

## **1EW03 - Enabling Works Central**

# **AWHh -Survey Report for Trial Trench Evaluation at Paradise and Field Farm, Northamptonshire AC320**

**Site Code: 1C20PDFTT**

Document no.: 1EW03-FUS\_MHI-EV-REP-CS07\_CL14-000022

Revision	Author	Checked by	Approved by	Date approved	Reason for revision
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Figure 1 Survey information for Trial Trenching at Paradise Farm and Field Farm

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# 1 Summary of Works

- 1.1.1 This report details the survey methodology used for the archaeological trial trench investigations undertaken by MOLA at Paradise Farm and Field Farm (the site). The trial trench evaluation was undertaken on two land parcels (Paradise Farm C32041 and Field Farm C32035), covering a total area of 88ha.
- 1.1.2 The Site is located within Community Forum Area 15 which covers the area between Greatworth and Lower Boddington and lies in the county of Northamptonshire. The site comprises two parcels of land, one, to the north west which comprises 65ha (C32041) and lies within the historic parish of Lower Boddington, the other, to the south-east, comprises 23ha of land (C32035), and lies within the historic parish of Aston le Walls.
- 1.1.3 The north-western parcel of land (C32041; centred on NGR 447932,251437) incorporates land to the south-west of the village of Lower Boddington and includes land on either side of the road between Claydon to the south-west and Lower Boddington to the north-east.
- 1.1.4 The south-eastern parcel of land (C32035; centred on NGR 448889 250397) lies to the south-west of the village of Aston le Walls, south-west of the Manor House and to the north-east of Field Farm, and its north-western extent is defined by the former East and West Junction Railway (GLB180), and its south-eastern extent by Appletree Lane.
- 1.1.5 The work was undertaken in accordance with a Project Plan (1EW03-FUS-EV-REP-CS07\_CL14-009432) and a LSWSI (1EW03-FUS\_MHI-EV-REP-CS07\_CL14-000001).
- 1.1.6 The site code allocated for the works was 1C20PDFTT.
- 1.1.7 The trial trench evaluation comprised the excavation of a total of 467 trenches, of which 346 trenches were located in the north-western area (C32041) and 121 trenches in the south-easternmost area (C32035).
- 1.1.8 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. Twelve permanent ground markers were set out across the site. Surface heights were recorded using RTK dGNSS.

Marker	Easting	Northing	Height
PGM1	447779.632	251525.566	114.103
PGM2	447728.852	251423.406	113.857
PGM3	447930.923	251410.711	112.835
PGM4	447944.894	251429.888	113.182
PGM5	448460.371	251364.901	109.526
PGM6	449192.966	250110.210	145.179
PGM7	449333.062	250276.819	144.488
PGM8	448942.848	250418.910	136.104
PGM9	448844.894	250354.552	137.894
PGM10	448740.526	250652.862	114.704
PGM11	447737.682	252027.278	118.410
PGM12	447609.461	251650.401	113.300

- 2.1.2 Coordinate files for the trench locations were created from data supplied by the client and uploaded to the survey equipment in CSV and DXF format.
- 2.1.3 The trial trenches were set out using Leica RTK dGNSS equipment, specifically GSo7 and GS18 antennae and CS20 controllers, receiving real time corrections via Leica Smartnet. Twelve permanent ground markers were established on site to cover the proposed scheme. Each intervention 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, some trenches were descoped. 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
GS18 / CS20	07/08/2020	Horizontal 8mm + 0.5ppm / Vertical 15mm + 0.5ppm
GSo7 / CS20	06/08/2020	Horizontal 10mm + 0.5ppm / Vertical 20mm + 0.5ppm
GSo7 / CS20	16/07/2020	Horizontal 10mm + 0.5ppm / Vertical 20mm + 0.5ppm
GSo7 / CS20	25/11/2020	Horizontal 10mm + 0.5ppm / Vertical 20mm + 0.5ppm

GS07 / CS20	26/11/2020	Horizontal 10mm + 0.5ppm / Vertical 20mm + 0.5ppm
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## 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

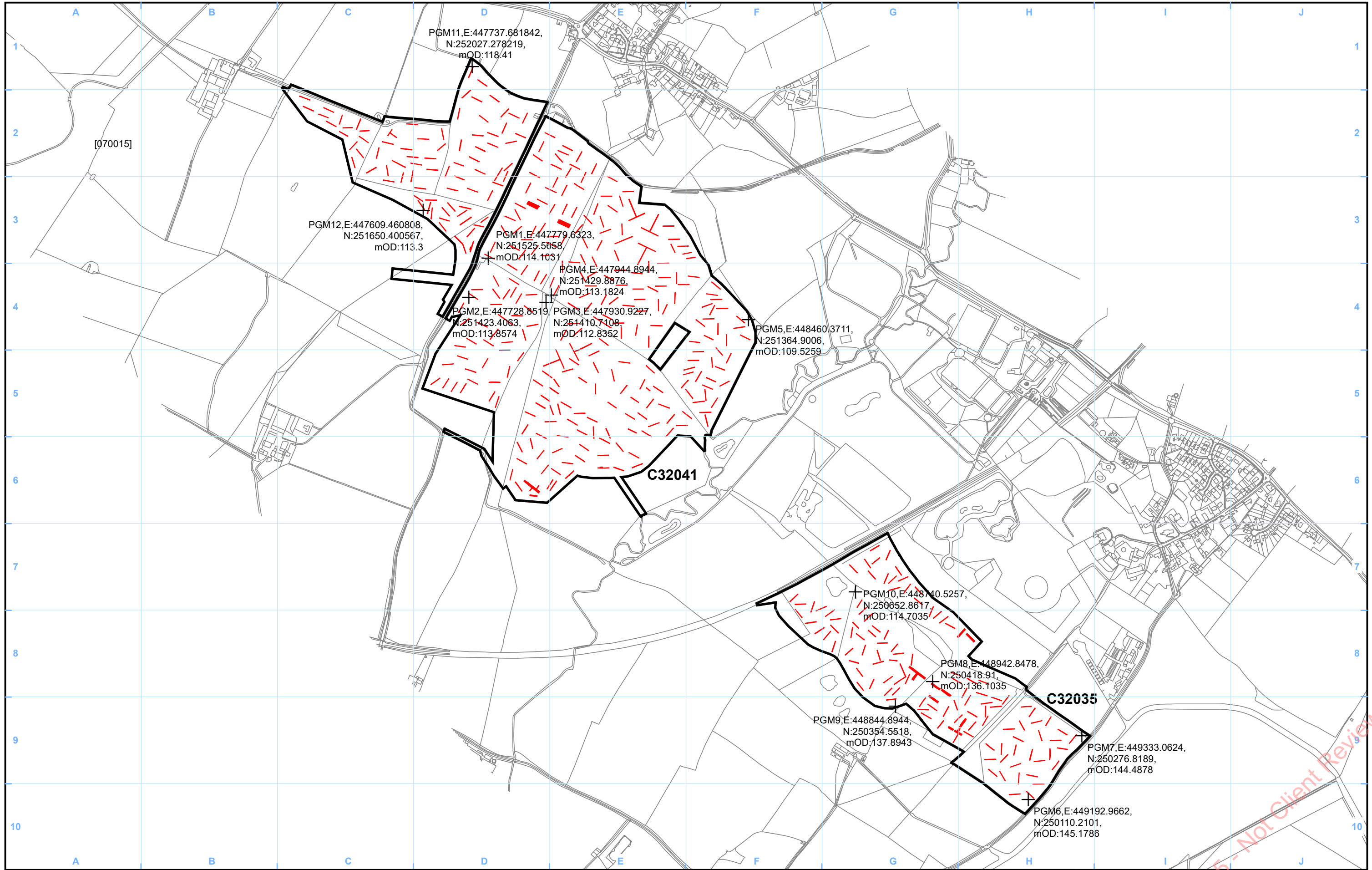
- 2.3.1 The survey was carried out in accordance with Historic Environment Physical Archiving Strategy (Document No. HS2-HS2-EV-STR-000-000018) and Historic Environment Digital Data Management and Archiving Strategy (Document No. HS2-HS2-EV-STR-000-000019).
- 2.3.2 All spatial data was recorded by Leica RTK GNSS or Leica TSo6 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 Paradise Farm and Field Farm, Northamptonshire, AC320	1EW03-FUS-EV-REP-CS07_CL14-009432
AWHf – Location Specific Written Scheme of Investigation for Trial Trench Evaluation at Paradise Farm and Field Farm, Northamptonshire AC320	1EW03-FUS_MHI-EV-REP-CS07_CL14-000001
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

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**Legend**

- Project Plan Area
- permanent ground markers
- trench as dug

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Map Number  
1EW03-FUS\_MHI-GI-MAP-CS07\_CL14-000016

Map Name  
**Survey information for Paradise Farm and Field Farm Trial Trenching**

Community Forum Area 15:  
Greatworth to Lower Boddington

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

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**Doc Number:** Figure 1  
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Scale at A3: 1:9,000

**Date:** 18/06/21