

1EW03 - Enabling Works Central AWHf Survey Report for Trial Trench Evaluation at Station 53C, Portway Farm, Buckinghamshire (AC250) Site Code: 1C19PWFTT

MDL:

Document no.: 1EW03-FUS_IFA-EV-REP-CS06_CLog-000004

Revision	Date	Author	Checked by	Approved by	Revision Details:
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1 Summary of Archaeological Works

- 1.1.1 This report details the survey methodology for setting out and surveying a trial trench investigation consisting of 32 trenches which was conducted during September and October 2020 at Station 53C, Portway Farm, Buckinghamshire (AC250) (NGR 467700, 226170; Figure 1). The Site Code for the trial trench investigation was 1C19PWFTT.
- 1.1.2 The trial trench evaluation at Portway Farm was implemented to address the Project Plan (doc. ref. 1EW03-FUS-EV-REP-CS05-007829) and followed the methodology laid out in the Location Specific Written Scheme of Investigation (Document Ref: 1EW03-FUS-EV-REP- CS06_CLog-000001).
- 1.1.3 Seventeen trenches contained archaeological features. The location of three trial trenches were moved slightly to avoid SGN assets.

2 Survey Methodology

2.1 Setting Out

- 2.1.1 Setting out is necessary for intrusive archaeological investigations including archaeological trial trench investigation.
- 2.1.2 The purpose is to position trial trenches prior to excavation and any archaeological features excavated within the trenches on a location plan. The location, size and objectives of the trial trenches are set out in the Project Plan (1EW03-FUS-EV-REP-CS05-007829) in agreement with the GWSI:HERDS. Each trial trench is assigned a unique ID in accordance with the HS2 Ltd Asset Information Management System (AIMS). Those trenches which differed from the Project Plan were set out as per the approved change control.
- 2.1.3 All spatial setting out and recording was in accordance with The Ordnance Survey National Grid and Ordnance Survey Newlyn Datum (ODN) as defined by the OS Active Global National Satellite System (GNSS) network and use of a Virtual reference system.

2.2 Surveying

- 2.2.1 Three Permanent Ground Markers (PGM) were established for the duration of the project shown in Figure 2, as per technical standards. The locations were established using the Trimble Access software on Trimble Tablet, TSC3 or TSC7 controllers and R10 or R8s GNSS antennae, calibrated on 16th March and 6th April 2020. The survey used reference stations provided by Ordnance Survey. The OS Net base station used for the survey was Oxford (449130.188623, 214164.351931, 72.159934m AOD).

Table 1 List of PGM co-ordinates

Station	Easting	Northing	Height aOD (m)
STNo1	225902.86	467855.96	87.505
STNo2	226278.56	467463.09	85.618
STNo3	226125.79	467845.36	87.937

- 2.2.2 At least 3 PGMs were reoccupied during each survey to check the accuracy of the equipment. The survey equipment was purchased or hired from Korec who certified the accuracy of the equipment and performed regular maintenance.
- 2.2.3 All staff using the equipment were appropriately trained, and worked in accordance with the sub-contractor's standards for surveying.
- 2.2.4 All trial trenches and interventions were located to a horizontal accuracy of +/-500mm in relation to the detail illustrated in the contract drawing(s). The corner points of each trial trench at modern ground surface level were surveyed with Real Time Kinematic (RTK) Global Navigation Satellite System (GNSS) equipment or other suitable automated equipment referenced from the PGM's.
- 2.2.5 The location of three trial trenches were moved slightly to avoid SGN assets.
- 2.2.6 Surface heights and levels at the base of trenches were recorded using RTK GNSS and related to PGMs. Ordnance Survey Bench Marks (OSBM) were not used. Levelling accuracy was within 10 mm/k: where 'k' is the total distance levelled in kilometres.
- 2.2.7 INFRA ensured that all trench or excavation limits, and significant archaeology detail was surveyed 'as dug' in relation to the project grid before leaving the site. Ground level height data were recorded for each intervention.

2.3 Site Location Plan: Archaeological Contexts

- 2.3.1 A 'site location plan', indicating site north was prepared at 1:1250. Individual 'trench plans' at 1:200 (or 1:100) were prepared and show the location of archaeology investigated in relation to the investigation area. The location of the site plans is identified using OSGB co-ordinates, as required by technical standards.
- 2.3.2 Section drawings are located on the relevant plan and OSGB co-ordinates recorded using a GNSS system.
- 2.3.3 A record was made 'in plan' of all archaeological deposits as revealed in the investigation. These plans were normally based on digital survey data (digital planning methods were agreed in advance with the HS2 Ltd) supplemented where appropriate by hand drawn records on polyester based drawing film (at a scale of 1:10 or 1:20 unless otherwise agreed with HS2 Ltd). All hand drawn information was digitised (or preferably generated from the digital data in the first instance). Final deliverables will be supplied in an Esri format and adhere to standards set out in the HS2 Ltd Cultural Heritage GIS Standard (HS2-HS2-GI-SPE-000-000004).

3 Standards and Guidance

3.1 Overview

- 3.1.1 HS2 Ltd has developed a robust suite of technical standards which supports existing archaeological guidance to ensure that works are delivered in a consistent and cohesive manner that reflects the Secretary of State's commitments to the historic environment.
- 3.1.2 To implement the GWSI:HERDS, the sub-contractor complied with and used for the development of historic environment works; the strategies, technical standards and guidance notes set out below in section 3.2.

3.2 References

- 3.2.1 All relevant HS2 standards, guidance and procedures in relation to the production of documents and digital materials were followed. This list is not exhaustive:
- HS2 Cultural Heritage GIS Specification (HS2-HS2-GI-SPE-000-000004)
 - The BIM documents set out in High Speed Two Phase One Project Requirements Specification (PRS) (HS2-HS2-SA-SPE-000-000008) (section 2.1.4 Information Management).
- 3.2.2 The following documents provided background information:
- 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)
 - Information Paper E8: Archaeology. (LWM-HS2-HY-PPR-000-000042)
 - Project Plan for Station 53C, Portway Farm (doc. ref. 1EW03-FUS-EV-REP-CS05-007829)
 - Location Specific Written Scheme of Investigation for Station 53C, Portway Farm (Document Ref: 1EW03-FUS-EV-REP- CS06_CLog-000001)
 - GWSI:HERDS (HS2-HS2-EV-STR-000-000015)

4 Archive deposition

- 4.1.1 Following completion of the archaeological evaluation, the subcontractor will provide the contractor with the required data, metadata and digital material as specified in the Historic Environment Digital Data Management and Archiving Procedure (C262-ARP-EV-SPE-000-000003) and the Historic Environment Digital Data Management and Archiving Strategy (HS2 Ltd, 2015a).
- 4.1.2 The security and stability of the digital archive will be ensured from fieldwork through to deposition.
- 4.1.3 The survey data will be edited to ensure that the archive deposited into the public domain is fit for purpose both as a record of the archaeology removed by excavation and to enhance understanding about the site from which it came.
- 4.1.4 The report will be uploaded to the OASIS database as required by HS2.
- 4.1.5 File-level metadata requirements for spreadsheets and databases are specified in the *ADS Guidelines for Depositors* (2014) Spreadsheets, Databases and Statistics Guidelines. These guidelines include a metadata template that can be downloaded in XLS, ODS and CSV formats.

5 Glossary of terms

5.1.1 The following terms have been used in this report:

- **Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS)** – the framework for delivering all historic environment investigations undertaken as part of the HS2 Phase 1 programme.
- **Location** – a specific HS2 worksite or group of worksites that are being addressed as a combined historic environment investigation programme of assessment, evaluation and investigation.
- **Location Specific Written Scheme of Investigation (LSWSI)** - specification document assembling one or more Project Plans within an area of land defined primarily for construction programme purposes. The LS-WSIs will be agreed with the Project Manager and would provide a costed and programmed approach to delivering outcomes.
- **Project Plan** – specification document for each specific package of activity (e.g. a survey, desk-based assessment, excavation, recoding project). The plans would respond to the Specific Objectives set out in the GWSI: HERDS and be delivered within an agreed budget.
- **Works** – the specific historic environment assessment, evaluation or investigation works at each location.