

# **1EW03 - Enabling Works Central AWHe - Survey Report for Trial Trench Evaluation at Hunts Green Farm (Grim's Ditch Environs), Buckinghamshire (AC210/15) Site Code: 1C19HGFTT**

MDL:

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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 151 trenches (of a planned 152 trenches) which was conducted during October to December 2020 at Hunts Green Farm (within the environs of Grim's Ditch), Buckinghamshire (NGR 489270 203580; Figure 1). The Site Code for the trial trench investigation was 1C19HGFTT.
- 1.1.2 The trial trench evaluation at Hunts Green Farm was implemented to address the Project Plan (doc. ref. 1EW03-FUS-EV-REP-CS03\_CLo5-009432) and followed the methodology laid out in the Location Specific Written Scheme of Investigation (Document Ref: 1EW03-FUS-EV-REP-CS03\_CLo5-000002).
- 1.1.3 A total of 89 trenches contained archaeological features. The location of 12 trial trenches were moved from their original locations proposed in the Project Plan, through change control. There was one trench (Trench 72) which has not yet been excavated.

# 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 uncovered 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 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 Five 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 16<sup>th</sup> March and 6<sup>th</sup> April 2020. The survey used reference stations provided by Ordnance Survey. The OS Net base stations used for the survey were Oxford (E449130.188623, N214164.351931, 72.159934m AOD), Princes Risborough (E481016.735053, N202913.238152, 145.659487m AOD) and Amersham (E499706.540008, N198584.695216, 87.682022m AOD).

**Table 1 List of PGM co-ordinates**

Station	Easting	Northing	Height aOD (m)
STN01	489124.94	203999.82	202.151
STN02	489026.28	203782.46	197.915
STN03	489212.12	203504.26	194.732
STN04	489512.72	203409.88	198.674
STN05	489640.54	203204.10	198.504

- 2.2.2 At least 3 PGM's 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 the survey was undertaken 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 12 trial trenches were moved from the original positions proposed in the Project Plan, through change control. There was one trench (Trench 72) which has not yet been excavated.
- 2.2.6 Surface heights and levels at the base of trenches were recorded using RTK GNSS and related to PGMs. Ordnance Survey Benchmarks (OSBM) were not used. Levelling accuracy was within 10 mm/k: where 'k' is the total distance levelled in kilometres.
- 2.2.7 The Archaeological Contractor 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 Hunts Green Farm (Grim's Ditch Environs) (doc. ref. 1EW03-FUS-EV-REP-CS03\_CLo5-009432)
  - Location Specific Written Scheme of Investigation for Hunts Green Farm (Grim's Ditch Environs) (Document Ref: 1EW03-FUS-EV-REP- CS03\_CLo5-000002)
  - GWSI:HERDS (HS2-HS2-EV-STR-000-000015)

## 4 Archive deposition

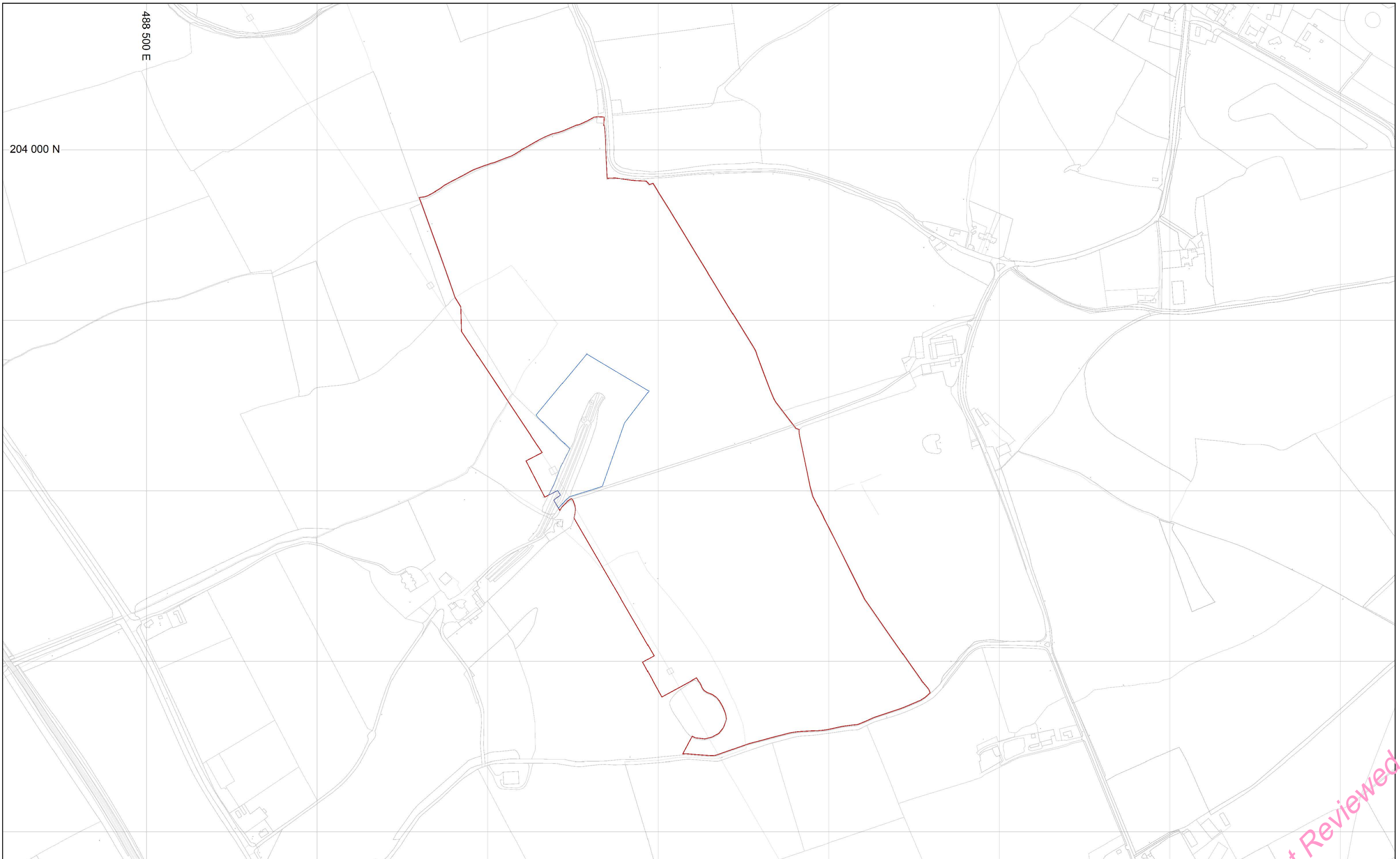
- 4.1.1 Following completion of the archaeological evaluation, the subcontractor will provide the contractor with the required data, metadata and digital material as specified in the Historic Environment Digital Data Management and Archiving Procedure (C262-ARP-EV-SPE-000-000003) and the Historic Environment 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:

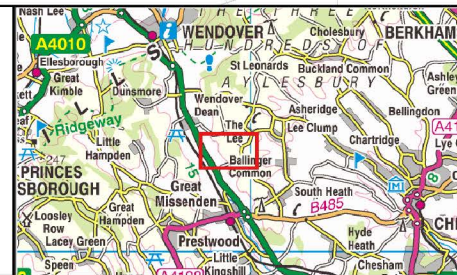
- **Archaeological contractor** – INFRA, the organisation undertaking the specific historic environment works for the *Contractor*.
- **Contractor** – Fusion; the organisation undertaking the Enabling Works for Area Central on behalf of the Employer.
- **Employer** – HS2 Ltd, the organisation responsible for delivery of HS2 Phase One Scheme and all terms and conditions, policies, procedures, and payments
- **Evaluation** - A form of archaeological investigation involving the excavation of trenches to help determine the character and date of any discovered archaeology
- **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.





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- Legend**
- Site extent C21023
  - Site extent C10021

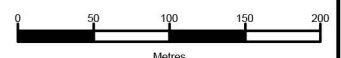


High Speed Two  
Figure 1. Site location

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**HS2**

Scale at A3 1: 5,000



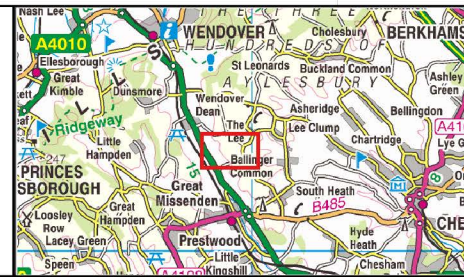
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- Legend**
- Site extent C10021
  - Site extent C21023
  - Excavated evaluation trench
  - Unexcavated trench
  - Control points



High Speed Two  
Figure 2. Location of control points

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