeological features has been identified. They include a group of five rectangular anomalies (MA03_GP005.014 to MA03_GP005.018; MA03_0167) in the centre of the survey area which due to their regular shape and distinct magnetic signal are considered to be of possible archaeological origin, probably associated with the local brick making industry or a saw pit as indicated by the tithe appointment field name 'Sawpit Croft'.

3.12.5 Within MA03_GP008 a number of well-defined archaeological anomalies has been identified relating to the 19th century garden and parkland at Agden Hall (MA03_0144). They include:

- one large curving anomaly (MA03_GP008.001) corresponding to the northern boundary of the garden design;
- within the northern garden boundary, a rectangular anomaly (MA03_GP008.002), 6m by 3m composed of several closely spaced parallel elements represents a probably garden building;
- to the east of the hall is a grid-pattern of linear anomalies (MA03_GP008.003) aligned squarely to the former garden, potentially a series of cinder paths between planting beds;

[17] Clearance of woodland for agricultural purposes.

- various other anomalies relate to former garden features but are too fragmentary and undiagnostic to support interpretations; and
- beyond the garden are other parkland features, including a boundary (MA03_GP008.004), rows of former trees (MA03_GP008.005 and MA03_GP008.006) and a path (MA03_GP008.007).

3.12.6 Although there is a record of a capital messuage at Agden Hall in 1560, the present hall is of 17th century date. It was substantially renovated in the 19th-century and a portion was demolished around 1950[18]. The noted 19th-century garden designer Edward Kemp was commissioned to remodel the gardens of Agden Hall in or around the year 1856. Historic Ordnance Survey maps of the site show that his work survived up until the 1950s and would have extended into the area covered by the present survey. The same maps show the area surrounding the gardens to have been parkland, with a building, identified as an observatory, standing directly east of the hall against the eastern boundary of the survey area.

3.12.7 Two clusters of possible archaeological features were identified within MA03_GP011; MA03_0170. Each comprise a group of speculated field system ditches, potentially of medieval or early post-medieval date. One of the field system ditches although surviving into the 20th century and is known from historic mapping has a curving shape and is anomalous in the context of the surrounding field pattern and suggests it may be a feature of earlier date.

[18] Cheshire Garden Trust (2014), *'Agden Hall, Agden Lane, Lymm'*, unpublished report.

4 Gazetteer of identified features in MA03

4.1.1 Table 1 provides a summary of the features identified during the field surveys described above.

Table 1: Gazetteer of identified features in MA03

Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
MA03_GP001.001		Magnetic disturbance		Modern	A spread of material within the centre of the survey area likely modern and spread during ploughing.	Figures 3, 4, 6 and 7	370400 376445 370584 376626
MA03_GP001.002		Modern service		Modern	A modern buried service.	Figures 3, 4, 6 and 7	370592 376726 370600 376657
MA03_GP001.003		Agricultural historic	Field boundary	Post-medieval	A former field boundary following the alignment of other field boundaries within the area. Although not depicted on the 1841 Great Budworth Tithe Map.	Figures 3 and 4	370475 376156 370415 376097
MA03_GP002.001		Modern service		Modern	A modern buried service.	Figures 9 and 10	370795 378050 370629 378158
MA03_GP002.002		Modern service		Modern	A modern buried service.	Figures 9 and 10	370578 378258
MA03_GP002.003		Extraction	Marl pit	Post-medieval	Highly magnetic material within a former pond, shown on 1841 Pickmere Tithe Map. Extraction for marling.	Figures 9 and 10	370653 378164
MA03_GP002.004		Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1881 Ordnance Survey map.	Figures 9 and 10	370706 378129

Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
MA03_GP002.005		Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1881 Ordnance Survey map.	Figures 9 and 10	370745 378121
MA03_GP002.006		Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1881 Ordnance Survey map.	Figures 9 and 10	370741 378100
MA03_GP002.007		Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1881 Ordnance Survey map.	Figures 9 and 10	370674 378001
MA03_GP002.008		Modern service		Modern	A modern buried service.	Figures 9 and 10	370615 378197
MA03_GP003.001	MA03_0143	Archaeology possible	Defence structure	Modern	Irregular-shaped anomaly, measuring 8m in length on a north-south axis. Probably accommodation tracks and structures associated with the Second World War anti-aircraft search battery light.	Figures 12 and 13	370610 378817
MA03_GP003.002	MA03_0143	Archaeology possible	Anti-aircraft battery	Modern	Circular-shaped anomaly, measuring 6m in diameter, with a large discrete anomaly in the centre. Likely to be a Second World War anti-aircraft defence structure such as a searchlight battery.	Figures 12 and 13	370659 378820
MA03_GP003.003	MA03_0143	Archaeology possible	Defence structure	Modern	Truncated circular-shaped anomaly, measuring 12m in diameter. Likely defence structure associated with the searchlight battery.	Figures 12 and 13	370671 378832

Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
MA03_GP004.001		Modern service		Modern	A modern buried service.	Figures 15, 16, 18 and 19	371411 382229 371355 382009
MA03_GP004.002		Modern service		Modern	A linear running underneath overhead electricity pylons and parallel to MA03_GP004.003. Dual service for electricity pylons.	Figures 15, 16, 18 and 19	371577 382153 371663 382499
MA03_GP004.003		Modern service		Modern	A linear running underneath overhead electricity pylons and parallel to MA03_GP004.002. Dual service for electricity pylons.	Figures 15, 16, 18 and 19	371571 382150 371658 382501
MA03_GP004.004		Magnetic disturbance		Modern	A large magnetic disturbance caused by ferrous response of electricity towers.	Figures 15, 16, 18 and 19	371489 381926
MA03_GP004.005		Magnetic disturbance		Modern	A large magnetic disturbance caused by ferrous response of electricity towers.	Figures 15, 16, 18 and 19	371554 382184
MA03_GP004.006		Magnetic disturbance		Modern	A large magnetic disturbance caused by ferrous response of electricity towers.	Figures 15, 16, 18 and 19	371619 382198
MA03_GP004.007		Magnetic disturbance		Modern	A large magnetic disturbance caused by ferrous response of electricity towers.	Figures 15, 16, 18 and 19	371610 382396
MA03_GP004.008		Magnetic disturbance		Modern	A large magnetic disturbance caused by ferrous response of electricity towers.	Figures 15, 16, 18 and 19	371708 382535
MA03_GP004.009		Extraction	Marl pit	Post-medieval	Highly magnetic material within a former pond, shown on 1841 Pickmere Tithe Map. Extraction for marling.	Figures 15 and 16	371284 382022

Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
MA03_GP004.010		Ferrous		Modern	Magnetic disturbance close to the edge of field and road.	Figures 15, 16, 18 and 19	371649 382541
MA03_GP004.011		Agricultural historic	Field boundary	Post-medieval	A former field boundary depicted on 1881 Ordnance Survey map.	Figures 15, 16, 18 and 19	371710 382519
MA03_GP004.012		Agricultural historic	Field boundary	Post-medieval	A former field boundary depicted on 1881 Ordnance Survey map.	Figure 15, 16, 18 and 19	371671 382239
MA03_GP004.013		Agricultural historic	Field boundary	Post-medieval	A former field boundary depicted on 1881 Ordnance Survey map.	Figures 15, 16, 18 and 19	371552 382320
MA03_GP004.014		Agricultural historic	Field boundary	Post-medieval	A former field boundary depicted on 1881 Ordnance Survey map.	Figures 15, 16, 18 and 19	371641 382146
MA03_GP004.015		Agricultural historic	Field boundary	Post-medieval	A former field boundary depicted on 1881 Ordnance Survey map.	Figures 15, 16, 18 and 19	371378 382255
MA03_GP004.016		Agricultural historic	Field boundary	Post-medieval	A former field boundary depicted on 1881 Ordnance Survey map.	Figures 15, 16, 18 and 19	371492 382397
MA03_GP004.017		Agricultural historic	Field boundary	Post-medieval	A former field boundary depicted on 1881 Ordnance Survey map.	Figures 15, 16, 18 and 19	371445 382066
MA03_GP005.001		Modern service		Modern	A modern buried service.	Figures 15, 16, 18, 19, 21 and 22	371709 382676
MA03_GP005.002		Modern service		Modern	A modern buried service.	Figures 15, 16, 18, 19, 21 and 22	371705 382674
MA03_GP005.003		Magnetic disturbance		Modern	Magnetic disturbance caused by the ferrous response of electricity towers.	Figures 15, 16, 18, 19, 21 and 22	371676 382647
MA03_GP005.004		Extraction	Marl pit	Post-medieval	Highly magnetic material within a former pond, shown on 1848 Mere Tithe Map. Extraction for marling.	Figures 18, 19, 21 and 22	371630 382768

Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
MA03_GP005.005		Extraction	Marl pit	Post-medieval	Highly magnetic material within a former pond, shown on 1848 Mere Tithe Map. Extraction for marling.	Figures 18, 19, 21 and 22	371650 382787
MA03_GP005.006		Extraction	Marl pit	Post-medieval	Highly magnetic material within a former pond, shown on 1848 Mere Tithe Map. Extraction for marling.	Figures 18, 19, 21 and 22	371688 382669
MA03_GP005.007		Ferrous		Modern	Row of small ferrous anomalies, likely a row of posts for a fence line.	Figure 15,16, 18, 19, 21 and 22	371660 382583
MA03_GP005.008		Agricultural historic	Field boundary	Post-medieval	A former field boundary shown on the 1848 Mere Tithe Map.	Figures 18, 19, 21 and 22	371629 382810
MA03_GP005.009		Agricultural historic	Field boundary	Post-medieval	A former field boundary shown on the 1848 Mere Tithe Map.	Figures 18, 19, 21 and 22	371675 382785
MA03_GP005.010		Agricultural historic	Field boundary	Post-medieval	A former field boundary shown on the 1848 Mere Tithe Map.	Figures 18, 19, 21 and 22	371609 382790
MA03_GP005.011		Agricultural historic	Field boundary	Post-medieval	A former field boundary shown on the 1848 Mere Tithe Map.	Figures 18, 19, 21 and 22	371572 382750
MA03_GP005.012		Agricultural historic	Field boundary	Post-medieval	A former field boundary shown on the 1848 Mere Tithe Map.	Figures 118, 19, 21 and 22	371574 382621
MA03_GP005.013		Agricultural historic	Field boundary	Post-medieval	A former field boundary shown on the 1848 Mere Tithe Map.	Figures 18, 19, 21 and 22	371633 382674
MA03_GP005.014	MA03_0167	Archaeology possible	Kiln	Post-medieval	Rectangular-shaped anomaly, possibly associated with local brick making industry.	Figures 18, 19, 21 and 22	371598 382697

Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
MA03_GP005.015	MA03_0167	Archaeology possible	Kiln	Post-medieval	Rectangular-shaped, possibly associated with local brick making industry.	Figure 18, 19, 21 and 22	371598 382709
MA03_GP005.016	MA03_0167	Archaeology possible	Kiln	Post-medieval	Rectangular-shaped anomaly, possibly associated with local brick making industry.	Figures 18, 19, 21 and 22	371603 382713
MA03_GP005.017	MA03_0167	Archaeology possible	Kiln	Post-medieval	Rectangular-shaped anomaly, possibly associated with local brick making industry.	Figures 18, 19, 21 and 22	371601 382719
MA03_GP005.018	MA03_0167	Archaeology possible	Saw pit	Post-medieval	Rectangular-shaped anomaly, possibly associated with local brick making industry. Noted on Mere Tithe Map as sawpit croft.	Figures 18, 19, 21 and 22	371600 382724
MA03_GP005.019		Archaeology possible	Unknown	Undated	Linear anomaly following the alignment of the current field boundary to the east.	Figures 15, 16, 18, 19, 21 and 22	371754 382665 371725 382614
MA03_GP006.001		Extraction	Marl pit	Post-medieval	Highly magnetic material within a former pond, shown on 1848 Mere Tithe Map. Extraction for marling.	Figures 18, 19, 21 and 22	371674 382973
MA03_GP006.002		Agricultural historic	Field boundary	Post-medieval	A former field boundary shown on the 1848 Mere Tithe Map.	Figures 18, 19, 21 and 22	371704 383001
MA03_GP007.001		Modern service		Modern	A modern buried service.	Figures 24, 25, 30 and 31	371929 383951
MA03_GP007.002		Modern service		Modern	A modern buried service.	Figures 24, 25, 30 and 31	371896 383770 371933 383951

Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
MA03_GP007.003		Magnetic disturbance		Modern	An area of magnetic disturbance caused by ferrous response of electricity towers.	Figures 24, 25, 30, 31, 33 and 34	371891 383942
MA03_GP007.004		Extraction	Marl pit	Post-medieval	Highly magnetic material within a former pond, shown on 1848 Mere Tithe Map. Extraction for marling.	Figures 24, 25, 30 and 31	371828 383918
MA03_GP007.005		Extraction	Marl pit	Post-medieval	Highly magnetic material within a former pond, shown on 1848 Mere Tithe Map. Extraction for marling.	Figures 24, 25, 30 and 31	371907 383984
MA03_GP007.006		Agricultural historic	Field boundary	Post-medieval	A former field boundary shown on the 1848 Mere Tithe Map.	Figures 24, 25, 30 and 31	371808 383486
MA03_GP008.001	MA03_0144	Archaeology definitive/ probable	Garden feature	Post-medieval	Large curving anomaly corresponding to the northern boundary of the former gardens of Agden Hall.	Figures 27 and 28	371581 385511
MA03_GP008.002	MA03_0144	Archaeology definitive/ probable	Garden building	Post-medieval	Rectangular anomaly probably representing a structural feature. Perhaps the remains of a kiln or a set of brick footings for a garden building.	Figures 27 and 28	371574 385507
MA03_GP008.003	MA03_0144	Archaeology definitive/ probable	Plant bed	Post-medieval	Grid-like pattern of anomalies aligned squarely to the orientation of the former garden. Possibly a series of cinder paths between planting beds.	Figures 27 and 28	371562 385433

Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
MA03_GP008.004	MA03_0144	Archaeology definitive/ probable	Garden feature	Post-medieval	Feature of the 19th century parkland corresponding to a boundary.	Figures 27 and 28	371614 385428
MA03_GP008.005	MA03_0144	Archaeology definitive/ probable	Garden feature	Post-medieval	Feature of the 19th century parkland corresponding to a row of trees.	Figures 27 and 28	371511 385386
MA03_GP008.006	MA03_0144	Archaeology definitive/ probable	Garden feature	Post-medieval	Feature of the 19th century parkland corresponding to a row of trees.	Figures 27 and 28	371603 385475
MA03_GP008.007	MA03_0144	Archaeology possible	Garden path	Post-medieval	Feature of the 19th century parkland corresponding to a former garden path.	Figures 27 and 28	371571 385620
MA03_GP008.008		Extraction	Pit	Post-medieval	A concentration of broad negative halos depicted on historic Ordnance Survey maps as large pits.	Figures 27 and 28	371723 385499
MA03_GP008.009		Extraction	Pit	Post-medieval	A large well defined weak magnetic noise representing a rubbish pit containing materials such as cinders.	Figures 27 and 28	371587 385389
MA03_GP008.010		Extraction	Pit	Post-medieval	A small circular area representing either a large pit or a geological feature.	Figures 27 and 28	371649 385377
MA03_GP008.011		Modern services		Modern	A modern buried metal pipe.	Figures 27 and 28	371549 385414
MA03_GP011.001	MA03_0170	Archaeology possible	Field boundaries	Medieval	Y-shaped pattern of linear anomalies representing medieval or post-medieval boundaries pre-dating the earliest map evidence.	Figures 30 and 31	372159 383715

Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
MA03_GP011.002	MA03_0170	Archaeology possible	Field boundary	Post-medieval	Curving linear anomaly corresponding to a possible boundary depicted on the Mere Tithe Map.	Figures 24, 25, 30 and 31	371939 383527
MA03_GP011.003	MA03_0170	Archaeology possible	Field boundary	Medieval	Unmapped boundaries ditches of similar date to MA03_GP011.002.	Figures 24, 25, 30 and 31	371907 383499
MA03_GP011.004	MA03_0170	Archaeology possible		Post-medieval	Spread of magnetic debris but with some linear elements and therefore probable archaeology.	Figures 24, 25, 30 and 31	371949 383553
MA03_GP011.005	MA03_0170	Archaeology possible	Pit	Medieval	An isolated pit.	Figures 24, 25, 30 and 31	372031 383633
MA03_GP011.006	MA03_0170	Archaeology possible	Ditch	Post-medieval	A short linear anomaly that perhaps represents a short length of ditch.	Figures 24, 25, 30 and 31	371934 383648
MA03_GP011.007		Extraction	Pond	Undated	A former pond depicted on historic Ordnance Survey maps.	Figures 24, 25, 30 and 31	371875 383575
MA03_GP011.008		Agricultural historic	Field boundary	Undated	A former field boundary depicted on historic Ordnance Survey maps.	Figures 24, 25, 30 and 31	371984 383750
MA03_GP011.009		Agricultural historic	Field boundary	Undated	A former field boundary depicted on historic Ordnance Survey maps.	Figures 24, 25, 30 and 31	371929 383713
MA03_GP011.011		Agricultural historic	Field boundary	Post-medieval	A former field boundary depicted on historic Ordnance Survey maps.	Figures 24, 25, 30 and 31	371981 383704
MA03_GP011.012		Agricultural historic	Field boundary	Post-medieval	A former field boundary depicted on historic Ordnance Survey maps.	Figures 24, 25, 30 and 31	372042 383677

Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
MA03_GP011.013		Agricultural historic	Field boundary	Post-medieval	A former field boundary depicted on historic Ordnance Survey maps.	Figures 24, 25, 30 and 31	371808 383486
MA03_GP012.001		Extraction	Marl pit	Post-medieval	Marl pit. Disturbance likely caused by magnetic objects within backfill of the former extraction area.	Figures 33 and 34	371482 384358
MA03_GP012.002		Extraction	Marl pit	Post-medieval	Marl pit. Disturbance likely caused by magnetic objects within backfill of the former extraction area.	Figures 33 and 34	371722 384290
MA03_GP012.003		Extraction	Marl pit	Post-medieval	Marl pit. Disturbance likely caused by magnetic objects within backfill of the former extraction area.	Figures 30, 31, 33 and 34	371786 384206
MA03_GP012.004		Extraction	Marl pit	Post-medieval	Marl pit. Disturbance likely caused by magnetic objects within backfill of the former extraction area.	Figures 33 and 34	371396 384344
MA03_GP012.005		Agricultural modern		Modern	Curvilinear anomaly, plough turn mark.	Figures 33 and 34	371983 383860
MA03_GP012.006		Agricultural historic	Field boundary	Post-medieval	A former field boundary shown on the 1849 Ordnance Survey map.	Figures 33 and 34	371362 384341
MA03_GP012.007		Agricultural modern		Post-medieval	Corresponds to extant barbed wire fence.	Figures 33 and 34	371469 384317
MA03_GP012.008		Agricultural modern		Post-medieval	Corresponds with posts of modern fence line.	Figures 33 and 34	
MA03_GP012.009		Ferrous	Debris	Post-medieval	Ferrous debris from adjacent fence line.	Figures 30 and 31	371903 384044 371901 384035
MA03_GP012.010		Magnetic disturbance		Modern	Represents accumulation of ferrous debris and other magnetic materials from adjacent farmyard.	Figures 33 and 34	371328 384366

Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
MA03_GP012.011		Modern service		Modern	A modern buried service.	Figures 33 and 34	371636 384261
MA03_GP012.012		Modern service		Modern	A modern buried service.	Figures 30, 31, 33 and 34	371733 384188

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 Areas
mAOD	metres above Ordnance Datum
ASZ	Archaeological Sub-zones
BID	Background Information and Data
CALS	Cheshire Archives and Local Studies
CIfA	Chartered Institute for Archaeologists
EAC	Europae Archaeologogiae Consilium
GWSI	Generic Written Scheme of Investigation
HER	Historic Environment Record
HLC/ HLCA	historic landscape character/ Historic Landscape Character Areas
LiDAR	Light Detection and Ranging
NGR	National Grid Reference
UID	Unique gazetteer identifier

6 References

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WORK IN PROGRESS

BROOMEDGE TO GLAZEBROOK

PICKMERE TO AGDEN AND HULSEHEATH

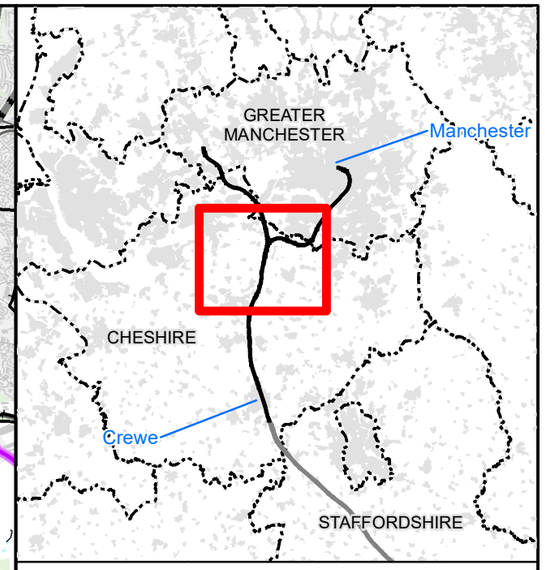
HULSEHEATH TO MANCHESTER AIRPORT

WIMBOLDSLEY TO LOSTOCK GRALAM

HE-004_MA03_Figure28
HE-004_MA03_Figure34
HE-004_MA03_Figure25
HE-004_MA03_Figure19
HE-004_MA03_Figure16
HE-004_MA03_Figure31
HE-004_MA03_Figure22
HE-004_MA03_Figure13
HE-004_MA03_Figure10
HE-004_MA03_Figure7
HE-004_MA03_Figure4

HS2 WCML Connection
Peacock Lane Viaduct
Hoo Green Box Structure
M6 Mere Viaduct
HS2 Manchester Spur
Arley Brook Viaduct

Padgate
WARRINGTON
Warrington Central
Warrington Bank Quay
WARRINGTON BOROUGH
LYMM
Little Bollington
Bowdon
TRAFFORD METROPOLITAN BOROUGH
Timperley
ALTRINCHAM
MANCHESTER CITY
Hale
GREATER MANCHESTER
Ashley
Morley Green
Appleton Thorn
High Legh
CHESHIRE
Lower Stretton
CHESHIRE WEST AND CHESTER
Rostherne
Mere
Over Tabley
Mobberley
CHESHIRE EAST
Knutsford
KNUTSFORD
Lower Whitley
Comberbach
Pickmere
Acton Bridge
Ollerton
Chelford
Plumley
Lostock Gralam
Lower Peover
Over Peover
Weaverham
NORTHWICH
Northwich
Greenbank
Hartford
Cuddington
Lach Dennis



Map Series Information:

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

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

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
- Survey areas

Map Number: HE-004_MA03_Figure1

Map Name: Geophysical Survey Index map

Community Area MA03: Pickmere to Agden and Hulseheath

Scale at A3: 1:75,000

0 750 1,500 2,250 3,000 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002451-P01

Date: 22/06/21

WORK IN PROGRESS

PICKMERE TO
AGDEN AND HULSEHEATH

CHESHIRE WEST
AND CHESTER

CHESHIRE EAST

MA02_GP011

MA03_GP001

272+000

Smoker Brook

WIMBOLDSLEY TO
LOSTOCK GRALAM

HS2

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
- Survey area

Unprocessed Greyscale (nT)

Value

High : 8

Low : -8

Map Number	HE-004_MA03_Figure2
Map Name	Site MA03_GP001 Unprocessed Greyscale
	Community Area MA03: Pickmere to Agden and Hulseheath

HS2

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway,
Birmingham B4 6GA.

Scale at A3: 1:2,500

0 25 50 75 100
Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002452-P01

Date: 22/06/21

WORK IN PROGRESS

PICKMERE TO AGDEN AND HULSEHEATH

WIMBOLDSLEY TO LOSTOCK GRALAM

CHESHIRE WEST AND CHESTER

CHESHIRE EAST

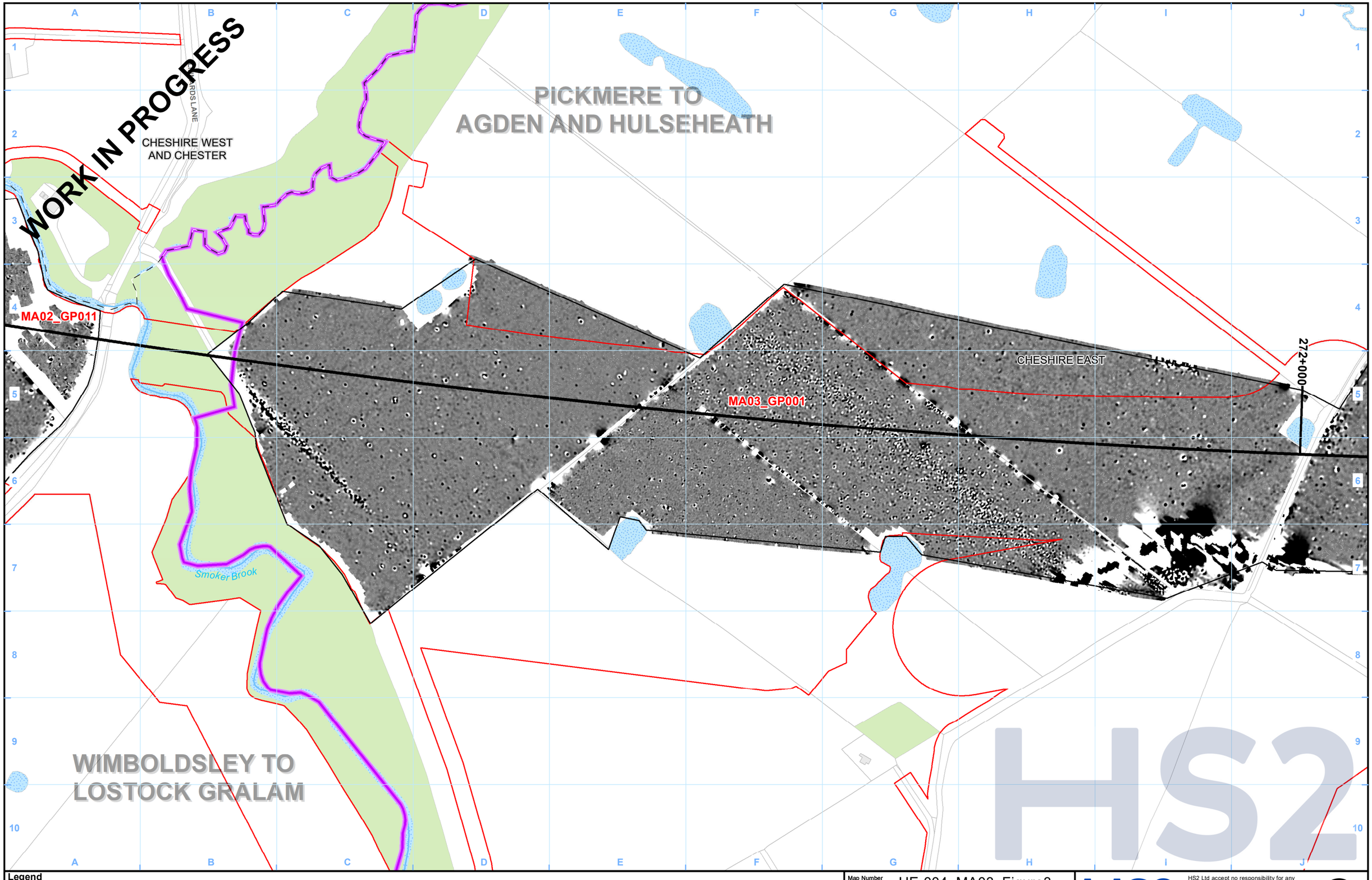
RDS LANE

Smoker Brook

MA02_GP011

MA03_GP001

272+000



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
- Survey area

Processed Greyscale (nT)

Value

High : 3

Low : -3

Map Number: HE-004_MA03_Figure3

Map Name: Site MA03_GP001 Greyscale

Community Area MA03: Pickmere to Agden and Hulseheath

HS2

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002453-P01

Date: 22/06/21

WORK IN PROGRESS

PICKMERE TO AGDEN AND HULSEHEATH

WIMBOLDSLEY TO LOSTOCK GRALAM

CHESHIRE WEST AND CHESTER

CHESHIRE EAST

RDS LANE

Smoker Brook

MA02_GP011

MA03_GP001

MA03_GP001.003

MA03_GP001.001

MA03_GP001.002

272+000

HS2

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

Geophysical survey results

- Archaeology definitive/probable
- Archaeology possible
- Industrial/burnt-fired
- Extraction
- Agriculture historic
- Natural
- Ferrous
- Magnetic disturbance
- Uncertain
- Modern service
- Archaeology definitive/probable
- Archaeology possible
- Agricultural historic
- Agricultural modern
- Natural
- Uncertain
- Modern service
- Survey area

Map Number: HE-004_MA03_Figure4

Map Name: Site MA03_GP001 Interpretation

Community Area MA03: Pickmere to Agden and Hulseheath

HS2

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

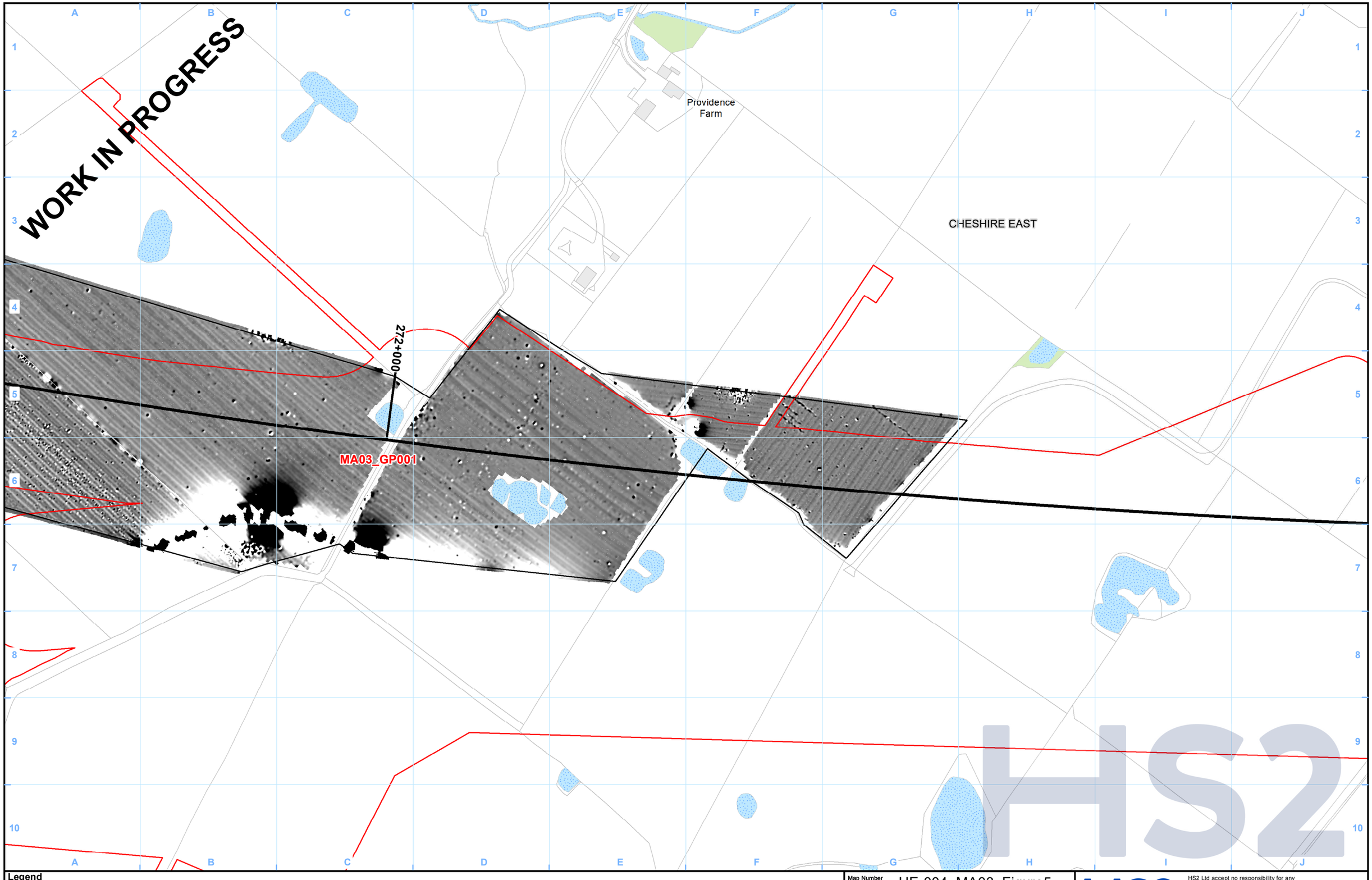
Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002454-P01

Date: 22/06/21

WORK IN PROGRESS



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
- Survey area

Unprocessed Greyscale (nT)

Value

High : 8

Low : -8

Map Number HE-004_MA03_Figure5

Map Name

Site MA03_GP001
Unprocessed Greyscale

Community Area MA03:
Pickmere to Agden and Hulseheath

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

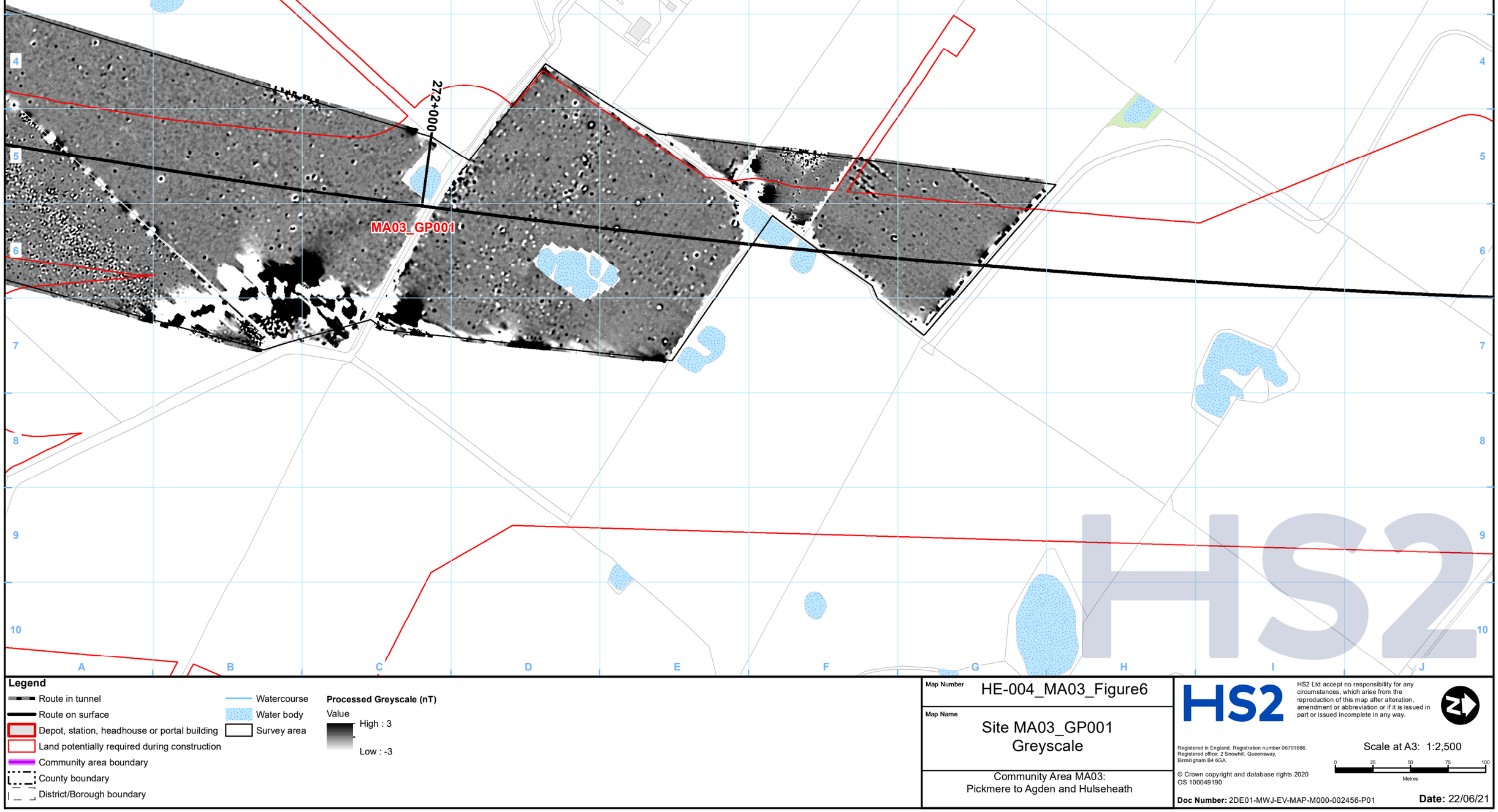
Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002455-P01

Date: 22/06/21

WORK IN PROGRESS



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
- Survey area

Processed Greyscale (nT)

Value

High : 3

Low : -3

Map Number	HE-004_MA03_Figure6
Map Name	Site MA03_GP001 Greyscale
	Community Area MA03: Pickmere to Agden and Hulseheath

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002456-P01

Date: 22/06/21

WORK IN PROGRESS

Providence Farm

CHESHIRE EAST

27+000

MA03_GP001.001

MA03_GP001

MA03_GP001.002

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

Geophysical survey results

- Archaeology definitive/probable
- Archaeology possible
- Industrial/burnt-fired
- Extraction
- Agriculture historic
- Natural
- Ferrous
- Magnetic disturbance
- Uncertain
- Modern service
- Archaeology definitive/probable
- Archaeology possible
- Agricultural historic
- Agricultural modern
- Natural
- Uncertain
- Modern service
- Survey area

Map Number: HE-004_MA03_Figure7

Map Name: Site MA03_GP001 Interpretation

Community Area MA03: Pickmere to Agden and Hulseheath

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002457-P01

Date: 22/06/21

WORK IN PROGRESS

CHESHIRE EAST

273+000

MA03_GP002

Water 9

HS2

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
- Survey area

Unprocessed Greyscale (nT)

Value

High : 8

Low : -8

Map Number	HE-004_MA03_Figure8
Map Name	Site MA03_GP002 Unprocessed Greyscale
	Community Area MA03: Pickmere to Agden and Hulseheath

HS2

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002458-P01

Date: 22/06/21

WORK IN PROGRESS

CHESHIRE EAST

273+000

MA03_GP002

Water 9

HS2

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
- Survey area

Processed Greyscale (nT)

Value

High : 3

Low : -3

Map Number HE-004_MA03_Figure9

Map Name

Site MA03_GP002
Greyscale

Community Area MA03:
Pickmere to Agden and Hulseheath

Registered in England. Registration number 06791686.
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Scale at A3: 1:2,500

0 25 50 75 100
Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002459-P01

Date: 22/06/21

WORK IN PROGRESS

CHESHIRE EAST

MA03_GP002.002

MA03_GP002.008

MA03_GP002.001

MA03_GP002.007

273+000

MA03_GP002.003

MA03_GP002

MA03_GP002.005

MA03_GP002.006

MA03_GP002.004

MA03_GP002.001

Water 9

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

Geophysical survey results

- Archaeology definitive/probable
- Archaeology possible
- Industrial/burnt-fired
- Extraction
- Agriculture historic
- Natural
- Ferrous
- Magnetic disturbance
- Uncertain
- Modern service
- Archaeology definitive/probable
- Archaeology possible
- Agricultural historic
- Agricultural modern
- Natural
- Uncertain
- Modern service
- Survey area

Map Number: HE-004_MA03_Figure10

Map Name: Site MA03_GP002 Interpretation

Community Area MA03: Pickmere to Agden and Hulseheath

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

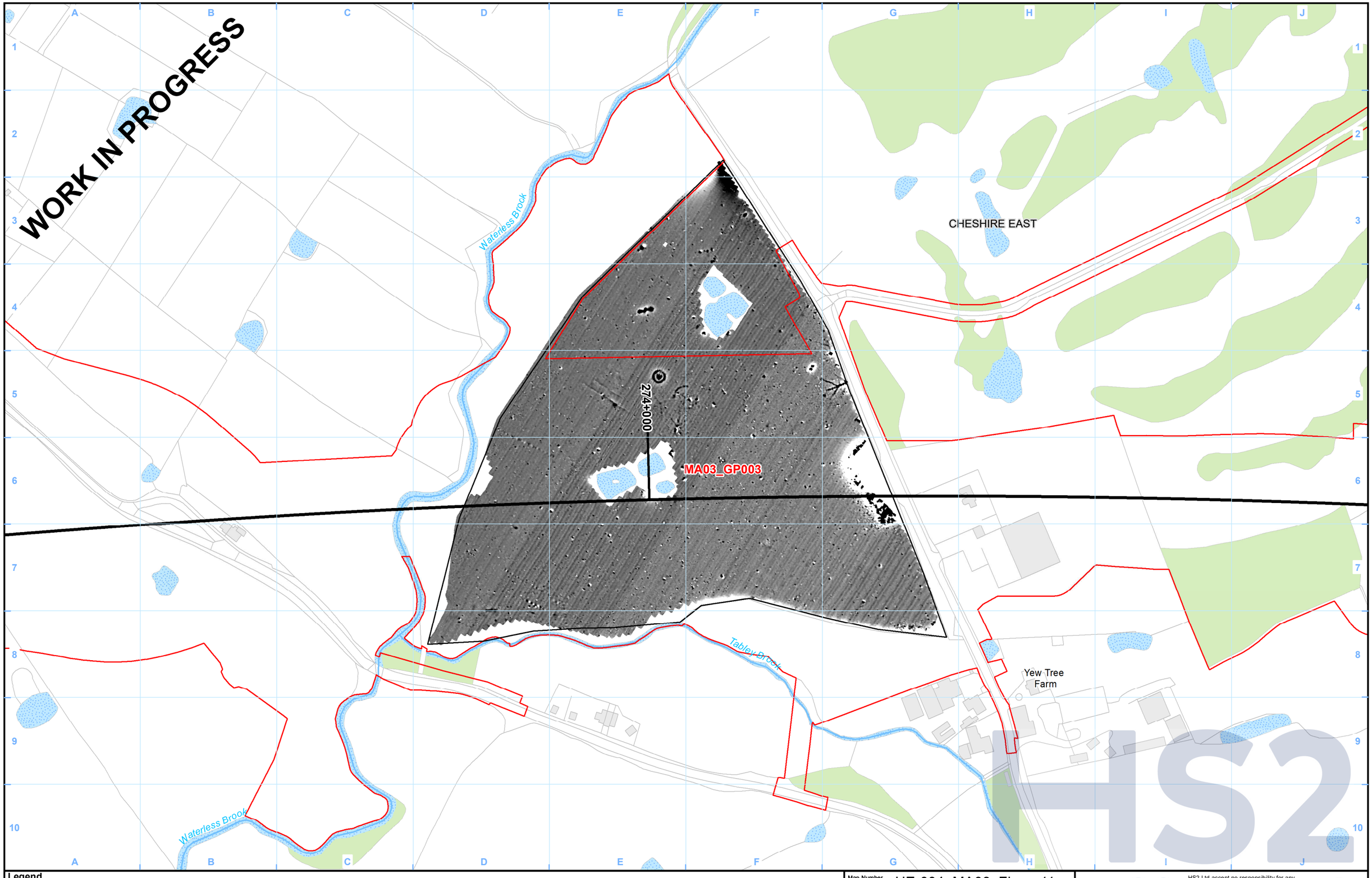
Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002460-P01

Date: 22/06/21

WORK IN PROGRESS



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
- Survey area

Unprocessed Greyscale (nT)

Value

High : 8

Low : -8

Map Number	HE-004_MA03_Figure11
Map Name	Site MA03_GP003 Unprocessed Greyscale
	Community Area MA03: Pickmere to Agden and Hulseheath

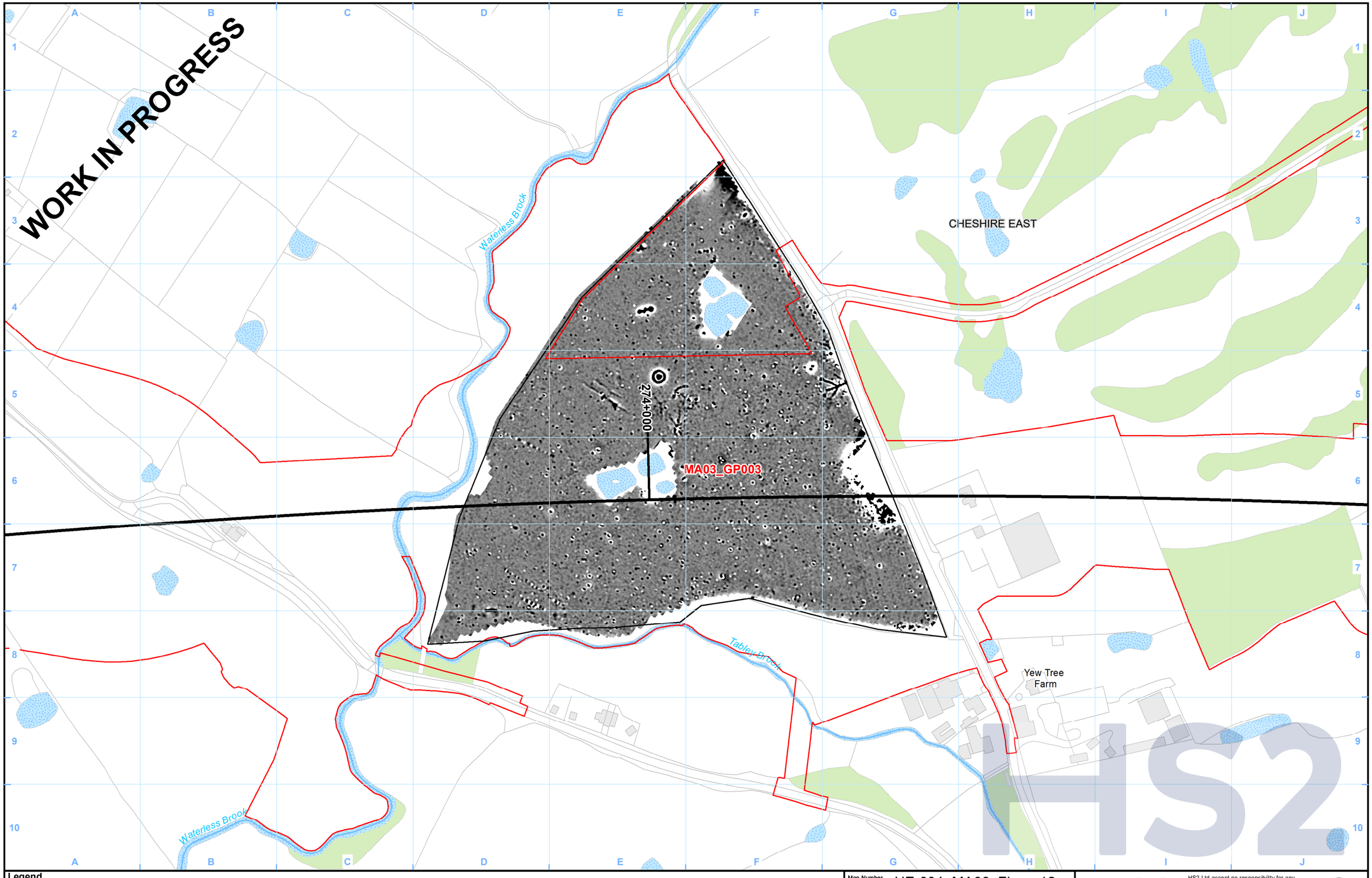
Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002461-P01

Date: 22/06/21

WORK IN PROGRESS



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
- Survey area

Processed Greyscale (nT)

Value

High : 3

Low : -3

Map Number	HE-004_MA03_Figure12
Map Name	Site MA03_GP003 Greyscale
	Community Area MA03: Pickmere to Agden and Hulseheath

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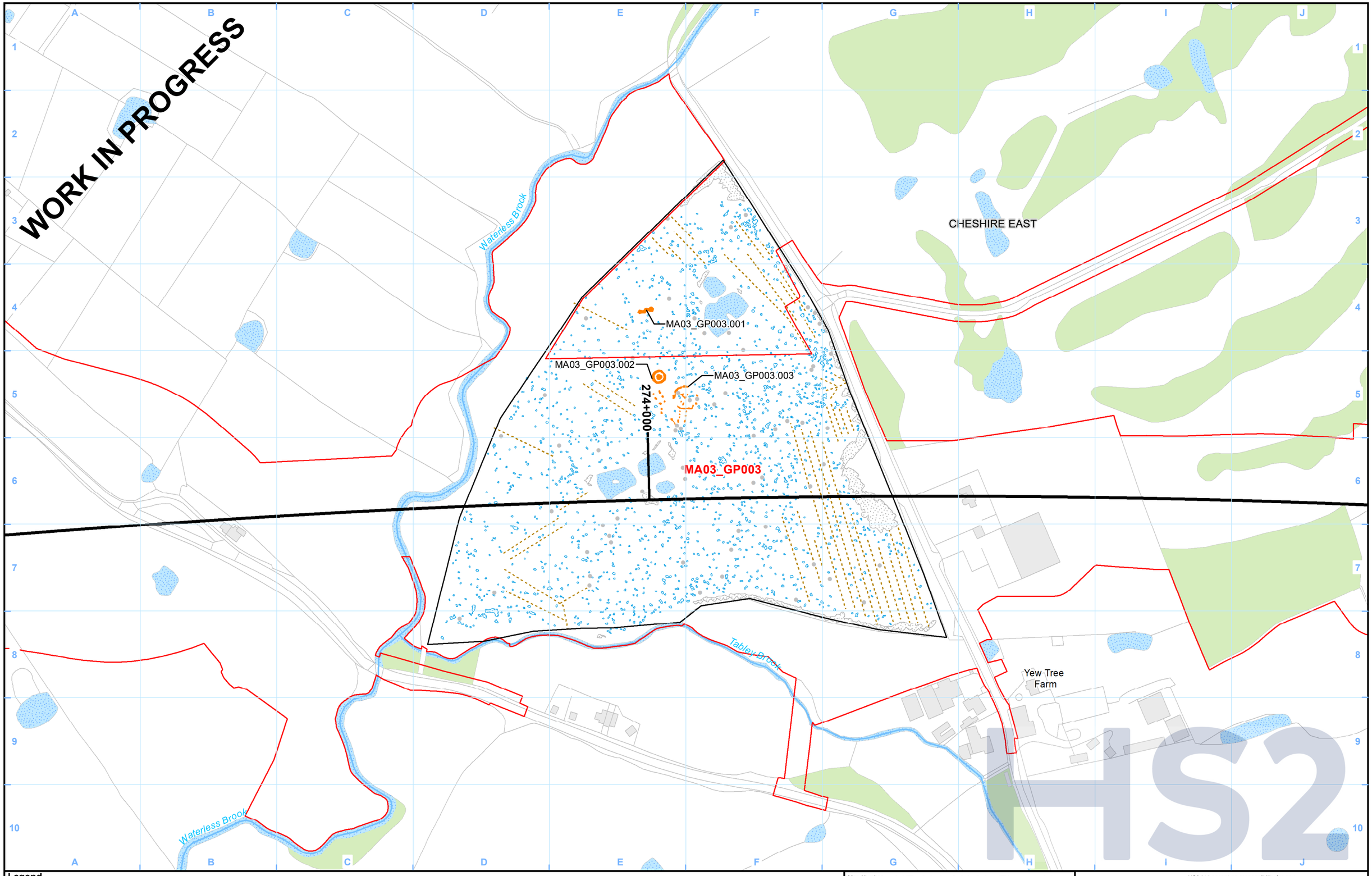
Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002462-P01

Date: 22/06/21

WORK IN PROGRESS



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

Geophysical survey results

- Archaeology definitive/probable
- Archaeology possible
- Industrial/burnt-fired
- Extraction
- Agriculture historic
- Natural
- Ferrous
- Magnetic disturbance
- Uncertain
- Modern service
- Archaeology definitive/probable
- Archaeology possible
- Agricultural historic
- Agricultural modern
- Natural
- Uncertain
- Modern service
- Survey area

Map Number HE-004_MA03_Figure13

Map Name

Site MA03_GP003
Interpretation

Community Area MA03:
Pickmere to Agden and Hulseheath

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Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002463-P01

Date: 22/06/21

WORK IN PROGRESS

CHESHIRE EAST

Goodiersgreen Farm

Lusybank Farm

MA03_GP004

MA03_GP005

Hoo Green

HS2

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
- Survey area

Unprocessed Greyscale (nT)

Value

High : 8

Low : -8

Map Number	HE-004_MA03_Figure14
Map Name	Site MA03_GP004 Unprocessed Greyscale
	Community Area MA03: Pickmere to Agden and Hulseheath

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002464-P01

Date: 22/06/21

WORK IN PROGRESS

CHESHIRE EAST

Goodiersgreen Farm

Hoo Green

MA03_GP004

MA03_GP005

HS2

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
- Survey area

Processed Greyscale (nT)

Value

High : 3

Low : -3

Map Number	HE-004_MA03_Figure15
Map Name	Site MA03_GP004 Greyscale
	Community Area MA03: Pickmere to Agden and Hulseheath

Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002465-P01

Date: 22/06/21

WORK IN PROGRESS

CHESHIRE EAST

Goodiersgreen Farm

Hoo Green

MA03_GP004.009
MA03_GP004.015
MA03_GP004.001
MA03_GP004.017
MA03_GP004
MA03_GP004.016
MA03_GP004.013
MA03_GP004.005
MA03_GP004.004
MA03_GP004.007
MA03_GP004.003
MA03_GP004.002
MA03_GP004.010
MA03_GP004.006
MA03_GP004.014
MA03_GP004.012
MA03_GP004.011
MA03_GP004.008

MA03_GP005
MA03_GP005.012
MA03_GP005.013
MA03_GP005.006
MA03_GP005.003
MA03_GP005.007
MA03_GP005.002
MA03_GP005.001
MA03_GP005.019

HS2

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

Geophysical survey results

- Archaeology definitive/probable
- Archaeology possible
- Industrial/burnt-fired
- Extraction
- Agriculture historic
- Natural
- Ferrous
- Magnetic disturbance
- Uncertain
- Modern service
- Archaeology definitive/probable
- Archaeology possible
- Agricultural historic
- Agricultural modern
- Natural
- Uncertain
- Modern service
- Survey area

Map Number: HE-004_MA03_Figure16

Map Name: Site MA03_GP004 Interpretation

Community Area MA03: Pickmere to Agden and Hulseheath

HS2

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0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M0000-002466-P01

Date: 22/06/21

WORK IN PROGRESS

CHESHIRE EAST

278+000

MA03_GP005

MA03_GP006

MA03_GP004

Hoo Green

HS2

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
- Survey area

Unprocessed Greyscale (nT)

Value

High : 8

Low : -8

Map Number: HE-004_MA03_Figure17

Map Name: Site MA03_GP005 Unprocessed Greyscale

Community Area MA03: Pickmere to Agden and Hulseheath

HS2

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Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002467-P01

Date: 22/06/21

WORK IN PROGRESS

CHESHIRE EAST

278+000

MA03_GP005

MA03_GP006

MA03_GP004

Hoo Green

HS2

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
- Survey area

Processed Greyscale (nT)

Value

High : 3

Low : -3

Map Number: HE-004_MA03_Figure18

Map Name: Site MA03_GP005 Greyscale

Community Area MA03: Pickmere to Agden and Hulseheath

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002468-P01

Date: 22/06/21

WORK IN PROGRESS

CHESHIRE EAST

278+000

MA03_GP004.015
MA03_GP004.001
MA03_GP004.016
MA03_GP004.013
MA03_GP004.005
MA03_GP004.007
MA03_GP004.003
MA03_GP004
MA03_GP004.010
MA03_GP004.002
MA03_GP004.006
MA03_GP004.014
MA03_GP004.012
MA03_GP004.011
MA03_GP004.008

MA03_GP005
MA03_GP005.018
MA03_GP005.017
MA03_GP005.015
MA03_GP005.014
MA03_GP005.012
MA03_GP005.016
MA03_GP005.013
MA03_GP005.004
MA03_GP005.003
MA03_GP005.007
MA03_GP005.006
MA03_GP005.001
MA03_GP005.019
MA03_GP005.011
MA03_GP005.010
MA03_GP005.008
MA03_GP005.005
MA03_GP005.009
MA03_GP005.002

MA03_GP006
MA03_GP006.001
MA03_GP006.002

Hoo Green

HS2

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

Geophysical survey results

- Archaeology definitive/probable
- Archaeology possible
- Industrial/burnt-fired
- Extraction
- Agriculture historic
- Natural
- Ferrous
- Magnetic disturbance
- Uncertain
- Modern service
- Archaeology definitive/probable
- Archaeology possible
- Agricultural historic
- Agricultural modern
- Natural
- Uncertain
- Modern service
- Survey area

Map Number: HE-004_MA03_Figure19

Map Name: Site MA03_GP005 Interpretation

Community Area MA03: Pickmere to Agden and Hulseheath

HS2

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Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002469-P01

Date: 22/06/21

WORK IN PROGRESS

278+000

CHESHIRE EAST

MA03_GP005

MA03_GP006

MA03_GP004

Hco Green

LANE

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
- Survey area

Unprocessed Greyscale (nT)

Value

High : 8

Low : -8

Map Number: HE-004_MA03_Figure20

Map Name:

Site MA03_GP006
Unprocessed Greyscale

Community Area MA03:
Pickmere to Agden and Hulseheath

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Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway,
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Scale at A3: 1:2,500

0 25 50 75 100
Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002470-P01

Date: 22/06/21

WORK IN PROGRESS

278+000

MA03_GP005

MA03_GP006

MA03_GP004

CHESHIRE EAST

Hco Green

LANE

HS2

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
- Survey area

Processed Greyscale (nT)

Value

High : 3

Low : -3

Map Number: HE-004_MA03_Figure21

Map Name: Site MA03_GP006 Greyscale

Community Area MA03: Pickmere to Agden and Hulseheath

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0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002471-P01

Date: 22/06/21

WORK IN PROGRESS

278+000

CHESHIRE EAST

MA03_GP005

MA03_GP005.012
MA03_GP005.016
MA03_GP005.015
MA03_GP005.014
MA03_GP005.011
MA03_GP005.017
MA03_GP005.010
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MA03_GP005.002
MA03_GP005.006
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MA03_GP005.001
MA03_GP004.008
MA03_GP004.011

MA03_GP004

MA03_GP006

MA03_GP006.001
MA03_GP006.002

Hco Green

LANE

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

Geophysical survey results

- Archaeology definitive/probable
- Archaeology possible
- Industrial/burnt-fired
- Extraction
- Agriculture historic
- Natural
- Ferrous
- Magnetic disturbance
- Uncertain
- Modern service
- Archaeology definitive/probable
- Archaeology possible
- Agricultural historic
- Agricultural modern
- Natural
- Uncertain
- Modern service
- Survey area

Map Number: HE-004_MA03_Figure22

Map Name: Site MA03_GP006 Interpretation

Community Area MA03: Pickmere to Agden and Hulseheath

Registered in England. Registration number 06791686.
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Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002472-P01

Date: 22/06/21

WORK IN PROGRESS

CHESHIRE EAST

279+000

279+000

MA03_GP007

MA03_GP012

MA03_GP011

MA06_GP001

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
- Survey area

Unprocessed Greyscale (nT)

Value

High : 8

Low : -8

Map Number: HE-004_MA03_Figure23

Map Name: Site MA03_GP007 Unprocessed Greyscale

Community Area MA03: Pickmere to Agden and Hulseheath

Registered in England. Registration number 06791686.
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Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002473-P01

Date: 22/06/21

WORK IN PROGRESS

CHESHIRE EAST

279+000

279+000

MA03_GP007

MA03_GP012

MA03_GP011

MA06_GP001

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
- Survey area

Processed Greyscale (nT)

Value

High : 3

Low : -3

Map Number HE-004_MA03_Figure24

Map Name

Site MA03_GP007
Greyscale

Community Area MA03:
Pickmere to Agden and Hulseheath

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Scale at A3: 1:2,500

0 25 50 75 100
Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002474-P01

Date: 22/06/21

WORK IN PROGRESS

CHESHIRE EAST

279+000

MA03_GP007

MA03_GP012

MA03_GP011

MA06_GP001

MA03_GP007.006

MA03_GP011.013

MA03_GP011.007

MA03_GP011.002

MA03_GP011.006

MA03_GP011.003

MA03_GP011.009

MA03_GP011.011

MA03_GP011.001

MA03_GP011.008

MA03_GP011.004

MA03_GP011.005

MA03_GP011.012

MA03_GP007.004

MA03_GP007.003

MA03_GP007.005

MA03_GP007.002

MA03_GP007.001

MA03_GP012.011

MA03_GP012.012

MA03_GP012.003

MA03_GP012.009

MA06_GP001.001

MA06_GP001.005

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

Geophysical survey results

- Archaeology definitive/probable
- Archaeology possible
- Industrial/burnt-fired
- Extraction
- Agriculture historic
- Natural
- Ferrous
- Magnetic disturbance
- Uncertain
- Modern service
- Archaeology definitive/probable
- Archaeology possible
- Agricultural historic
- Agricultural modern
- Natural
- Uncertain
- Modern service
- Survey area

Map Number: HE-004_MA03_Figure25

Map Name: Site MA03_GP007 Interpretation

Community Area MA03: Pickmere to Agden and Hulseheath

Registered in England. Registration number 06791686.
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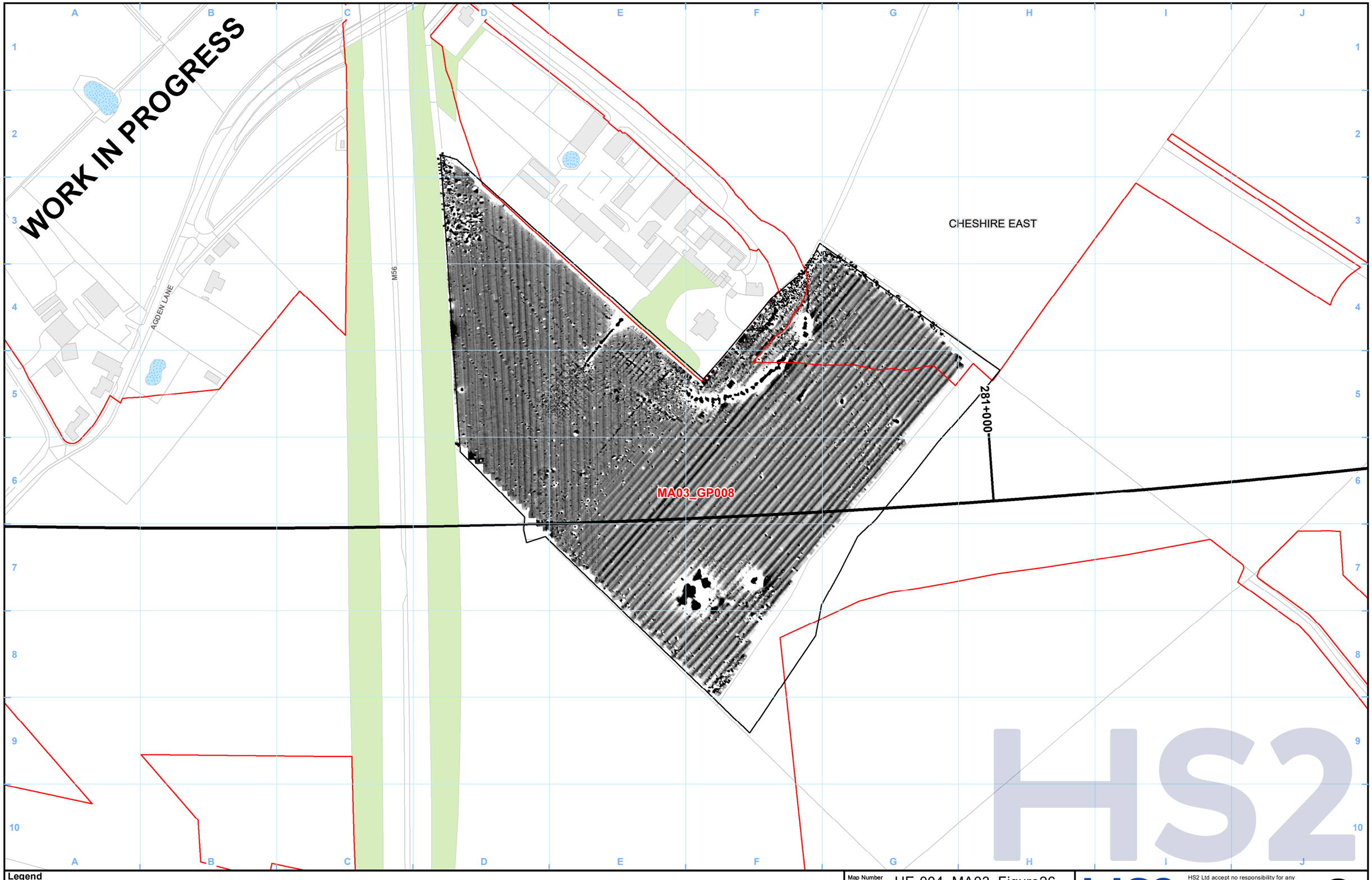
Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002475-P01

Date: 22/06/21

WORK IN PROGRESS



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
- Survey area

Unprocessed Greyscale (nT)

Value

High : 8

Low : -8

Map Number: HE-004_MA03_Figure26

Map Name:

Site MA03_GP008
Unprocessed Greyscale

Community Area MA03:
Pickmere to Agden and Hulseheath

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Registered office: 2 Snowhill, Queensway,
Birmingham B4 6GA.

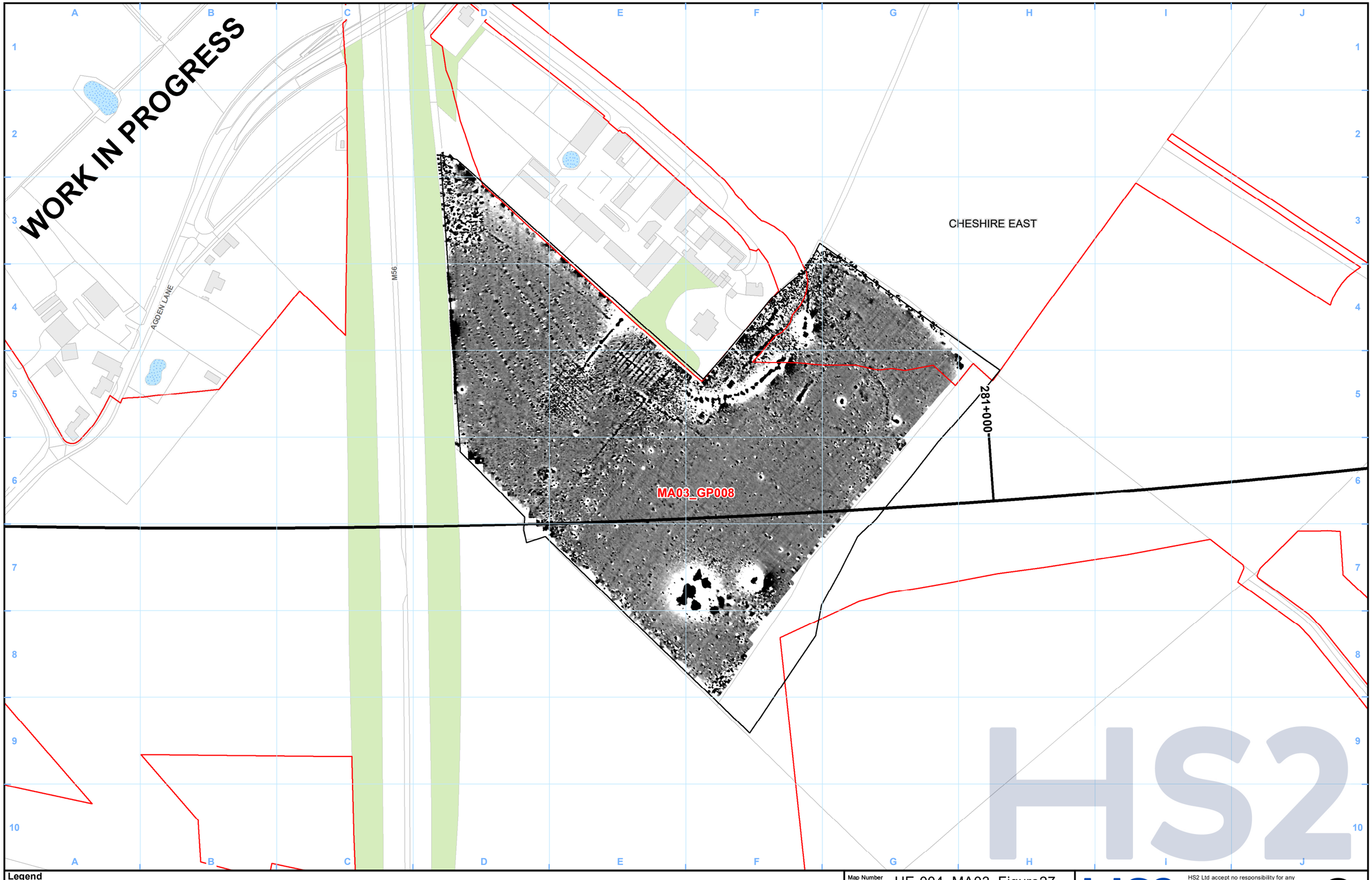
Scale at A3: 1:2,500

0 25 50 75 100
Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002984-P01

Date: 22/06/21

WORK IN PROGRESS



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
- Survey area

Processed Greyscale (nT)

Value

High : 3

Low : -3

Map Number	HE-004_MA03_Figure27
Map Name	Site MA03_GP008 Greyscale
	Community Area MA03: Pickmere to Agden and Hulseheath

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002985-P01

Date: 22/06/21

WORK IN PROGRESS

CHESHIRE EAST

AGDEN LANE

M56

MA03_GP008.005

MA03_GP008.003

MA03_GP008.002

MA03_GP008.011

MA03_GP008.009

MA03_GP008.001

MA03_GP008.007

MA03_GP008.004

MA03_GP008.010

MA03_GP008

MA03_GP008.006

281+000

MA03_GP008.008

MA03_GP008.008

HS2

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

Geophysical survey results

- Archaeology definitive/probable
- Archaeology possible
- Industrial/burnt-fired
- Extraction
- Agriculture historic
- Natural
- Ferrous
- Magnetic disturbance
- Uncertain
- Modern service
- Archaeology definitive/probable
- Archaeology possible
- Agricultural historic
- Agricultural modern
- Natural
- Uncertain
- Modern service
- Survey area

Map Number: HE-004_MA03_Figure28

Map Name: Site MA03_GP008 Interpretation

Community Area MA03: Pickmere to Agden and Hulseheath

HS2

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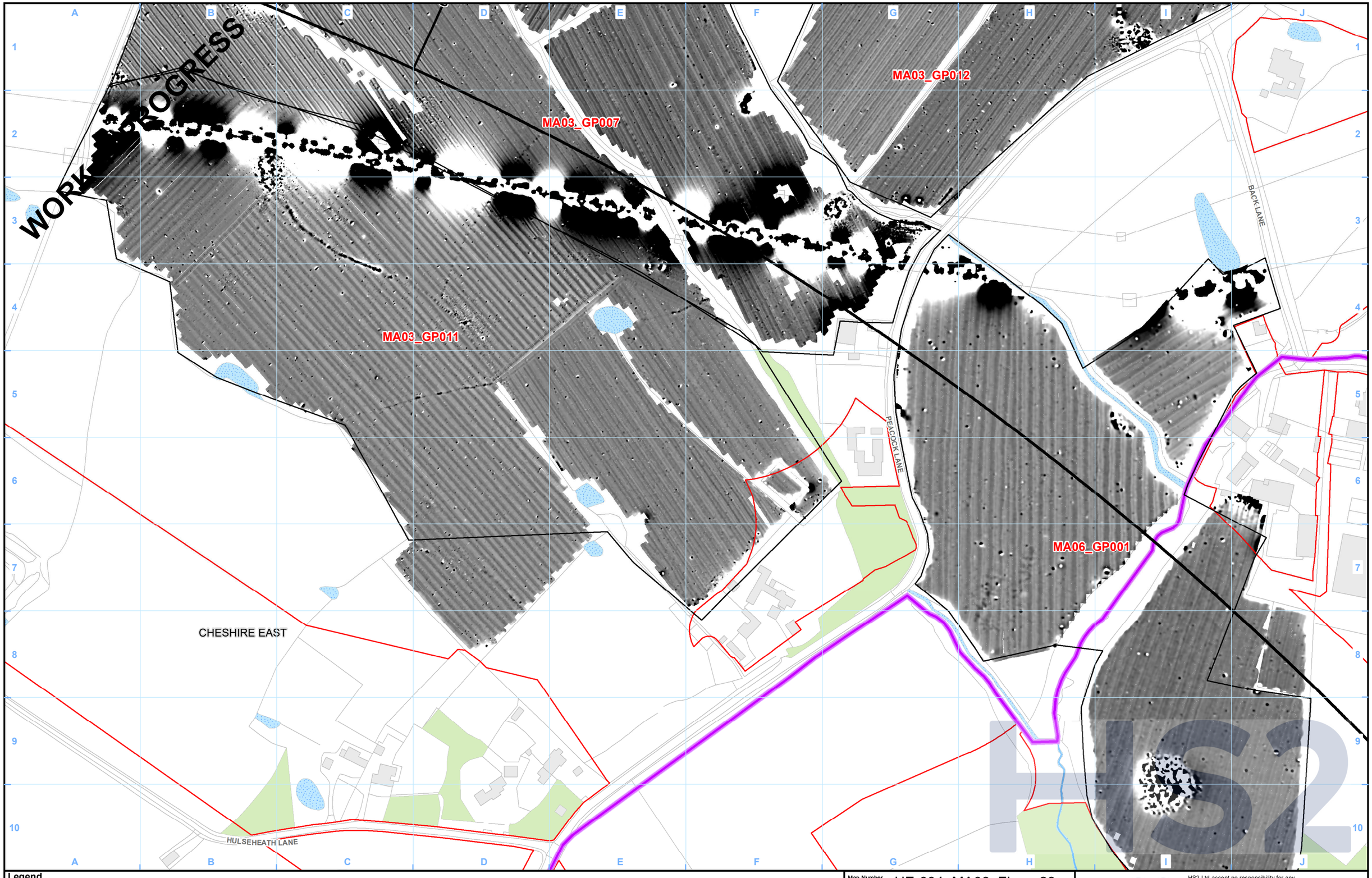
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002986-P01

Date: 22/06/21



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
- Survey area

Unprocessed Greyscale (nT)

Value

High : 8

Low : -8

Map Number	HE-004_MA03_Figure29
Map Name	Site MA03_GP011 Unprocessed Greyscale
	Community Area MA03: Pickmere to Agden and Hulseheath

Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002807-P01

Date: 22/06/21

WORK IN PROGRESS

MA03_GP007

MA03_GP012

MA03_GP011

MA06_GP001

BACK LANE

PEACOCK LANE

CHESHIRE EAST

HULSEHEATH LANE

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
- Survey area

Processed Greyscale (nT)

Value

High : 3

Low : -3

Map Number: HE-004_MA03_Figure30

Map Name: Site MA03_GP011 Greyscale

Community Area MA03: Pickmere to Agden and Hulseheath

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Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002808-P01

Date: 22/06/21

WORK IN PROGRESS

MA03_GP007.006
MA03_GP011.013
MA03_GP011.007
MA03_GP011.002
MA03_GP011.003
MA03_GP011.004
MA03_GP011.005
MA03_GP011.006
MA03_GP011.009
MA03_GP011.011
MA03_GP011.008
MA03_GP011.012
MA03_GP011.001
MA03_GP007
MA03_GP007.001
MA03_GP007.002
MA03_GP007.004
MA03_GP007.003
MA03_GP007.005
MA03_GP012
MA03_GP012.012
MA03_GP012.003
MA03_GP012.009
MA06_GP001.001
MA06_GP001.002
MA06_GP001.005
MA06_GP001
MA06_GP001.006
MA06_GP001.003
MA03_GP011
BACK LANE
PEACOCK LANE
HULSEHEATH LANE
CHESHIRE EAST

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

Geophysical survey results

- Archaeology definitive/probable
- Archaeology possible
- Industrial/burnt-fired
- Extraction
- Agriculture historic
- Natural
- Ferrous
- Magnetic disturbance
- Uncertain
- Modern service
- Archaeology definitive/probable
- Archaeology possible
- Agricultural historic
- Agricultural modern
- Natural
- Uncertain
- Modern service
- Survey area

Map Number: HE-004_MA03_Figure31

Map Name: Site MA03_GP011 Interpretation

Community Area MA03: Pickmere to Agden and Hulseheath

Registered in England. Registration number 06791686.
Registered office: 2 Snowhill, Queensway, Birmingham B4 6GA.

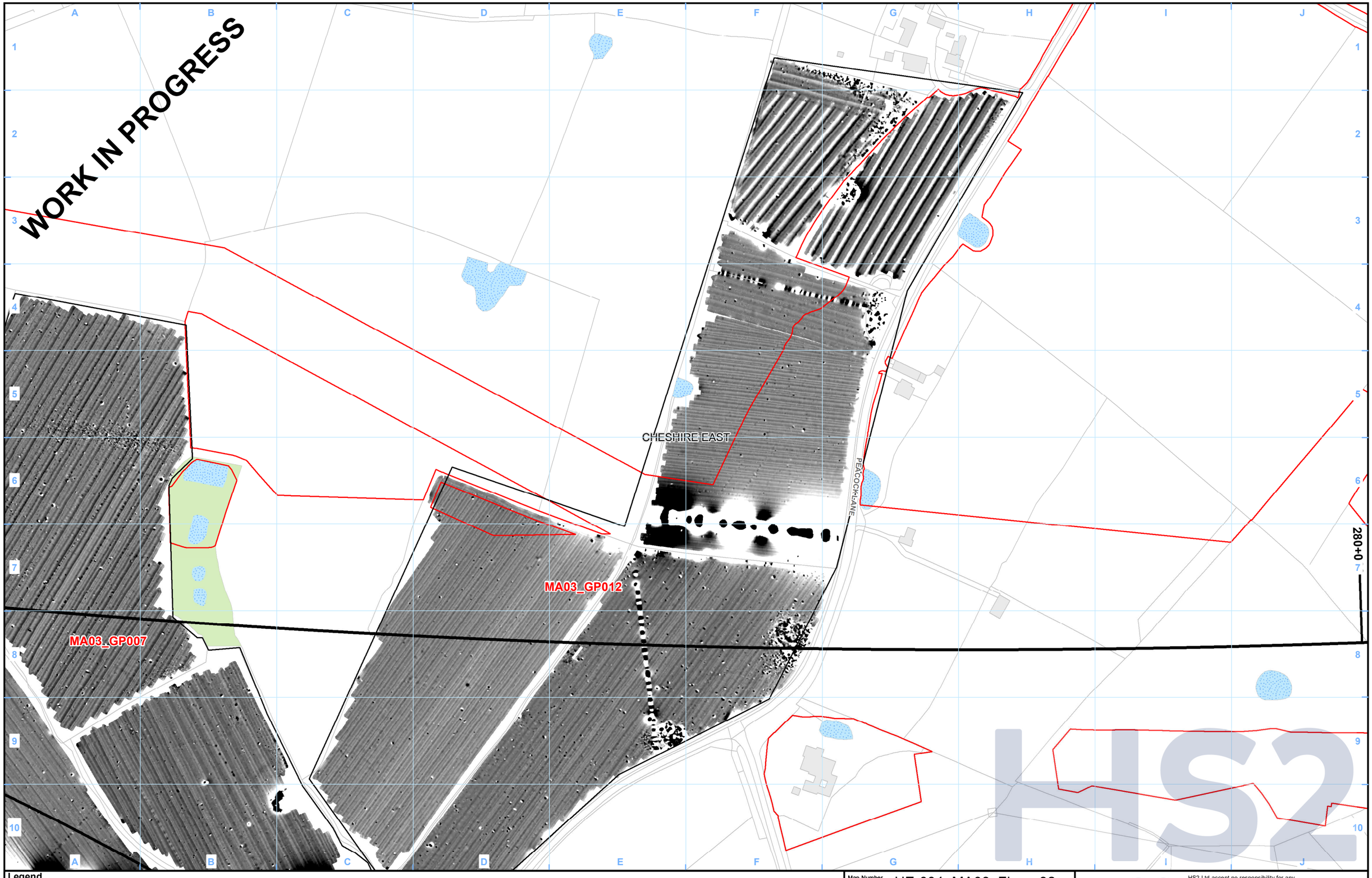
Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002809-P01

Date: 22/06/21

WORK IN PROGRESS



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
- Survey area

Unprocessed Greyscale (nT)

Value

High : 8

Low : -8

Map Number: HE-004_MA03_Figure32

Map Name: Site MA03_GP012 Unprocessed Greyscale

Community Area MA03: Pickmere to Agden and Hulseheath

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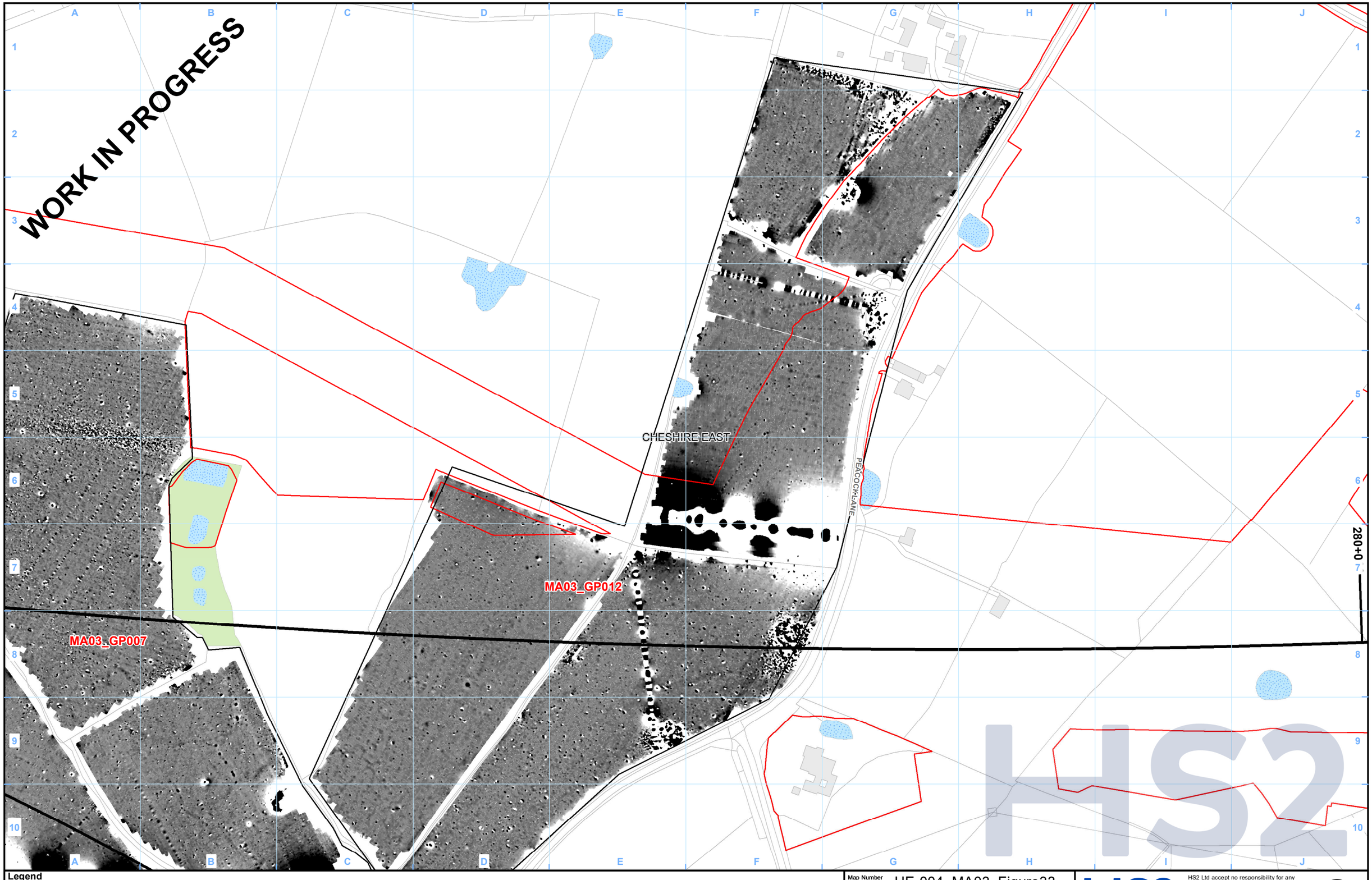
Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002810-P01

Date: 22/06/21

WORK IN PROGRESS



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
- Survey area

Processed Greyscale (nT)

Value

High : 3

Low : -3

Map Number	HE-004_MA03_Figure33
Map Name	Site MA03_GP012 Greyscale
	Community Area MA03: Pickmere to Agden and Hulseheath

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Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002811-P01

Date: 22/06/21

WORK IN PROGRESS

CHESHIRE EAST

MA03_GP012.010
MA03_GP012.006
MA03_GP012.004
MA03_GP012.005
MA03_GP012.007
MA03_GP012.001
MA03_GP012.008
MA03_GP012.011
MA03_GP012
MA03_GP007
MA03_GP012.002
MA03_GP012.012
MA03_GP012.003
MA03_GP007.004
MA03_GP007.003
PEACOCK LANE
280+0

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

Geophysical survey results

- Archaeology definitive/probable
- Archaeology possible
- Industrial/burnt-fired
- Extraction
- Agriculture historic
- Natural
- Ferrous
- Magnetic disturbance
- Uncertain
- Modern service
- Archaeology definitive/probable
- Archaeology possible
- Agricultural historic
- Agricultural modern
- Natural
- Uncertain
- Modern service
- Survey area

Map Number: HE-004_MA03_Figure34

Map Name: Site MA03_GP012 Interpretation

Community Area MA03: Pickmere to Agden and Hulseheath

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Scale at A3: 1:2,500

0 25 50 75 100 Metres

Doc Number: 2DE01-MWJ-EV-MAP-M000-002812-P01

Date: 22/06/21