1EW03 - Enabling Works Central

AWHe Survey Report for Trial Trench Evaluation at C10007 Upper Bottom House Farm, Vent Shaft, Chalfont St. Giles, Buckinghamshire (AC100/9)

Site Code: 1C18BOTTT

MDL:

Document no.: 1EW03-FUS-EV-REP-CS02_CL04-035103

Revision	Author	Checked by	Approved by	Date approved	Reason for revision
C01	Rachel Morgan Adam Holman	Simon Roper David Bonner	Iain Williamson	21/02/20	For acceptance

Contents

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1 Summary of Archaeological Works

1.1.1 This report details the survey methodology for setting out and surveying an archaeological evaluation, consisting of 48 trenches which was conducted in three phases during November-December 2018, June 2019 and December 2019, on land designated as Upper Bottom House Farm Lane, north of Chalfont St Giles, Buckinghamshire (AC100/9) (NGR SU 97524 94751; Figure 1). The site code for the works was 1C18BOTT.

1.1.2 The scopes and aims of the trial trench evaluation were set out in the Project Plan (doc. ref. 1EW03-FUS-EV-REP-CS02_CL04-001068) and a Location Specific Written Scheme of Investigation (LSWSI) (doc. ref. 1EW03-FUS-EV-REP-CS02_CL04-002519). The archaeological investigation was undertaken in accordance with the Technical Standard - Specification for historic environment investigations (Document no.: HS2-HS2-EV-STD-000-000035)

1.1.3 Three trenches contained archaeological features and a further 2 trenches contained paleochannels. Trenches 033 and 034, and Trenches 042, 044 and 045 were moved to avoid an existing field boundary and a BT overhead exclusion zone respectively.

2 Survey Methodology

2.1 Setting Out Trial Trenches

2.1.1 Setting out is necessary for intrusive archaeological investigations including archaeological trial trench investigation and for archaeological recording.

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 trench/test pit excavations are set out in the Project Plan (1EW03-FUS-EV-REP-CS02_CL04-001068) 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).

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 GNSS network and use of a Virtual reference system.

2.2 Surveying

2.2.1 Nine Permanent Ground Markers (PGM) were established for the duration of the project shown in Figure 2. The locations were established using the Trimble Access software on Trimble Tablet, TSC3 or TSC7 controllers and R10 or R8s GNSS antennae, calibrated on 14th December 2018. The survey used reference stations provided by Ordnance Survey. The OS Net base station used for the survey was Amersham (499706.540008E, 198584.695216N, 87.682022 mAOD).

Table 1 List of PGM co-ordinates

Station	Easting	Northing	Height (mAOD)
STN 1	497092.9	195138.4	110.028
STN 2	497225.1	194963.4	109.335
STN 3	497041.6	194840.7	106.044
STN 4	497229.2	194785.8	95.233
STN 5	497507.1	194677.9	93.174
STN 6	497640.5	194744	89.019
STN 7	497941.1	195001.3	83.852
STN 8	498099.2	195119.9	84.682
STN 9	498423.5	195422.2	82.768

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 trained and surveyed in accordance with the INFRA's standards for surveying.

2.2.4 All trial trenches and interventions were located to a horizontal accuracy of +/-50omm in relation to the detail illustrated in the contract drawing(s). The corner points of each trial trench at ground level were set out with Real Time Kinematic (RTK) Global Navigation Satellite System (GNSS) equipment or other suitable automated equipment referenced from the PGM's.

2.2.5 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.

2.2.6 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.

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 from the generated 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, INFRA 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 INFRA followed the relevant HS2 standards, guidance and procedures in relation to the production of documents and digital materials. This list is not exhaustive:

- HS2 Cultural Heritage GIS Specification (HS2-HS2-GI-SPE-000-000004)
- The BIM documents set out in HS2-HS2-SA-SPE-000-000008 High Speed Two Phase One Project Requirements Specification (PRS) (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)

4 Archive deposition

4.1.1 Following completion of the archaeological evaluation, INFRA will provide Fusion 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 OASIS is an online mechanism for the recording of historic environment investigations within England. The use of OASIS will record project-level metadata and project reports for all HS2 historic investigation works. OASIS will also record the location, access information and extent

of the physical archive. The system is hosted and maintained by the Archaeology Data Service (ADS) with support from Historic England (HE).

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:

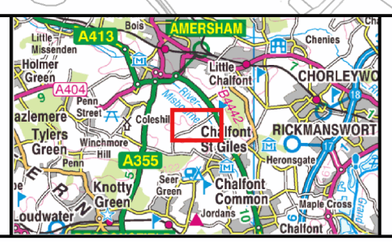
- **Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS)** – the framework for delivering all historic environment investigations undertaken as part of the HS2 Phase 1 programme.
- **Location** – a specific HS2 worksite or group of worksites that 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.

497 000 E

195 000 N

Legend

Site extent



High Speed Two,
Upper Bottom House Farm
Figure 1. Site location

Published

HS2

Scale at A3: 1:5,000

0 50 100 150 200
Metres

Revision Number: C01
Doc Number: 1EW03-FUS-GI-MAP-CS02_CL04-000014 **Date:** 15/01/20

497 000 E

195 000 N

Figure 3

STN 1

STN 2

STN 3

STN 4

Figure 4

STN 5

Figure 5

STN 6

Figure 6

STN 7

Figure 7

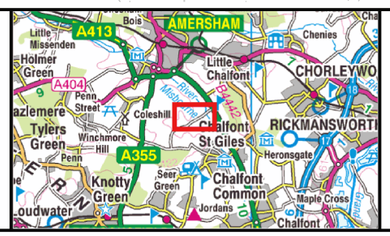
STN 8

STN 9

Figure 8

Legend

- Control point
- Evaluation area and site extent
- Excavated evaluation trench



High Speed Two,
Upper Bottom House Farm
Figure 2. Overview of control points

Published

HS2

Scale at A3: 1:4,000

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Metres

Revision Number: C01
Doc Number: 1EW03-FUS-GI-MAP-CS02_CL04-000014 **Date:** 15/01/20

497 000 E

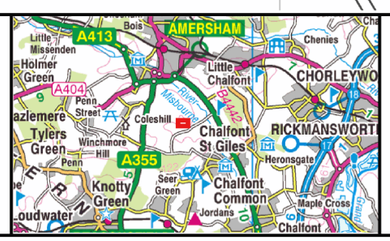
195 000 N

STN 1
E 497092.90
N 195138.40
110.028 AOD

STN 2
E 497225.10
N 194963.36
109.335 AOD

Legend

- Control point
- Evaluation area and site extent
- Excavated evaluation trench



High Speed Two,
Upper Bottom House Farm
Figure 3. Detail of control points 1 of 6

Published

HS2

Scale at A3: 1:1,000

0 10 20 30 40
Metres

Revision Number: C01
Doc Number: 1EW03-FUS-GI-MAP-CS02_CL04-000014 **Date:** 15/01/20

497 100 E

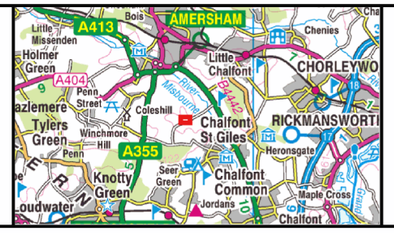
194 900 N

STN 3
E 497041.63
N 194840.67
106.044 AOC

STN 4
E 497229.20
N 194785.81
95.233 AOC

Legend

- Control point
- Evaluation area and site extent
- Excavated evaluation trench



High Speed Two,
Upper Bottom House Farm
Figure 4. Detail of control points 2 of 6

Published

HS2

Scale at A3: 1:1,000

0 10 20 30 40
Metres

Revision Number: C01
Doc Number: 1EW03-FUS-GI-MAP-CS02_CL04-000014 **Date:** 15/01/20

497 500 E

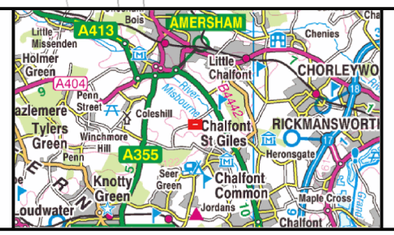
194 800 N

STN 6
E 497640.50
N 194743.98
89.019 AOC

STN 5
E 497507.08
N 194677.90
93.174 AOC

Legend

- Control point
- Evaluation area and site extent
- Excavated evaluation trench



High Speed Two,
Upper Bottom House Farm
Figure 5. Detail of control points 3 of 6

Published

HS2

Scale at A3: 1:1,000

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Metres

Revision Number: C01
Doc Number: 1EW03-FUS-GI-MAP-CS02_CL04-000014 **Date:** 15/01/20

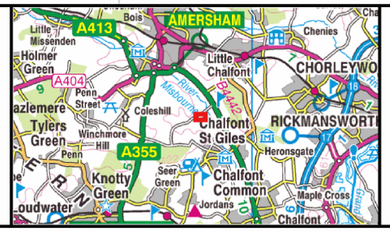
498 000 E

195 000 N

STN 7
E 497941.05
N 195001.25
83.852 AOC

Legend

- Control point
- Evaluation area and site extent
- Excavated evaluation trench



High Speed Two,
Upper Bottom House Farm
Figure 6. Detail of control points 4 of 6

Published

HS2

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Metres

Revision Number: C01
Doc Number: 1EW03-FUS-GI-MAP-CS02_CL04-000014 **Date:** 15/01/20

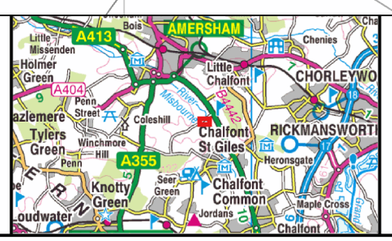
498 000 E

195 200 N

STN 8
E 498099.21
N 195119.89
84.682 AOC

Legend

- Control point
- Evaluation area and site extent
- Excavated evaluation trench



High Speed Two,
Upper Bottom House Farm
Figure 7. Detail of control points 5 of 6

Published

HS2

Scale at A3: 1:1,000

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Metres

Revision Number: C01
Doc Number: 1EW03-FUS-GI-MAP-CS02_CL04-000014 **Date:** 15/01/20

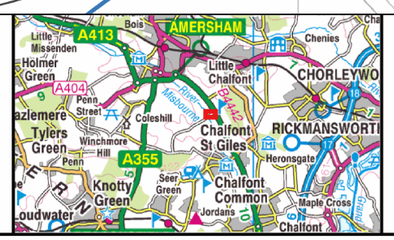
498 100 E

195 400 N

STN 9
E 498423.53
N 195422.19
82.768 AOC

Legend

- Control point
- Evaluation area and site extent
- Excavated evaluation trench



High Speed Two,
Upper Bottom House Farm
Figure 8. Detail of control points 6 of 6

Published

HS2

Scale at A3: 1:1,000

0 10 20 30 40
Metres

Revision Number: C01
Doc Number: 1EW03-FUS-GI-MAP-CS02_CL04-000014 **Date:** 15/01/20