1EW03 - Enabling Works Central

AWH Survey Report for Trial Trench Evaluation at Culworth Road Northamptonshire AC310

Site Code: 1C20CULTT

Document no.: 1EW03-FUS_MHI-EV-REP-CS07_CL13-000003

Revision	Author	Checked by	Approved by	Date approved	Reason for revision
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Contents

1 Summary of Works

1.1.1 This report details the survey methodology used for the archaeological trial trench evaluation undertaken by MOLA at Culworth Road, Northamptonshire (hereafter referred to as 'the Site'). The site code allocated for the works was 1C20CULTT.

1.1.2 The Site is located in Northamptonshire, within the Greatworth to Lower Boddington Community Forum Area (CFA15). The evidence suggested there was a potential for the Site to contain as-yet unknown archaeological remains of Iron Age, Roman and medieval date. A geophysical survey has identified an Iron Age/Roman settlement to the south of Culworth Road, including two linear forms within the Site itself, possibly representing boundary ditches or trackways. Peripheral settlement evidence may also be encountered. A remote sensing survey, a geophysical survey and visual inspection has also identified remnants of medieval field systems within the Site, including ridge and furrow earthworks and a headland bank.

1.1.3 The site is located within the historic parish of Chipping Warden and comprises parts of two adjacent fields which form one land parcel C31033, measuring 7.53ha (**Error! Reference source not found.**). The site is bisected by a north-east/south-west aligned footpath with a ditch lying alongside the eastern edge. The western portion of the land parcel is the larger and the smaller part falls to the east of the footpath. Both sides are enclosed by post and wire fences. The site is bounded by Culworth Road to the south with open fields beyond, by a small patch of woodland to the north known as Calves Close Spinney and by further open fields to the east and west. (NGR centre 450691 248951).

1.1.4 The trial trench evaluation comprised 42 trenches of varying widths as set out within the project plan (1EW03-FUS-EV-REP-CS07_CL13-004398) and the LSWSI (1EW03-FUS_MHI-EV-REP-CS07_CL13-000001).

1.1.5 An overall Site plan at an appropriate scale and relative to the National Grid was compiled by GPS. The Site was tied accurately to the Ordnance Survey National Grid and Newlyn Datum (OD) by the MHI Geomatics Team. GIS deliverables will be supplied in an Esri format and adhere to standards set out in the Employer's Cultural Heritage GIS Standard (HS2-HS2-GI-SPE-000-000004).

2 Survey methodology

2.1 Set out and Survey

2.1.1 The spatial setting out and subsequent "as dug" surveys were carried out using network RTK (real time kinetic) dGNSS (differential global navigation satellite system) equipment. Five permanent ground markers were set out across the site. Surface heights were recorded using RTK dGNSS.

PGM1	450547.280	248905.719	127.719
PGM2	450550.453	248987.735	128.597
PGM3	450727.778	249030.257	128.256
PGM4	450780.266	248924.235	126.795
PGM5	450938.318	248793.872	124.221

2.1.2 Coordinate files for the interventions and test pits were created from data supplied by the client and uploaded to the survey equipment in CSV and DXF format.

2.1.3 The areas and test pits were set out using Leica RTK dGNSS equipment, specifically a GS07 antenna and CS20 controller, receiving real time corrections via Leica Smartnet. Five permanent ground markers were established on site. Each trench coordinate was set out by dGNSS with an accuracy of +/- 50mm. Where it was not possible to position a trench in the location specified in the project design, it was moved to a suitable alternative location and recorded by dGNSS. The relocation was recorded on a change control form signed by the contractor.

2.1.4 All survey was carried out by trained and competent MHI staff. All survey data is related to the Ordnance Survey National Grid (OSGB36/15) with heights given above in meters above Ordnance Survey Datum Newlyn (ODN).

2.1.5 All survey equipment has been correctly calibrated and serviced by Leica trained technicians and checked prior to use on site by members of the survey team.

Equipment	Service dates	Margins of error using RTK Smartnet
GS07 / CS20	16/07/2020	Horizontal 10mm + 0.5ppm / Vertical 20mm + 0.5ppm

2.2 Standards and Guidance

2.2.1 All survey work has been carried out in accordance with Technical Standard - Specification for historic environment investigations (Document no.: HS2-HS2-EV-STD-000-000035), specifically with relation to sections 4.1 and 4.17.

2.2.2 All drawings are composed of closed polygons, polylines or points in accordance with the requirements of GIS construction and MHI Geomatics protocols. In all instances, GIS work has, and will, follow the guidelines set out in the Employer's GIS Standards (HS2-HS2-GI-SPE- 000-000004).

2.2.3 The GIS drawing (Figure 1) contains all information relevant to the set out and survey works for the site; other metadata will be delivered ESRI File Geodatabase (.gdb) format (see 2.3).

2.3 Archive Deposition

2.3.1 The survey was carried out in accordance with Historic Environment Physical Archiving Strategy (Document No. HS2-HS2-EV-STR-000-000018) and Historic Environment Digital Data Management and Archiving Strategy (Document No. HS2-HS2-EV-STR-000-000019).

2.3.2 All spatial data was recorded by Leica RTK GNSS or Leica TS06 and transferred to the MHI office in London. Survey data was exported in dxf format, transferred daily via Leica Exchange, and processed in AutoCAD before being collated and stored in .gdb format. The File Geodatabase provided scaled digital data of all required elements of the project and located them within the Ordnance Survey grid with heights given above Ordnance Survey Datum Newlyn (ODN). The ArcGIS geodatabase files are provided to Fusion JV at the end of each fieldwork project through ProjectWise.

2.3.3 Data on the server is backed up on tape at daily, weekly and monthly intervals. This data will be provided to High Speed Two Ltd in due course for long-term archival deposition.

3 References

Title	Reference
AWHf Project Plan for a Trial Trench Evaluation at Culworth Road, Northamptonshire AC310	1EW03-FUS-EV-REP-CS07_CL13-004398
AWHf – Location Specific Written Scheme of Investigation for Trial Trench Evaluation at Culworth Road, Northamptonshire AC310	1EW03-FUS_MHI-EV-REP-CS07_CL13-000001
HS2 Cultural Heritage GIS Standard	HS2-HS2-GI-SPE-000-000004
HS2 Technical Standard - Specification for historic environment investigations	HS2-HS2-EV-STD-000-000035
Historic Environment Physical Archiving Strategy	HS2-HS2-EV-STR-000-000018
Historic Environment Digital Data Management and Archiving Strategy	HS2-HS2-EV-STR-000-000019

4 Figures

[070015]

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N:249030.257,
mOD:128.256

C31033

PGM2,E:450550.453,
N:248987.735,
mOD:128.597

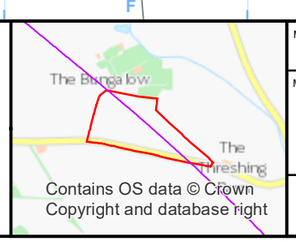
PGM4,E:450780.266,
N:248924.235,
mOD:126.795

PGM1,E:450547.28,
N:248905.718,
mOD:127.719

PGM5,E:450938.318,
N:248793.872,
mOD:124.221

Legend

- Site outline
- trenches as dug
- permanent ground marker



Map Number
Figure 1

Map Name
Survey information for Culworth Road Trial Trenching

Community Forum Area 15:
Greatworth to Lower Boddington

HS2

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

Scale at A3: 1:1,500

0 10 20 30 40
Metres

Doc Number:
1EW03-FUS_MHI-GI-MAP-CS07_CL13-000003

Date: 06/10/20