1EW03 - Enabling Works Central

AWHh – Location Specific Written Scheme of Investigation for Trial Trench Evaluation at Southam, Warwickshire, AC320

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1 Executive Summary

1.1.1 This Location Specific Written Scheme of Investigation (LSWSI) sets out the methodology, deliverables, programme, health, safety and environmental requirements, resources and interfaces necessary to deliver an archaeological evaluation defined in Project Plan for Trial Trench Evaluations at land near Southam, Warwickshire (AC320) (Document No. 1EW03-FUS-EV-REP-CS07_CL24-007847). The Project Plan established the scope, aims, contribution to the Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS) objectives, techniques, deliverable and reporting mechanism for the trial trench investigation.

1.1.2 The trial trench evaluation will be undertaken on four land parcels required to enable the construction of a range of elements associated with the HS2 project (Figure 1). These cover a total area of 34.1ha.

1.1.3 The Site is required to enable the construction of the rail alignment formation, Southam embankment, Southam cutting and Leamington Road embankment, access roads, electricity substation, attenuation pond, ecological mitigation planting, temporary storage stockpile areas and satellite construction compounds. The location for the evaluation has been selected to address construction programme risk to land required for the proposed development.

1.1.4 The Site is located in Warwickshire, within the Ladbroke and Southam Community Forum Area (CFA16). The evidence suggests there is a potential for the Site to contain as yet unknown archaeological remains of prehistoric/Roman, medieval and post-medieval date. These are likely to be associated with agricultural and settlement activity. The geophysical surveys undertaken within the Site have identified penannular and rectilinear enclosures of unknown, presumably late prehistoric/Roman date; and numerous remains of parallel linear anomalies, many of which may be the remains of medieval ridge and furrow agriculture. It is also likely that the prehistoric pit alignment excavated during mitigation works north-east of parcel C32027 will continue within the Site. The said mitigation works have uncovered a middle Saxon open-ground cemetery off the north-western boundary of the Site. While the investigations appear to have captured the full extent of the burial ground it is possible that other small open-ground cemeteries characteristic to this period may be present elsewhere within the Site.

1.1.5 The results of the trial trench evaluation will inform the archaeological resource assessment for the Sites and identify whether any archaeological remains present have the potential to contribute to the aims, objectives and knowledge gain defined in the GWSI: HERDS.

1.1.6 This LSWSI has been prepared in accordance with the standards and guidance provided by the GWSI: HERDS, the Technical Standards for Specification for historic environment project plans and location specific written schemes of investigation (Document No. HS2-HS2-EVSTD-000-000036) and Specification for Historic Environment Investigations (Document No. HS2-HS2-EV-STD-000-000035), Standards & Guidance for Field Evaluation (CIfA 2014b), Standard and

Guidance for Archaeological Excavation (CIfA 2014c) and Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives (CIfA 2014d).

2 Site Location, Extent and Condition

2.1 Project Background

2.1.1 High Speed Two (HS2) is a new railway network proposed by Government to provide a new link between London, the West Midlands, the East Midlands, South Yorkshire, Leeds and Manchester. Phase One of HS2 will involve the construction of a new railway approximately 230km (143 miles) in length between London and the West Midlands. Powers for the construction, operation and maintenance of Phase One are conferred by the High Speed Rail (London - West Midlands) Act 2017.

2.1.2 The overall framework within which archaeological work will be undertaken is set out in the Environmental Minimum Requirements (EMR), in particular the Heritage Memorandum, the Code of Construction Practice (CoCP) for HS2 Phase One and the GWSI: HERDS. Accordingly, the nominated undertaker or the *Enabling Works Contractor* is required to implement appropriate and reasonable measures to identify, avoid or, where practicable, reduce impacts to the significance of heritage assets prior to the start of construction.

2.2 Site Location

2.2.1 The LSWSI covers one contract package, Southam, in the historic parish of Southam near its western boundary with the parish of Long Itchington, on the River Itchen. It lies on the south-western outskirts of Southam, c. 1.2km from its historic centre. The Site encompasses four parcels of land: Areas C32026, C32027, C32029, and C32039 (NGR centre 440985, 260792), measuring a total of 34.1ha.

- Area C32026 lies in the central portion of the site, to the immediate southeast of C32039 and northwest of C32027. The majority of this area comprises portions of two arable fields, with a small portion of land at the southern border owned by the Department for Transport (DfT). The area is bounded by Kineton Road to the southeast and by arable fields on the remaining sides. The Old Coach House lies c. 40m to the south.
- Area C32027 lies in the southern portion of the site, to the southeast of C32026 and the west of C32029. The area comprises portions of three arable fields and one pastoral which forms the northernmost portion of the area. The area is bounded by Kineton Road to the west, the A423 (Banbury Road) to the east and by pastoral and arable fields to the south and north, with the southern limits of Southam at the northwest corner, and Southam Carwash at the southeast corner.

- Area C32029 lies to the east of C32027, at the eastern end of the Site. This area comprises a narrow strip at the western end of a single arable field, bordered by the A423 (Banbury Road) to the west, pastoral fields to the north and south and arable field to the east.
- Area C32039 lies to the immediate northwest of C32026, at the western end of the Site. This area comprises portions of six arable fields, bounded to the south east and northeast by further arable fields. To the north the area is bounded by a narrow belt of mature woodland and then the A425 (Leamington Road). The River Itchen flows past the Site to the immediate northwest, forming the boundary at this point.

2.3 Geology and Topography

2.3.1 The British Geological Survey (BGS 2019) indicates that the underlying solid geology within the Site is relatively complex. The south-eastern part of the Site, comprising C32029 and eastern part of C32027, lies within Charmouth Mudstone Formation. To the north-west, the remainder of C32027, parcel C32026 and the south-eastern part of C32039 lie within interbedded limestone and mudstone deposits of the Rugby Limestone Member. To the north-west of C32039, the solid geology is mapped as successive bands of Salford Shale Member mudstone, limestone of Langport Member and interbedded limestone and argillaceous rocks of Penarth Group along the River Itchen. The superficial geology is generally absent from the Site with the exception of a narrow band of alluvial deposits laid in the valley of the River Itchen, which may encroach on the north-western boundary of the Site.

2.3.2 Review of the results of ground investigations across the Site carried out for HS2 (Greatworth to Ufton Area Z) generally confirms the above. Potential for the presence of alluvium was indicated in one windowless sample to the north-west of parcel C32039 (Project Plan, Figure 6, ML126-WS021), in which topsoil is recorded to overlie slightly sandy slightly gravelly clay, interpreted as alluvium, encountered between 0.4m and 1.2m below ground level and overlying weathered Langport Member. In samples closer to the Itchen within the northern edge of parcel C32039 (i.e. ML126-CR004, Project Plan Figure 6), topsoil is recorded to overlie slightly gravelly sandy clay which could also indicate the presence of alluvium at c. 0.15m-0.56m below ground level.

2.3.3 The parent material gives rise to highly lime-rich loamy and clayey soils with impeded drainage in the north-western part of the Site (C32039), and moderately fertile slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils with impeded drainage in the south-eastern part (C32026-27, C32029; Soilscapes 2019). MOLA evaluation and subsequent excavation on land to the north-east of parcel C32027 recorded topsoil c. 0.23-0.30m thick overlying natural geology without any evidence of subsoil. The evaluation undertaken north-east of parcel C32026 recorded c. 0.20-0.28m thick topsoil overlying c. 0.06-0.15m of subsoil.

2.4 Current Site Conditions & Constraints

2.4.1 The land parcels are characterised as follows:

- Area C32026 – The parcel can be accessed from a farm track between The Old Coach House to the south and industrial and retail estate at Northfield Road to the north. An alternative access point is located off Kineton Road (the B4451) at the eastern boundary of the land parcel using a track leading towards the Old Coach House, however the existing tree cover and low branches may not be suitable for machine excavators. An overhead low voltage power line (OLVP) crosses the area in the southeastern component field.

- Area C32027 – The parcel comprises several separate fields currently without direct access between them within the CCB. The north-western field can be accessed directly from the newly-built Lark Road near its roundabout junction with Kineton Road (the B4451) at the north-western corner of the parcel. A field located to the south is separated by a mature hedgerow, but it can be accessed directly from Kineton Road via existing breach in the hedgerow forming its western boundary. However, a field located immediately to the east of these two fields cannot be accessed directly within the CCB. Access to this part of the Site within the CCB would require creating a breach through the existing hedged field boundary (procedures for breaching hedgerow boundaries are defined below). Alternatively, access can be gained from outside CCB under Schedule 2 consent via existing field access point immediately south of the CCB boundary or via existing breach in the western boundary of the field located immediately north of the CCB boundary – this would be subject to the agreement with the Landowner to be confirmed by the Contractor. The south-eastern part of the land parcel is accessible directly off Banbury Road (the A423) at the eastern boundary of the parcel. The field located to the west can be accessed via existing breaches in the hedgerow boundaries within the CCB. Access to the field located at the southwestern extreme of the parcel is unlikely to be required since the field has been excluded from the design due to the gas mains constraint which would prevent the excavation of trial trenches in this confined area. Should access be nevertheless needed, within the CCB it would require creating a breach through the existing hedged field boundary to the north (see below for details on appropriate procedures for breaching hedgerows). Alternatively, access can be gained from outside CCB via existing field access point immediately south of the CCB boundary under Schedule 2 consent and this would be subject to the agreement with the Landowner to be confirmed by the Contractor. An overhead high voltage power line (OHVP) crosses the site in the southeastern portion of this area, a buried low voltage cable and a gas main also cross the area at its northwestern boundary, parallel to Kineton Road.

- Area C32029 – The parcel can be accessed from the north-west through a gated entrance located off Banbury Road (the A423).
- Area C32039 – Most of the fields comprising this parcel of land can be accessed via two existing access points located off Leamington Road (the A425). However, three fields located at the centre and along the south-western boundary of the parcel have no direct access from within the CCB. Access to this part of the Site within the CCB would require creating breaches through the hedged field boundaries under Schedule 4 consent, or from outside the CCB via Schedule 2 consent and subject to the agreement with the Landowner to be confirmed by the Contractor. Appropriate procedures to be confirmed by the Contractor will need to be followed to facilitate access into land parcels where the hedgerow removal is required. An OHVP and an underground sewer cross the central portion of this area.

2.4.2 Great Crested Newt populations (AMP 109) have been recorded within the Site (eastern part of parcel C320026 and western part of C320027, see Appendix 1 Project Plan Figure 6). An ecologist will need to be present during the trial trenching works to conduct a fingertip search. In order to protect GCN against being trapped in the trenches, access ramps should be excavated at the ends of the nearby trenches and each trench will be checked for newts daily prior to starting work. In the event that GCN are encountered, appropriate procedures, defined within the Great Crested Newt Unexpected Finds Method Statement (doc. No. 1EW03-FUS-EV-MST-C000-000014) will be followed, with any work carried out by accredited agents (under the licence issued to HS2 by Natural England).

2.4.3 Two otter holts (Project Plan Figure 6) have been identified near the north-western boundary of the Site along the course of the River Itchen. The scheme design takes account of the identified otter holts, and a 30m exclusion zones have been created around them, although their extent is confined entirely to a narrow belt of mature woodland south of Leamington Road, therefore visual demarcation of these exclusion zones will not be required. Nevertheless, in order to protect animals against falling into trenches, fencing will need to be erected and ramps left overnight within each trench in the area. Each of these trenches will also need to be checked for animals daily prior to starting work.

2.4.4 A high number of tree and building bat roosting sites have been identified within hedged boundaries crossing the Site (principally in parcel C32026 and in the south-eastern part of C32039) and the buildings of the nearby Harp Farm and The Bungalow at the south-eastern boundary of the Site, including a small number of confirmed roosting sites (Project Plan Figure 6 and Thompson AWE1 Mitigation Database). These areas are avoided: no work will be carried out under tree canopies (no excavations or tracking of machines beneath the tree canopy) and the machinery will not be left running overnight. The *Archaeological Contractor* should seek advice from the Contractor's ecologist on the potential of bats on the Site, particularly should certain trees be scheduled for removal if needed for access and for any works within 50m of confirmed bat roosts (Project Plan Figure 6 and Thompson AWE1 Mitigation Database). Work

within 50m of confirmed roost sites should be carried out following confirmation by the ecologist.

2.4.5 A reptile habitat has been identified in the south-eastern part of parcel C32026. For works affecting reptiles, an appropriate method statement will be required and the *Archaeological Contractor* will liaise with the *Contractor's* ecologist to ensure appropriate procedures are followed.

2.4.6 Watercourses form the eastern boundary of land parcel C32039 and are adjacent to the southern boundary of C32027 (Project Plan Figure 6). A buffer of 8m will be established from the watercourses in which no excavation or spoil storage will be undertaken. The buffer has been taken into account in trench design and will need to be visibly demarcated on site.

2.4.7 A number of hedgerows partition parts of the Site and a narrow belt of mature woodland is present at the northern boundary of parcel C32039 between the Itchen and Hill Cottage. Appropriate measures will be implemented to avoid disturbing these features. Where breaches are required to gain access, the following procedure will need to be followed:

- Identify where a hedge will need to be removed;
- Stage 1 Tree Survey needs to be carried out. These are generally carried out by AWS across the scheme and may have been carried out (to be confirmed by the Contractor);
- Any trees, groups of trees, woodlands or hedges being retained that are within 15m of the cutting area will require a Stage 2 Tree Survey to identify protection measures. It is recommended that the breach area is chosen carefully and away from trees/woodlands if possible;
- The re-use of any materials arising from removal has to be considered and planned (chippings etc.);
- Fusion will produce and issue Ecological and Arboriculture Permit;
- Methodology for the removal needs to be agreed and ecological watching brief may have to be arranged if required.

2.5 Archaeological Background

2.5.1 The archaeological background and context of the Site is described in Section 3 of the Project Plan and is summarised below.

2.5.2 The Site lies within an area whose archaeological potential is not well understood due to the limited amount of previous investigation. The Site was included in a remote sensing survey (interpretation of aerial photographs, hyperspectral imagery and LiDAR imagery) as part of the ES (Project Plan Figure 3). A geophysical survey was undertaken by Northamptonshire Archaeology in 2011 on land between Banbury Road and Kineton Road to the north-east of

C32027 (HER ref. EWA10277, Northamptonshire Archaeology 2011; Figure 2 and 4 – geophysical survey Northamptonshire Archaeology 2011). The investigations were followed by a trial trench evaluation (MOLA 2015) and subsequent mitigation within an area of a later prehistoric pit alignment and a middle Saxon open-ground cemetery (MOLA 2017, Egan and Atkins 2017; Figure 4 – insets 2 and 3: Area A and Area B archaeological excavations MOLA, 2017). Another geophysical survey (HER ref. EWA10413; Figure 4 – geophysical survey Stratascan 2015) was undertaken to the west and south-west of C32039 in 2015 (Stratascan 2015). Warwickshire HER records a watching brief (HER ref. EWA10241) undertaken within C32039 as part of the Severn Trent Southam Area Rationalisation Scheme. The principal focus was the shrunken medieval and post-medieval village of Bascote (2.2km to the north of the Site).

2.5.3 Geophysical investigations within the Site itself (1EW03-FUS-EV-REP-CS07_CL24-002684 and 1EW03-FUS-EV-REP-CS07_CL24-007768) identified two phases of prehistoric settlement in area C32026. Other than this the results indicated few discrete anomalies, however areas of heightened magnetic response within ridge and furrow remains may be indicative of underlying archaeological features. Moreover, a large proportion of the Site, principally in C32039, recorded high levels of magnetic noise which may obscure underlying archaeological features.

2.5.4 The archaeological excavations undertaken by MOLA revealed a 90m length of a late Bronze Age-early Iron Age pit alignment (MWA30406), with an undated but likely associated ditch (MWA30408). The pit alignment is likely to continue within the Site (Project Plan Figure 4). The archaeological evaluation undertaken to the north of parcel C32026, under site code 1C18NFCAR, 1EW03-FUS-EV-REP-CS07_CL24-007835, uncovered a ditch that produced Roman pottery, and may have been part of a Roman rural settlement, the focus of which would have been within the Site. In comparison to the south of England, there is a general shortage of evidence for Roman settlement, structure and artefact types in the West Midlands. The Site lies c. 4.4km to the east of the early Roman boundary and road, the Fosse Way, and its associated network of villas and farmsteads (the nearest such complex at Radford Semele lies c. 5.5km west), therefore the potential settlement identified within the Site may be of high importance.

2.5.5 Until recently, the nearest evidence for early medieval occupation had come from the area of Long Itchington, c. 1.2km north-west of the Site, where three barrows and crop marks indicated the location of a number of large rectangular timber halls suggestive of a high status, possibly even royal site. Archaeological investigations undertaken by MOLA (MOLA 2017, Egan and Atkins 2017) adjacent to area C32027 revealed a small, middle Saxon, open-ground cemetery comprising 13 individual burials dating to the late 7th to early 8th century AD (MWA30407).

2.5.6 There is extensive evidence for medieval settlement and agriculture within the environs of the Site, including extensive areas of ridge and furrow fields (WA16.52, LBS071 within the Site), linear earthworks likely to represent the remains of former field boundaries (WA16.46, WA16.51 within the Site), irregular linear features noted in the woods on Windmill Hill, (W16.37 within the Site) and the site of a possible mill (HER ref. MWA769). Additionally, the geophysical and

remote sensing surveys have revealed evidence of linear ploughing scars and well-preserved remains of ridge and furrow within the Site. Southam, which is mentioned in the Domesday survey, had a market from 1227 and would have acted as a minor local centre. The area was heavily depopulated at the end of the medieval period as many villages were abandoned, fields enclosed and estates turned over to extensive pasture for grazing. This process preserved the former villages, and their open fields of ridge-and-furrow, as earthworks within the new grasslands. At Stoney Thorpe (LBS069) north of the Site, a small deserted hamlet on the western bank of the Itchen survives as low earthworks within the later park.

2.5.7 Throughout the post-medieval period, the character of the area remained fundamentally rural. The period saw the enclosure of the landscape, at first on a piecemeal basis, and later, from the 18th century onwards, on a more rigid pattern under the Enclosure Acts and Commons Acts of 1773 to 1882. Post-medieval quarries are recorded within the Site (MWA780) and in the surrounding area (MWA1630).

3 Overview of Project Plan

3.1.1 The Site is required to enable the construction of the rail alignment formation, Southam embankment, Southam cutting and Leamington Road embankment, access roads, electricity substation, attenuation pond, ecological mitigation planting, temporary storage stockpile areas and satellite construction compounds. The location for the evaluation has been selected to address construction programme risk to land required for the proposed development.

3.1.2 This LSWSI has been prepared to provide the necessary specification and site-specific information to enable the delivery of the evaluation as defined in the Project Plan for a Trial Trench Evaluation at Southam, Warwickshire (AC320), Document No.: 1EW03-FUS-EV-REP-CS07_CL24-007847.

3.1.3 A copy of the Project Plan is appended as Appendix 1 of this LSWSI. The Site code for the investigations will be issued by HS2 in due course.

3.1.4 The Project Plan establishes the scope, aims, objectives, methodology and deliverables for the archaeological evaluation in accordance with the commitments made in Environmental Minimum Requirements (EMRs) for HS2 Phase One; the objectives set out in the GWSI: HERDS and HS2 Technical Standards (see section 9 of this LSWSI). It also establishes the requirements for information management, quality assurance and the results of engagement with the archaeological advisor to the local planning authority (Warwickshire County Council).

3.1.5 The Project Plan identifies requirements to undertake archaeological trial trenching in advance of construction. The trial trench evaluation across the Site will comprise the excavation of 203 No. trenches of which

- 9 no. will measure 50m by 2m;

- 1 no. will measure 40m by 4m;
- 1 no. will measure 40m by 2m;
- 171 no. will measure 25m by 2m; and
- 21 no. will measure 25m by 4m,

comprising a c. 3-4% sample of the Site, as detailed in Table 2 of the Project Plan and shown on Figures 1 & 2.

3.1.6 Section 4 of the Project Plan identifies the contribution the results of the archaeological evaluation can make to a number of specific research objectives set out in the GWSI: HERDS. Trial trench investigation will provide the most suitable method for the recovery of archaeological evidence to inform the research objectives. Sections 5 and 6 of the Project Plan provide a methodology and deliverables for the trial trench evaluation. The specific aims, research objectives and the potential knowledge outcomes for the Site are identified within the Project Plan.

3.2 Aims and Objectives

Aims of the Fieldwork

3.2.1 The aims of the trial trenching are to:

- to confirm the presence/absence, extent and depth of any surviving archaeological remains within the Site;
- to determine the nature, date, condition, state of preservation, complexity and significance of any archaeological remains;
- to determine the likely range, quality and quantity of artefactual and environmental evidence present;
- suggest measures, if appropriate and feasible, for further archaeological investigation to mitigate identified significant impacts; and
- contribute to the delivery of GWSI: HERDS Specific Objectives as specified in Table 1 below and in Section 4.2 of the Project Plan.

Table 1 Contribution to HERDS Objectives

KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age.	There is potential for earlier prehistoric ephemeral archaeology, artefacts and palaeo-environmental evidence in the vicinity of the River Itchen and Floodplain and the evaluation has therefore the potential to clarify this potential and provide, potentially,

	evidence regarding the exploitation of the Itchen valley in the earlier prehistoric periods.
KC15: Can we identify regional patterns in the form and location of Bronze Age and Iron Age settlements across the route, and are there associated differences in landscape organisation and enclosure?	Previous geophysical surveys undertaken within and in the vicinity of the Site have identified clusters of rectilinear and sub-circular enclosures, and possible house ring-ditches of late prehistoric, most likely Iron Age/Romano-British date. Excavations undertaken just north-east of the Site have identified a late prehistoric pit alignment which is likely to continue within the Site. The evaluation has, therefore, the potential to verify the presence/absence, character and date of the enclosures identified by geophysical surveys within the Site.
KC15: Can we identify regional patterns in the in the form and location of Late Bronze Age and Iron Age settlements across the route, and are there associated differences in landscape organisation and enclosure?	Previous geophysical surveys undertaken within and in the vicinity of the Site have identified clusters of rectilinear and sub-circular enclosures, and possible house ring-ditches of late prehistoric, most likely Iron Age/Romano-British date. Excavations undertaken just north-east of the Site have identified a late prehistoric pit alignment which is likely to continue within the Site. The evaluation has, therefore, the potential to verify the presence/absence, character and date of the enclosures identified by geophysical surveys within the Site.
KC16: Investigate the degree of continuity that existed between Late Bronze Age and Iron Age communities in terms of population, mobility and subsistence strategies.	The excavations undertaken near the north-eastern boundary of the Site have identified a Bronze Age/Iron Age pit alignment. Another possible pit alignment (or a ditch) has been identified by the geophysical surveys within the south-western field of parcel C32039. The evaluation is likely to identify the continuation of this feature within the Site and therefore contribute to this objective.
KC21: Assess the evidence for regional and	Finds of Roman pottery and coins, and the

cultural distinctiveness along the length of the route in the Romano-British period, with particular regard to the different settlement types encountered along the route.	results of a previous geophysical surveys may suggest that a Romano-British settlement(s) was located near and/or within the Site. The evaluation has, therefore, the potential to identify evidence for Romano-British activity and occupation within the Site and contribute to this objective.
KC31: Identify the location of Middle to Late Saxon settlement, explore processes of settlement nucleation and understand the development of associated field types and agricultural regimes.	Archaeological investigations undertaken to the north-east of the Site have identified a Middle Saxon burial ground. It cannot be ruled out that settlement or associated activity would have been located nearby, potentially within the Site. the evaluation has the potential to contribute to this objective.
KC32: Investigate the ethnic and cultural identity of Anglo-Saxon populations.	Archaeological investigations undertaken to the north-east of the Site have identified a Middle Saxon burial ground. Although the full extent of the cemetery appears to have been captured by the said investigations, the evaluation has the potential to uncover other small open-ground cemeteries within the Site. In such case the trial trenching could contribute to this objective. Limited local and regional evidence of Middle Saxon funerary activity conforms to a similar model of small cemeteries containing few burials and are likely to represent early Christian inhumations (Blair 2005). Regional examples of pre-Christian cemeteries are noticeably larger and more frequently encountered (Hooke 1981).
KC35: Investigate the impacts on rural communities of social and economic shocks in the mid-14th century and thereafter and their contribution to settlement desertion.	The Site is located near a small deserted hamlet of Stoney Thorpe (LBS069); there is also evidence that nearby village of Ladbroke suffered depopulation in the medieval period (HER ref. MWA9049). The evaluation has potential to investigate ridge and furrow and possible boundary features associated with medieval field systems identified within the

	Site by non-intrusive surveys that will contribute toward this objective.
KC40: Identify patterns of change within medieval rural settlement from the 11th to the 14th centuries.	The evaluation has the potential to provide artefactual and ecofactual evidence to assist in addressing this objective in relation to the nearby villages of Ladbroke and Southam, and potentially Long Itchington. On current evidence, the Site appears to lie beyond the area of these villages, but the evaluation has the potential to inform on the use of the agricultural land within the villages' hinterland and could contribute to our understanding of medieval land use, settlement expansion and decline.
KC47: Test and develop geophysical survey methodologies.	The Site and its environs have been subject to a series of remote sensing and geophysical surveys, which produced varying results including clear concentrations of archaeological features, magnetically enhanced ridge and furrow, but also areas where magnetic noise may be masking any potential archaeological remains. The evaluation has the potential to ground-truth these results and help develop non-intrusive archaeological prospection techniques.
KC49: Ground truth and develop multispectral and LiDAR prospection techniques.	

3.2.2 The reasons for the selection of the individual investigation areas are provided in Appendix 1.

Objectives of the Fieldwork

3.2.3 The results of the trial trench evaluation will be combined with data from other archaeological assessments carried out as part of the project, such as the desk-based studies which contributed to the ES for Phase One of HS2, geophysical surveys etc., in order to analyse the archaeological potential of the Site, and to develop a programme of further archaeological investigation, as required.

4 Programme

4.1.1 The trial trench evaluation is anticipated to begin 30th March and will be completed by mid-May. The *Archaeological Contractor* will develop the detailed programme and sequencing of the works (including detailed Gantt chart baseline programme) and the *Contractor* will contact the landowner to notify them that the investigation will be taking place, a minimum of 7 days prior to entering the Site.

4.1.2 Where archaeological remains of significance are identified, further investigation in the form of trial-trench evaluation, or other appropriate mitigation measures may be implemented prior to or concurrent with works required as part of construction.

5 Specific Method Statements

5.1 Scope

5.1.1 The scope and method for the trial trench evaluation is set out in Section 5 of the Project Plan. This section of the LSWSI develops that methodology to provide clear site specific methodologies and information to enable the *Archaeological Contractor* to successfully deliver the programme of archaeological evaluations.

5.1.2 The trial trench evaluations will comprise a total of 203 trenches of which;

- 9 no. will measure 50m by 2m;
- 1 no. will measure 40m by 4m;
- 1 no. will measure 40m by 2m;
- 171 no. will measure 25m by 2m; and
- 21 no. will measure 25m by 4m,

as detailed in Table 2 and Figure 2 of this LSWSI and shown on Figure 7 of the Southam Project Plan (Appendix 1). This represents an approximate 3-4% sample of the available areas of the Site. The trial trenches are discussed by area below.

5.1.3 Exploratory test pits will be excavated at each trench location to recover artefacts from the topsoil and upper subsoil horizons. Three test pits will be excavated at each trench location: one at either end and one in the centre. This gives a total of 609 test pits. Each sample will be recovered using the mechanical excavator equipped with a toothless bucket and placed on plastic sheeting adjacent to the pit.

5.1.4 The trial trenching will include a 500m² contingency. The purpose of the contingency will be to investigate any significant or unexpected remains (see Section 6.12 of this LSWSI) during the archaeological evaluation. The extension of trial trenches under this contingency shall not be undertaken without a written instruction from the *Contractor's Historic Environment Manager*.

5.1.5 The trenches have been positioned to avoid the identified constraints.

Table 2 Schedule of Trial Trenches

Area	Trench No	Length (m)	Width (m)	Max Trench Depth	Objectives/Comments
C32039	001	25	1.8	To natural geology	Investigate beneath green manuring spread and remote sensing detected feature
C32039	002	25	1.8	To natural geology	Investigate beneath green manuring spread and remote sensing detected feature
C32039	003	25	1.8	To natural geology	Investigate beneath green manuring spread and remote sensing detected feature
C32039	004	25	1.8	To natural geology	Targeted on edge of quarry
C32039	005	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	006	25	1.8	To natural geology	Targeted on "blank" area close to settlement and within/beneath alluvial deposits if present
C32039	007	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	008	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	009	25	1.8	To natural geology	Targeted on quarry
C32039	010	25	1.8	To natural geology	Targeted on quarry and remote sensing feature

C32039	011	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	012	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	013	25	1.8	To natural geology	Targeted on geophysical anomaly (linear) and within/beneath alluvial deposits if present
C32039	014	25	4	To natural geology	Targeted on geophysical anomaly (linear) and within/beneath alluvial deposits if present
C32039	015	25	1.8	To natural geology	Targeted on edge of quarry
C32039	016	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)
C32039	017	50	1.8	To natural geology	Investigate beneath green manuring spread
C32039	018	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	019	25	1.8	To natural geology	Targeted on "blank" area close to settlement and within/beneath alluvial deposits if present
C32039	020	25	1.8	To natural geology	Investigate beneath green manuring spread and possibility of extension of settlement
C32039	021	25	1.8	To natural geology	Targeted on "blank" area close to settlement and within/beneath alluvial deposits if present
C32039	022	25	1.8	To natural geology	Targeted on "blank" area close to settlement and within/beneath alluvial deposits if present
C32039	023	25	1.8	To natural geology	Targeted on edge of quarry
C32039	024	25	1.8	To natural geology	Targeted on geophysical anomaly (circular)

C32039	025	25	1.8	To natural geology	Investigate beneath green manuring spread and possibility of extension of settlement
C32039	026	25	1.8	To natural geology	Targeted on geophysical anomalies
C32039	027	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	028	25	4	To natural geology	Targeted on geophysical anomaly (linear), possibly a pit alignment
C32039	029	25	1.8	To natural geology	Investigate beneath green manuring spread and possibility of extension of settlement
C32039	030	25	1.8	To natural geology	Targeted on possible pit alignment near settlement
C32039	031	25	1.8	To natural geology	Targeted on geophysical anomaly (curvilinear)
C32039	032	25	1.8	To natural geology	Targeted on "blank" area
C32039	033	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	034	25	1.8	To natural geology	Targeted on area beyond geophysical survey
C32039	035	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	036	25	4	To natural geology	Targeted on geophysical anomaly (linear), possibly a pit alignment
C32039	037	40	4	To natural geology	Targeted on dense cluster of circular geophysical anomalies
C32039	038	25	1.8	To natural geology	Targeted on "blank" area
C32039	039	25	4	To natural geology	Targeted on geophysical anomaly (linear), possibly a pit alignment
C32039	040	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)

C32039	041	25	1.8	To natural geology	Targeted on geophysical anomaly (curvilinear)
C32039	042	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	043	25	1.8	To natural geology	Targeted on "blank" area near settlement
C32039	044	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	045	25	4	To natural geology	Targeted on geophysical anomalies
C32039	046	25	1.8	To natural geology	Targeted on geophysical anomalies
C32039	047	25	1.8	To natural geology	Targeted on geophysical anomaly (curvilinear)
C32039	048	25	1.8	To natural geology	Targeted on geophysical anomaly (curvilinear)
C32039	049	25	1.8	To natural geology	Targeted on "blank" area
C32039	050	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)
C32039	051	25	1.8	To natural geology	Targeted on "blank" area
C32039	052	25	1.8	To natural geology	Targeted on "blank" area
C32039	053	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	054	25	1.8	To natural geology	Targeted on geophysical anomaly (curvilinear)
C32039	055	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	056	25	1.8	To natural geology	Targeted on "blank" area
C32039	057	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	058	25	1.8	To natural geology	Investigate beneath green manuring spread

C32039	059	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	060	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)
C32039	061	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	062	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	063	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	064	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	065	25	1.8	To natural geology	Targeted on geophysical anomalies
C32039	066	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	067	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	068	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	069	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	070	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	071	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	072	25	1.8	To natural geology	Investigate beneath green manuring spread
C32039	073	25	1.8	To natural geology	Investigate beneath green manuring spread
C32026	074	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)

C32026	075	25	1.8	To natural geology	Targeted on "blank" area
C32026	076	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)
C32026	077	25	1.8	To natural geology	Targeted on parallel geophysical anomalies (linear)
C32026	078	25	1.8	To natural geology	Targeted on geophysical anomalies (discrete)
C32026	079	25	1.8	To natural geology	Targeted on geophysical anomaly (enclosure/barrow/roundhouse?)
C32026	080	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)
C32026	081	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)
C32026	082	25	1.8	To natural geology	Targeted on "blank" area
C32026	083	25	1.8	To natural geology	Targeted on "blank" area
C32026	084	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)
C32026	085	25	4	To natural geology	Targeted on geophysical anomalies
C32026	086	25	1.8	To natural geology	Investigate beneath green manuring spread for further settlement evidence (as shown to south-east)
C32026	087	25	1.8	To natural geology	Investigate beneath green manuring spread for further settlement evidence (as shown to south-east)
C32026	088	25	1.8	To natural geology	Targeted on "blank" area
C32026	089	25	1.8	To natural geology	Targeted on "blank" area
C32026	090	25	1.8	To natural geology	Targeted on "blank" area
C32026	091	25	1.8	To natural geology	Targeted on "blank" area
C32026	092	50	1.8	To natural geology	Investigate beneath green manuring spread

C32026	093	25	1.8	To natural geology	Investigate beneath green manuring spread for further settlement evidence (as shown to south-east)
C32026	094	25	1.8	To natural geology	Targeted on "blank" area
C32026	095	25	1.8	To natural geology	Investigate beneath green manuring spread for further settlement evidence (as shown to south-east)
C32026	096	25	1.8	To natural geology	Investigate beneath green manuring spread for further settlement evidence (as shown to south-east)
C32026	097	25	1.8	To natural geology	Targeted on "blank" area
C32026	098	25	1.8	To natural geology	Targeted on "blank" area in close proximity to settlement
C32026	099	25	1.8	To natural geology	Investigate beneath green manuring spread for further settlement evidence (as shown to south-east)
C32026	100	50	1.8	To natural geology	Investigate beneath green manuring spread for further settlement evidence (as shown to south-east)
C32026	101	25	1.8	To natural geology	Investigate beneath green manuring spread for further settlement evidence (as shown to south-east)
C32026	102	25	1.8	To natural geology	Targeted on parallel settlement linear features
C32026	103	25	1.8	To natural geology	Targeted on parallel settlement linear features
C32026	104	25	4	To natural geology	Targeted on settlement linear features
C32026	105	25	1.8	To natural geology	Targeted on settlement linear features
C32027	106	25	4	To natural geology	Targeted on "blank" area in close proximity to Anglo-Saxon cemetery

C32026	107	25	4	To natural geology	Targeted on curvilinear geophysical anomaly (settlement)
C32026	108	40	1.8	To natural geology	Targeted on curvilinear geophysical anomalies (enclosures/structures?)
C32027	109	25	1.8	To natural geology	Targeted on "blank" area in close proximity to Anglo-Saxon cemetery
C32026	110	25	1.8	To natural geology	Targeted on settlement features
C32026	111	25	1.8	To natural geology	Targeted on settlement features
C32027	112	25	1.8	To natural geology	Targeted on geophysical anomaly (curvilinear)
C32026	113	25	1.8	To natural geology	Targeted on "blank" area on edge of settlement
C32027	114	25	1.8	To natural geology	Targeted on "blank" area surrounded by possible structural/funerary evidence
C32027	115	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)
C32027	116	25	4	To natural geology	Targeted on geophysical anomaly (linear)
C32027	117	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)
C32027	118	50	1.8	To natural geology	Targeted on several geophysical anomalies (linear boundaries?)
C32027	119	50	1.8	To natural geology	Targeted on geophysical anomalies (linear & ferrous)
C32027	120	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)
C32027	121	25	1.8	To natural geology	Targeted on "blank" area
C32027	122	25	1.8	To natural geology	Targeted on "blank" area
C32027	123	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)

C32027	124	25	1.8	To natural geology	Investigate beneath ferrous disturbance
C32027	125	25	1.8	To natural geology	Targeted on several geophysical anomalies (small enclosures?)
C32027	126	50	1.8	To natural geology	Investigate beneath ferrous disturbance
C32027	127	25	1.8	To natural geology	Investigate beneath ferrous disturbance
C32027	128	25	1.8	To natural geology	Targeted on area beyond geophysical survey
C32027	129	25	1.8	To natural geology	Targeted on area beyond geophysical survey
C32027	130	25	1.8	To natural geology	Investigate beneath ferrous disturbance
C32027	131	25	1.8	To natural geology	Investigate beneath ferrous disturbance
C32027	132	25	1.8	To natural geology	Targeted on area beyond geophysical survey
C32027	133	25	1.8	To natural geology	Targeted on remote sensing feature
C32027	134	25	1.8	To natural geology	Investigate beneath ferrous disturbance
C32027	135	50	1.8	To natural geology	Targeted on geophysical anomalies (ferrous)
C32027	136	25	1.8	To natural geology	Targeted on remote sensing feature
C32027	137	25	1.8	To natural geology	Targeted on geophysical anomalies (ferrous)
C32027	138	25	1.8	To natural geology	Targeted on "blank" area
C32027	139	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)
C32027	140	25	4	To natural geology	Prospect for continuation of Anglo-Saxon pit alignment

C32027	141	25	4	To natural geology	Prospect for continuation of Anglo-Saxon pit alignment
C32027	142	25	1.8	To natural geology	Targeted on cluster of ferrous geophysical anomalies (pit cluster?)
C32027	143	25	1.8	To natural geology	Targeted on "blank" area
C32027	144	25	1.8	To natural geology	Targeted on "blank" area
C32027	145	25	4	To natural geology	Prospect for continuation of Anglo-Saxon pit alignment
C32029	146	25	1.8	To natural geology	Targeted on "blank" area
C32027	147	25	1.8	To natural geology	Targeted on "blank" area
C32027	148	25	1.8	To natural geology	Targeted on "blank" area
C32029	149	25	1.8	To natural geology	Targeted on dense concentration of discrete geophysical anomalies
C32027	150	25	1.8	To natural geology	Targeted on "blank" area
C32027	151	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)
C32027	152	25	1.8	To natural geology	Targeted on ferrous disturbance
C32027	153	25	1.8	To natural geology	Targeted on remote sensing features and geophysical anomaly (circular)
C32029	154	25	4	To natural geology	Targeted on dense concentration of discrete geophysical anomalies
C32027	155	25	1.8	To natural geology	Targeted on remote sensing feature
C32027	156	25	4	To natural geology	Targeted on geophysical anomaly (curvilinear)
C32027	157	25	1.8	To natural geology	Targeted on remote sensing features and geophysical anomaly (linear)
C32027	158	25	1.8	To natural geology	Targeted on geophysical anomaly (circular)

C32027	159	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)
C32029	160	25	1.8	To natural geology	Targeted on geophysical anomaly (linear & curvilinear)
C32027	161	50	1.8	To natural geology	Targeted on remote sensing feature and disturbance near to circular forms (to west)
C32027	162	25	1.8	To natural geology	Targeted on "blank" area
C32027	163	25	1.8	To natural geology	Targeted on geophysical anomaly (curvilinear)
C32027	164	25	1.8	To natural geology	Targeted on "blank" area
C32029	165	25	1.8	To natural geology	Targeted on "blank" area
C32027	166	25	4	To natural geology	Targeted on geophysical anomalies (linear)
C32027	167	25	1.8	To natural geology	Targeted on "blank" area close to possible settlement
C32027	168	25	4	To natural geology	Targeted on dense cluster of geophysical anomalies
C32027	169	25	1.8	To natural geology	Targeted on "blank" area near to circular forms (to north)
C32027	170	25	1.8	To natural geology	Targeted on geophysical anomalies
C32027	171	25	1.8	To natural geology	Targeted on geophysical anomalies
C32027	172	25	1.8	To natural geology	Targeted on "blank" area close to possible settlement
C32027	173	25	1.8	To natural geology	Targeted on dense cluster of geophysical anomalies (settlement?)
C32027	174	25	1.8	To natural geology	Targeted on "blank" area
C32029	175	25	1.8	To natural geology	Targeted on "blank" area
C32027	176	25	1.8	To natural geology	Targeted on "blank" area

C32027	177	25	1.8	To natural geology	Targeted on "blank" area
C32027	178	25	1.8	To natural geology	Targeted on geophysical anomaly (linear)
C32027	179	25	1.8	To natural geology	Targeted on remote sensing feature
C32027	180	25	1.8	To natural geology	Targeted on "blank" area
C32027	181	25	1.8	To natural geology	Targeted on "blank" area
C32027	182	25	4	To natural geology	Targeted on geophysical anomaly (linear)
C32027	183	25	1.8	To natural geology	Targeted on cluster of ferrous geophysical anomalies (pits?)
C32027	184	25	1.8	To natural geology	Targeted on dense cluster of geophysical anomalies (settlement?)
C32029	185	25	1.8	To natural geology	Targeted on "blank" area
C32027	186	50	1.8	To natural geology	Targeted on geophysical anomaly and remote sensing feature
C32027	187	25	1.8	To natural geology	Targeted on "blank" area
C32027	188	25	4	To natural geology	Targeted on dense cluster of geophysical anomalies (settlement?)
C32027	189	25	1.8	To natural geology	Targeted on "blank" area
C32027	190	25	1.8	To natural geology	Targeted on remote sensing feature
C32029	191	25	1.8	To natural geology	Targeted on "blank" area and geophysical anomaly
C32027	192	25	1.8	To natural geology	Targeted on "blank" area
C32027	193	25	4	To natural geology	Targeted on concentrated area of amorphous geophysical anomalies
C32027	194	25	1.8	To natural geology	Targeted on cluster of ferrous geophysical anomalies (pits?)

C32027	195	50	1.8	To natural geology	Targeted on geophysical disturbance and remote sensing feature
C32027	196	50	1.8	To natural geology	Targeted on edge of geophysical disturbance and remote sensing feature
C32027	197	25	1.8	To natural geology	Targeted on "blank" area
C32027	198	25	1.8	To natural geology	Targeted on edge of geophysical disturbance
C32029	199	25	1.8	To natural geology	Targeted on "blank" area
C32029	200	25	1.8	To natural geology	Targeted on "blank" area
C32029	201	25	1.8	To natural geology	Targeted on area beyond geophysical survey
C32027	202	25	1.8	To natural geology	Targeted on "blank" area
C32027	203	25	1.8	To natural geology	Targeted on "blank" area

5.2 General methodology

5.2.1 The scope and method for the trial trench evaluation are set out in Section 5 of the Project Plan. This section of the LSWSI develops that methodology to provide a clear site specific methodology and information to enable the *Archaeological Contractor* to successfully deliver the programme of archaeological evaluation at each site.

5.2.2 All archaeological works will be carried out in accordance with the Project Plan, this LSWSI and any further instructions from the *Contractor*. This design takes account of the guidance and specifications set out in the HS2 Phase One EMRs, CoCP, GWSI: HERDS and Technical Standards principally the Technical Standard Specification for historic environment investigations (Document No. HS2-HS2-EV-STD-000-000035), and the guidance provided by the Chartered Institute for Archaeologists (CIfA) Code of Conduct (CIfA 2014a) and the Standard and Guidance for Archaeological Field Evaluation (CIfA 2014b).

5.2.3 Prior to the start of each trial trench evaluation a site meeting and walkover will be held between the *Contractor* and the *Archaeological Contractor* to confirm that each of the indicative trench locations remain accessible and clear of obstruction. Access routes, safe working areas and any constraints to the trial trenching works will also be identified.

5.2.4 The *Archaeological Contractor* shall ensure that the archaeological investigations are undertaken in an organised, efficient and professional manner. The *Archaeological Contractor* shall therefore have full regard for the safety of all personnel on site, including measures to ensure the safety of all, including any effects the archaeological evaluation may have on the daily operations of the landowner, other contractors engaged in the construction of HS2 Phase One and members of the general public.

5.2.5 The on-site archaeological recording and recovery techniques will be in line with the methods set out in the Project Plan, this LSWSI and current industry best practice and should be fully understood by all.

5.2.6 All paper and digital records made during the course of the archaeological evaluation, and the treatment of artefacts and environmental remains, will be reviewed continuously. Record checking and collation will be completed at regular intervals, as appropriate, and before an area is considered complete, abandoned, backfilled or the site closed. Errors or omissions in recording discovered during post-excavation cannot be recovered. The *Archaeological Contractor* must make suitable allowance for this task.

Site Access

5.2.7 The four land parcels are located within agricultural arable and pasture land and should be readily accessible without the need for vegetation clearance. Most field boundaries within the land parcels have been flattened.

5.2.8 C32036 – access will be via a hedge opening from C30239.

5.2.9 C32027 – access will be off the B4451.

5.2.10 C32029 – access will be off the A423, Banbury Road.

5.2.11 C32039 – access will be off the A425 Leamington Road.

Site Set-up

5.2.12 Prior to the start of the archaeological evaluation the *Archaeological Contractor* will attend a pre-works site meeting with the *Contractor's Historic Environment Manager*. The purpose of this meeting will be to allow the *Archaeological Contractor* confirm the access points, ground conditions, site specific hazards and to agree the location for the welfare facilities and the storage of plant and materials.

5.2.13 Site set-up will be conducted following the relevant guidance set out in the Enabling Works Information WI0200 General Constraints (Document No. 1E001-HS2-PR-ITT-000-000098) in particular Sections 6 *Construction site layout and good housekeeping* and in accordance with the Fusion-approved RAMS, CLP and LP.

5.2.14 Fencing (*eg* pedestrian barriers subject to Fusion approval) will be erected around trenches where appropriate, with the type of fencing being dependent on the depth of the trench. The

temporary fencing will be regularly inspected and maintained until the archaeological works have been completed.

Setting Out

5.2.15 All 203 trial trenches will be excavated at the locations indicated on Figure 2 of this LSWSI and on Figure 7 the Project Plan. The corner points of each trench shall be positioned to an accuracy of ± 500mm of the specified trench location using Real Time Kinematic (RTK) Global Navigation Satellite System (GNSS) equipment or other suitable automated equipment referenced from a minimum of three Permanent Ground Markers (PGM) created within the Site.

5.2.16 The specific requirements for setting out the trenches are set out at Section 5.2 of the Project Plan.

5.2.17 The *Archaeological Contractor* shall ensure that all trench or excavation limits, and significant archaeology detail are surveyed 'as dug' in relation to the site survey grid before leaving the site. All survey data will be tied into the British Grid. Ground level height data shall be recorded for each trench. Survey methodology and a detailed survey record shall be provided to HS2 Ltd within the survey report.

Artefact Collection

5.2.18 Prior to the excavation of each trial trench, the *Archaeological Contractor* will sample the topsoil/ploughsoil for the recovery of artefacts.

5.2.19 Three sample locations are required at each trench location and should be recovered from each end of the trench and at its centre, for a total of 609 test pits. Each sample will be recovered using a mechanical excavator fitted with a toothless ditching bucket and placed on an adjacent board or tarpaulin/ geotextile.

5.2.20 Samples are to be equivalent in volume to a 0.25m by 0.25m test pit which will be machine excavated (where practical). Samples will be excavated in spits and the appropriate pro-rata volume of ploughsoil will be dry hand-sieved. The volume sieved for each test pit will correspond to the pro-rata volume of a 0.25m by 0.25m test pit, of a depth corresponding to the particular ploughsoil depth at each test pit location. Soil samples should then be sieved or screened through ¼" or 6mm wire mesh to recover artefacts. Samples may be sieved on site or retained for immediate sieving off-site.

5.2.21 In the event of encountering substantial quantities of archaeological artefactual evidence during the test pit phase, an amended trenching strategy may be employed to better understand the factors behind the evidence. Any trial trench amendments would be discussed with the *Contractor* and a change control process (see Section 9) would be implemented if required.

Machine Excavation

5.2.22 Trial trenches shall be excavated to the first archaeological horizon or natural geology, whichever is encountered first. Excavation will be undertaken using a mechanical excavator with toothless ditching bucket.

5.2.23 In the unlikely event that modern foundations are encountered, and where it is clear that modern foundations have truncated certain archaeological levels, they should be removed to assess lower archaeological levels. All reasonable care shall be taken to ensure that any damage to archaeological deposits is limited as far as practicable. If significant damage is likely to occur the work shall be suspended and the *Contractor's Historic Environment Manager* informed so that a technical solution can be agreed.

5.2.24 Machining shall be carried out under the constant supervision of a suitably qualified archaeologist to excavate the ground in spits. The *Archaeological Contractor* shall use their professional judgement to determine the appropriate depth of each spit. Any variations to the excavation methodology shall be carried out following consultation with the HERDS manager and recorded in writing for inclusion in the final report. Each spit shall be examined carefully to assist the recovery of any archaeologically significant artefacts and thus to determine when to cease machining. It is the responsibility of the *Archaeological Contractor* to ensure that the finished surface is machined to a suitably 'clean' state in order to identify, define and investigate any exposed archaeological deposits. If the surface is not sufficiently clean, hand cleaning of the surface will be required. Machine excavation will comply with the *Employer*'s Technical Standard - Route wide soil resources plan (Document No. HS2-HS2-EV-STD-000-000008).

5.2.25 Metal detectors will be used by experienced staff to scan for metallic finds during the excavation of key archaeological features or deposits. The spoil from each trench will also be subject to a metal detector survey, with any finds recorded on the relevant trench sheet.

5.2.26 The *Archaeological Contractor* shall ensure that water is discharged and excavated material from archaeological excavations are stored in accordance with the *Contractor's* environmental protection requirements (as set out in the package Works Information and their Environmental Management Plan) and any relevant consents for the worksite. The *Contractor* shall monitor discharge rates and, if necessary, conductivity of discharge waters to ensure compliance.

5.2.27 The alluvial deposits recorded within the site are situated in an area which is not suitable for evaluation due to existing constraints (a wooded area). However, it is possible that alluvium extends beyond the current known extent and/or, due to the rolling topography, localised colluvium may be encountered. In the unlikely event that deep stratigraphy is encountered, such as alluvial or colluvial sequences, sondages will be excavated within trenches. Each intervention shall be excavated to the base of the stratigraphic sequence and shall be appropriately shored and kept free of water to allow 'person entry' to the excavations

i.e. to allow the *Archaeological Contractor* to undertake investigation and recording to fulfil the aims of the work. The *Archaeological Contractor* will ensure that all works undertaken in deep stratigraphy will comply with the *Employer's* Technical Standard – Temporary Works (Document No. HS2-HS2-CV-STD-000-000005). When recording deep stratigraphic sequences, the *Archaeological Contractor* shall pay particular attention to establishing the vertical extent of layers of archaeological potential and shall be aware that horizons of cultural activity may be interdigitated with horizons of sterile sediments. The *Archaeological Contractor* shall supervise the excavation in such a manner so as to allow a cumulative or continuous section to be recorded.

5.2.28 Where sondages into alluvium are unsafe to enter the *Archaeological Contractor* shall direct excavation in a manner that will allow excavated sediments to be adequately sampled and interpreted by the geoarchaeologist. Material to be sampled will be placed by the excavator at a safe distance from both the sondage and plant and scanned for finds. The sedimentary sequence will be recorded by the *Archaeological Contractor's* geoarchaeologist according to standard conventions (HE 2015) to include sediment structure, colour, texture, sorting and any identifiable boundary characteristics. Depths of each stratigraphic boundary will be recorded, or where full access is unsafe estimated and recorded as such. Buried soils will be inspected and recorded by the *Archaeological Contractor's* geoarchaeologist to provide data for understanding formation processes. Procedures and techniques for this data capture will be as outlined in Historic England guidance on geoarchaeology and environmental archaeology (HE 2011 & 2015). Samples for laboratory assessment, analysis and dating shall be collected where appropriate following agreement with the *Contractor's Historic Environment Manager* and the *Employer.* Any trenches exceeding 1.2m in depth will be excavated in accordance with a Temporary Works Design, prepared by Connect and approved by Fusion.

5.2.29 Should any material be excavated that is deemed to be contaminated or potentially contaminated it shall be investigated, controlled (e.g. placed separately from clean material) and removed from the site in accordance with the *Contractor's* environmental protection requirements (as set out in their Environmental Management Plan).

Hand Excavation

5.2.30 Archaeological hand excavation and recording shall be undertaken by the *Archaeological Contractor* to the general requirements as described in the GWSI: HERDS and the Technical Standard Specification for historic environment investigations (Document No. HS2-HS2-EV-STD-000- 000035; section 4.14 and 4.17). The sufficient sample strategy will be guided by the CIfA Standard and guidance for archaeological field evaluation (2014), as well as, where applicable, Local Planning Authority guidance documents, and will be detailed in the *Archaeological Contractor's* LS-WSI. The *Archaeological Contractor* will ensure that a sufficient sample of the features and deposits encountered will be sampled/fully excavated to allow the resolution of the aims and objectives of the work. Structures, features, or finds which might reasonably be considered to merit preservation in-situ shall not be unduly damaged.

5.2.31 When recording deep stratigraphic sequences, the *Archaeological Contractor* shall pay particular attention to establishing the vertical extent of layers of archaeological potential and shall be aware that horizons of cultural activity may be interdigitated with horizons of sterile sediments. The aim shall be to recover suitable stratigraphic, finds and environmental samples from the full, intended depth of the trench, as far as is practicable. The exact methodology may need to be determined by the *Contractor* during the excavation of individual trenches and agreed with the *Employer*.

5.2.32 All investigation of archaeological levels will usually be by hand, with cleaning, examination and recording both in plan and section.

5.2.33 Within significant archaeological levels, the minimum number and proportion of features required to meet the aims of the evaluation will be hand excavated. Pits and postholes will usually be subject to a 50% sample by volume, at sufficient frequency to characterise the archaeological activity across the Site. Linear features will be sectioned as appropriate. More complex features such as those associated with funerary activity will usually be subject to 100% hand excavation. Should the archaeological content or value of a feature warrant further investigation at the evaluation stage, the *Contractor* will liaise with the *Archaeological Contractor* to ensure that all features are excavated appropriately – so as to ensure that they can be fully characterised. This may mean that the excavated percentage of each feature may increase or decrease as required.

5.2.34 In the case of evaluations, it is not necessarily the intention that all trial trenches will be fully excavated to natural stratigraphy, but the depth of archaeological deposits across the Site will be assessed. The stratigraphy of a representative sample of the evaluation trenches will be recorded even where no archaeological deposits have been identified. Any excavation, both by machine and by hand, will be undertaken with a view to avoiding damage to any archaeological features or deposits, which appear to be worthy of preservation in situ.

5.2.35 Where deposits are investigated, and found to be undated, and where these have the potential to be of archaeological significance (e.g. of earlier prehistoric or early medieval date, or any other deposit types notable for artefactual scarcity) appropriate samples should be taken for artefact recovery. The soil should be hand excavated and then sieved or screened through ¼" or 6mm wire mesh to recover artefacts. Samples can be sieved on site or retained for immediate sieving off-site.

5.2.36 In order to protect any waterlogged remains during the works, the *Archaeological Contractor* may identify a requirement for trial excavations to be allowed to refill with water overnight. In such cases, the *Archaeological Contractor* shall ensure that any hazards to staff or 3rd parties are minimised.

Sondages into Alluvium

5.2.37 Following the excavation of each trial trench the Archaeological Contractor will sample any alluvium identified to test its depth, sedimentary sequence and for the recovery of artefacts. It is predicted that alluvium testing should be limited to trenches 005-007 and 019, but may need to be tested elsewhere if encountered. Alluvium will be investigated through the excavation of a single sondage to the full depth in each trench location where it is identified.

5.2.38 These sondages will provide:

- The opportunity to observe the full stratigraphic sequence in section; and
- Access larger volumes of sample than is achievable through coring.

5.2.39 Each sondage in the alluvium will measure no less than 1.5m x 1.5m and will be excavated to the top of the underlying solid geology. This will be undertaken through the excavation of a single machine-excavated sondage where the alluvium is expected to be at its deepest. It is expected that in practice this will mean excavating sondages within the ends of trenches closest to the watercourse in the centre of the valley.

5.2.40 Arisings from sondages into alluvium will be inspected for the presence of artefacts and where practicable sieved to enhance recovery.

5.2.41 The *Archaeology Contractor* shall supervise the excavation of each sondage in such a manner as to allow a cumulative or continuous section to be recorded. Particular attention will be made to establishing the vertical extent of layers of archaeological and/or palaeoenvironmental potential and must remain aware that horizons of cultural activity could be interdigitated within layers of sterile alluvium. Archaeologically significant horizons will be hand excavated and cleaned.

5.2.42 The *Archaeological Contractor* shall ensure that any water is discharged and arisings stored in accordance with the *Contractor's* environmental protection requirements and any other relevant consents for the Site. The *Archaeological Contractor* shall monitor discharge rates and, if necessary, conductivity of discharge waters to ensure compliance.

5.2.43 Where sondages into alluvium are unsafe to enter the *Archaeological Contractor* shall direct excavation in a manner that will allow excavated sediments to be adequately sampled and interpreted by their geoarchaeologist. Material to be sampled will be placed by the excavator at a safe distance from both the sondage and plant. The sedimentary sequence will then be recorded by the *Archaeological Contractor's* geoarchaeologist according to standard conventions (HE 2015) to include sediment structure, colour, texture, sorting and any identifiable boundary characteristics. Depths of each stratigraphic boundary will be recorded, or where full access is unsafe estimated and recorded as such.

5.2.44 Where entry to a sondage is safe and practicable buried soils will be inspected and recorded by the *Archaeological Contractor's* geoarchaeologist to provide data for understanding formation

processes. Procedures and techniques for this data capture will be as outlined in Historic England guidance (Campbell *et al* 2011 and HE 2015). Samples for laboratory assessment, analysis and dating shall be collected where appropriate following agreement with the *Employer*.

5.2.45 All sondages into alluvium will be backfilled as soon as their stratigraphy has been recorded and arisings inspected/sieved for artefacts.

Plant Movement

5.2.46 Once delivered to the Site the mechanical excavator will only operate within the limits of the Consolidated Construction Boundary (CCB) and Site as shown on Figure 1. Plant movement will only be undertaken under the supervision of a certified banksman and in accordance with approved RAMS (Document No. xxxxxxxxxxxxxxxxx).

5.2.47 The mechanical excavator will move across the Site following the most direct route from trench to trench. Where the excavator cannot track directly between trenches i.e. across field boundaries, it will track along the field margins to a suitable crossing point. The excavator will then track back along the field margin to the next trial trench.

5.2.48 The location of each trench shall be clearly marked with a coloured flag.

5.2.49 When working across the site the mechanical excavator will avoid slewing its tracks where possible to minimise disturbing the plough soil.

Fieldwork Recording

5.2.50 The requirements for fieldwork recording are set out in paragraphs 5.2.25 – 5.2.31 of the Project Plan. All archaeological recording will be carried out in accordance with the general requirements as described in the GWSI: HERDS and the HS2 Technical Standard for Historic Environment Investigations (Document No. HS2-HS2-EVSTD-000-000035).

5.2.51 The archaeological trial trenching at Southam will be undertaken using site codes to be issued by HS2.

5.2.52 A sufficient sample of the archaeological features and deposits revealed will be sampled/or fully excavated to meet the aims and objectives of the archaeological evaluation. Structures, features, or finds which might reasonably be considered to merit preservation in-situ shall not be unduly damaged.

5.2.53 As a minimum, the following will be recorded:

- At least one representative section at (1:10 or 1:20 scale) of each evaluation trench, from ground level to the base of the excavation;
- the written record of individual context descriptions on appropriate pro-forma;
- plans at appropriate scales (1:10, 1:20 or 1:50);
- single context planning should be used only if appropriate;

- photographs and other appropriate drawn and written records; and
- other sections, including the half-sections of individual layers or features shall be drawn as appropriate to 1:10 or 1:20.

5.2.54 A 'site location plan', indicating site north shall be prepared at 1:1250. Individual 'trench plans' at 1:200 (or 1:100) shall be prepared which show the location of archaeology investigated in relation to the investigation area. The location of site plans will be identified using OSGB coordinates.

5.2.55 Section drawings shall be located on the relevant plan and OSGB co-ordinates recorded. The locations of the PGM bench markers used and any site TBM shall also be indicated.

5.2.56 A record of the full extent in plan of all archaeological deposits as revealed in the investigation shall be made. These plans will normally be based on digital survey data (digital planning methods shall be agreed in advance with the *Contractor's* Historic Environment Manager and the *Employer*) 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 the *Contractor's* Historic Environment Manager and the *Employer*). All hand drawn information shall be digitised (or preferably generated digitally in the first instance), and final deliverables will be supplied in an Esri format and adhere to standards set out in the *Employer's* Cultural Heritage GIS Standard (Document No. HS2-HS2-GI-SPE-000-000004). Single context planning shall be used where complex stratigraphy is encountered.

5.2.57 A 'Harris matrix' stratification diagram shall be employed to record stratigraphic relationships (Harris *et al* 1993) where appropriate. This record shall be compiled and fully checked by the *Archaeological Contractor* during the course of the excavations. Spot dating shall be incorporated onto this diagram.

5.2.58 Recording of structural evidence revealed below ground level will vary according to the level of special interest of the structure and its relationship to archaeological remains. Structures of little or no significance shall be noted on a site plan. Detailed drawings of important features revealed in investigations may be required in accordance with the aims and objectives of the investigation as defined in the Project Plan.

5.2.59 The photographic record will be in digital format, resulting in high resolution TIFF (uncompressed) images. Photographs will illustrate both the detail and context of the principal archaeological features discovered. In addition, the *Archaeological Contractor* shall take appropriate record photographs to illustrate work in progress. All photographic records will include information detailing: site name and number/code, date, context, scale and orientation. A selection of progress photos of publication quality must be submitted with the weekly progress report.

Human Remains

5.2.60 The requirements for dealing with Human Remains are set out in paragraphs 5.2.32 & 5.2.33 of the Project Plan.

5.2.61 Where human remains are identified, all subsequent work must be undertaken in accordance with the *Employer*'s Human remains and monuments procedure (Document No. HS2-HS2-EV-PRO-0000- 000008), Technical Standard Specification for historic environment investigations (Document No. HS2-HS2- EV-STD-000-000035 section 4.18 Methodology for archaeological excavation of human burials) and Chartered Institute for Archaeologists guidance Updated Guidelines to the Standards for Recording Human Remains (Mitchell and Brickley eds. 2017) . On the basis of previous research and investigations, it is conceivable that human remains may be encountered in Areas C32026 and C32027, associated with the Anglo-Saxon cemetery encountered immediately to the north. Should human remains be discovered, the *Contractor's* Historic Environment Manager shall be notified immediately, who will notify the *Employer*, so that the procedures set out in the *Employer*'s Human remains and monuments procedure (Document No. HS2-HS2-EV-PRO-0000-000008) can be implemented. This notification may be initially made personally or by telephone but shall be confirmed in writing (including email) within 24 hours of discovery.

5.2.62 In the event that human remains are identified, all works at that location will cease until further instruction is provided by the *Employer* and communicated by the *Contractor's* Historic Environment Manager. An initial *in situ* observation and assessment of the remains shall be undertaken and the *Contractor's* Historic Environment Manager shall be advised of the course of action required. The *Contractor's* Historic Environment Manager will then notify the *Employer*.

Environmental Sampling

5.2.63 The requirements for developing an environmental sampling strategy are set out in paragraphs 5.2.34 – 5.2.45 of the Project Plan.

5.2.64 In line with the *Employer*'s Technical Standard Specification for Historic Environment Investigations (Document No. HS2-HS2-EV0STD-000-000035) an initial sampling strategy is set out below for the Site. This strategy is based on the existing information about the Site, gathered from nonintrusive surveys and the HERDS objectives.

5.2.65 This sample strategy, along with the HERDS objectives, identifies the key elements that should, where present, be sampled during the evaluation. However, the strategy will need to be reviewed throughout the on-site work and, where unexpected features or deposits are identified, revised accordingly and in consultation with the HERDS manager, to take these into account.

5.2.66 The purpose of sampling at the evaluation stage is to identify the range of environmental materials present on site, their preservation, significance and distribution.

5.2.67 The Site has potential for features associated with later prehistoric/Roman, early medieval and medieval activity which could include settlement activity, enclosures, land boundaries, trackways, and funerary evidence as identified in Section 2.5 above.

5.2.68 Sampling will therefore target the following, where present, as a minimum:
• Archaeological features identified as cropmarks or geophysical anomalies which are likely associated with potentially prehistoric, Roman or medieval activity (i.e. ditches, gullies, earthworks) as well as other relevant remains (i.e. pits or postholes); and
• Deposits representing the main phases of activity on site (to assess whether there are changes in rates of deposition or material survival over time).

5.2.69 Sampling will not only just target charcoal rich or wet deposits, but will be undertaken on those features outlined above, taking into account advice from the *Contractor's* environmental archaeologist. This will ensure that samples are recovered from a representative range of contexts, which adequately characterise past activities on site and allow an assessment to be made of the extent to which they help address palaeoenvironmental and paleoecologic questions.

5.2.70 Where unexpected deposits or features are identified during the evaluation which are not covered in the initial sampling strategy above, the need for sampling will be assessed in terms of the specific objectives, the sampling strategy will be updated, and the features will be sampled accordingly.

5.2.71 All samples will be taken to address a specific question. The purpose of the sample, and the question it has been taken to address will be recorded on a Site-specific sample record sheet.

5.2.72 Samples will be take using ten litre plastic buckets (with lids and handles), or strong polythene bags (double bagged) secured at the neck, for the recovery of bulk 'disturbed' environmental samples. Labelling will follow guidance set out in the Technical Standard Specification for Historic Environment Investigations (Document No. HS2-HS2-EV-STD-000-000035).

5.2.73 For non-waterlogged deposits bulk samples will normally be taken in the range of 40-60 litres. Where contexts have a volume of less than that stated above, then 100% of the context will be sampled. Each bulk sample will only contain sediment derived from a single context. Where waterlogged deposits are encountered, sample sizes will usually be in the range of 10-20 litres, which is suitable for the recovery of macrofossils from these contexts. Samples shall be protected at all times from temperatures below 5°C and above 25°C and from wetting and drying out due to weather exposure.

5.2.74 Where house floors or other buried land-surfaces are encountered, and these are sampled, appropriately sized monolith or kubiena boxes will be used for the recovery of 'undisturbed' monolith samples for soil micromorphology and to sub-sample for microfossils (e.g. polled and spores, diatoms, ostracods). Where longer sequences are sampled, contiguous column samples will be collected for the retrieval of macrofossils (e.g. molluscs, plant remains and

insects). Further guidance on specialist samples is provided in the Technical Standard Specification for Historic Environment Investigations (Document No. HS2-HS2-EV-STD-000-000035 – Sections 4.21.22-26).

5.2.75 Processing of all bulk soil samples collected for biological assessment should be completed within two weeks of collection. Processing samples at the time of fieldwork will allow this sampling strategy to be updated and refined where necessary. The preservation state, density and significance of material retrieved shall be assessed by the *Archaeological Contractor*'s recognised specialist. Special consideration shall be given to any evidence for recent changes in preservation conditions that may have been caused by alterations in the site environment.

Metallic Objects and Residues

5.2.76 Where works are intended to address Specific Objectives relating to industrial activity and there is evidence for industrial activity, macroscopic technological residues (or a sample of them) shall be collected by hand. Separate samples (c. 10ml) shall be collected for micro-slags (hammer-scale and spherical droplets). Reference should be made to guidance on Archaeometallurgy (HE 2015b). Assessment of any technological residues shall be undertaken. Assessment of finds assemblages shall, where appropriate to the Specific Objectives being addressed, include x-radiography of all iron objects (after initial screening to exclude obviously recent debris) and, where appropriate, nonferrous artefacts (including all coins). Where necessary, active stabilisation / consolidation shall be carried out to ensure long-term survival of the material, but with due consideration to possible future investigations.

Geoarchaeology

5.2.77 Any samples collected for geoarchaeological assessment as part of the alluvium sondages will be processed promptly by the *Archaeological Contractor's* specialist, and appropriate assessment undertaken as agreed with the *Contractor.*

Preservation of Archaeological Remains

5.2.78 Where preservation has been identified as an option for areas of the Site, or it becomes clear during the evaluation that certain parts of the Site might be retained in situ within the scheme design, the *Archaeological Contractor* will ensure that suitable samples are taken to assess the state of preservation (as set out in Historic England guidance on preserving archaeological remains) (HE 2016). Where it is proposed that waterlogged deposits are preserved, discussion should be held with the *Contractor* about initiating a water environment study. If preservation is considered to be a viable and desirable option, the areas proposed should be excluded from further plant/vehicle movement, to minimise the possible effects of compression and loading on the physical integrity of the Site. Thought should also be given to whether the proposed construction works will have any short or long term hydrogeological or chemical impacts on the archaeological remains.

Backfilling

5.2.79 The general requirements for backfilling the trial trenches are set out in paragraphs 5.2.49 – 5.5.52 of the Project Plan. Backfilling will comply with the Employer's Technical Standard - Route wide soil resources plan (Document No. HS2-HS2-EV-STD-000-000008). For the purposes of the archaeological evaluation simple backfilling will be appropriate.

5.2.80 The trial trenches shall not be backfilled and reinstated without the prior approval of the *Contractor's Historic Environment Manager*, although in exceptional circumstances some backfilling would be permitted if health and safety or ground stability reasons warranted.

5.2.81 Prior to backfilling the trenches shall be pumped dry if necessary (by the *Archaeological Contractor*) and any necessary protection measures for archaeological remains (in addition to those for below ground infrastructure, services or utilities) shall be completed prior to backfilling. Any pumping will be carried out under a permit to pump issued by Fusion.

5.2.82 The trial trenches shall only be backfilled by machine under appropriate conditions and with direct archaeological supervision. Arisings from the trench will be replaced strictly in the correct sequence, with the ploughsoil being replaced last. The arisings will be levelled with the blade of the excavator bucket and tracked over, but will not be compacted.

5.2.83 Where excavation has been undertaken into the subsoil and/or alluvium to investigate a feature or recover artefacts, earth should be backfilled and firmly compacted prior to replacement of subsoil and topsoil layers (uncompacted).

5.2.84 Any identified archaeological remains shall be protected using a suitable geotextile prior to backfilling.

5.2.85 Land drains or drainage where encountered should not be disturbed. Accidental damage to land/mole drains shall be immediately notified to the *Contractor*. The *Archaeological Contractor* will repair any damage to the satisfaction of the landowner or his agent. If a specialist contractor is required to meet this requirement the *Contractor* will be informed immediately.

6 Post-investigation Reporting and Archiving

6.1 Interim Report

6.1.1 The *Archaeological Contractor* shall submit an interim statement to HS2 Ltd within two weeks of completion of the evaluation. The interim statement will be consistent with the requirements detailed in the Specification for historic environment investigations (Document no. HS2-HS2-EV-STD-000-000035) and will provide HS2 with the information necessary to inform design decisions relating to:

a. the next stage of archaeological works (if required) and b. engineering design.

6.1.2 Interim reports are only used to inform decision-making on further works in programme critical areas and when confidence in the geophysical survey/trial trenching results indicate that the Site has no significant archaeological potential. It is preferable that all decisions for further works are based on the full factual fieldwork reports.

6.2 Trial Trenching Report

6.2.1 The C01 fieldwork report will be produced within 6 weeks of completion of fieldwork, compliant with the following structure:
Non-technical summary;

- Introduction;
- Summary of project's background (including the Specific Objectives addressed);
- Description and illustration of the site location;
- Previous work(s) relevant to the archaeology of the site (e.g. previous surveys);
- Geology and topography of the site;
- Specific Objectives and Aims;
- Methodology of site-based and off-site work;
- Results and observations, including quantitative report, stratigraphic report and any constraints on site;
- Assessment and interpretation of results against original expectations and objectives and, where appropriate, a review of evaluation strategy;
- Statement of potential archaeology;
- Conclusions and recommendations for appropriate archaeological investigation strategy or post–excavation assessment in light of Specific Objectives;
- Considerations of the results and conclusions within the wider context;
- Evaluation of methodology employed and results obtained (i.e. a confidence rating);
- Publication and dissemination proposals (in addition to fieldwork report);
- Archive deposition;
- Bibliography
- Acknowledgements;
- OASIS/HER form;
- Site matrices, where appropriate;
- Specialist assessment or analysis reports where undertaken;
- Illustrations, including location plans with scale and grid co-ordinates; Health, Safety and Environment Management.

6.2.2 The trial trenching report will contain figures accompanied by supporting text. All figures within the report shall be on the same paper size, where appropriate. All categories of

anomaly identified will be labelled with the appropriate assigned number code on the figures, which will be referred to in the text document.

6.2.3 The following figures will be included in trial trenching reports:

General plan (mandatory)
- Engineering design (mandatory)
- Site location
- Survey extent and trial trench locations
- Survey results to include plans and sections of archaeological features, deposits and sequences
- Selected photographs of representative and/or significant features and finds

6.2.4 With regard to Digital Archival Material including OASIS/Historic Environment Record summary sheets, the *Archaeological Contractor* will provide the required data, metadata and digital material as specified in the Historic Environment Digital Data Management and Archiving Procedure (Document No. C262-ARP-EVSPE-000-000003).

6.3 Survey Report

6.3.1 A survey report will be produced. This will include a written and graphic survey report for the works upon completion of fieldwork as an appendix to the Fieldwork report. Evidence shall be provided for check measurements and results of levelling for establishment of TBMs. Unless otherwise agreed, the survey report shall be submitted to the *Contractor* and *Employer* within two weeks of completion of fieldwork.

6.3.2 The *Archaeological Contractor* shall prepare and submit site area outlines and levels in accordance with the *Employer's Cultural Heritage GIS Standard* (Document No. HS2-HS2-GI-STD-000-000010) and BIM requirements (Document No. 1EW03-FUD-IM-PLN-C000-000001). Each drawing shall identify the relevant event code and subsite division, if applicable.

6.4 Archaeological Summary Report

6.4.1 A short summary report of no more than 500 words (the Summary Report) for the works shall be prepared for submission to the *Contractor* for subsequent publication within an appropriate journal or publication outlet specified by the *Employer*.

6.4.2 The draft summary report shall be submitted to the *Contractor* for approval within 8 weeks of the completion date of the fieldwork event. The *Contractor* will review the draft summary report and then issue it to the *Employer* for comment and approval. The *Archaeological Contractor* shall allow two weeks in the programme of works for *Contractor* and *Employer* to provide comments.

6.4.3 The *Archaeological Contractor* shall include any amendments required by the *Contractor* and *Employer* in the final Summary Report which shall be submitted within one week of receiving comments on the draft report.

6.5 GIS Deliverables

6.5.1 GIS Deliverables will be provided to the *Contractor* for approval within 8 weeks of the completion date of the fieldwork. The specific requirements of this deliverable are provided by HS2 in the Technical Standard Specification for historic environment investigations (Document No. HS2-HS2-EV-STD-000-000035) and the GWSI: HERDS (Document No. HS2-HS2-EV-STR-000-000015).

7 Information Management

7.1.1 GIS deliverables will be provided in accordance with the *Employer's* Cultural Heritage GIS Specification (Document No. HS2-HS2-GI-SPE-000-000004). CAD files will be GIS compatible and follow standards set out in the same Specification. Figures may be produced using CAD, but final deliverables must be supplied in GIS format.

7.1.2 Mapping and spatial data deliverables will conform to the *Employer's* GIS Standards as set out in Document No. HS2-HS2-GI-STD-000-000002 and other associated referenced documents.

7.1.3 The *Employer's* standard template for reports (Document No. HS2-HS2-PM-TEM-000-000004) will be used.

8 Quality Assurance Process

8.1.1 All archaeological works will be delivered in accordance with the *Contractor's* AWH Quality Plan (Document No. 1EW03-FUS-QY-PLN-C000-001658). The trial trenching report will be prepared and conducted by suitably qualified, experienced and competent professionals.

8.1.2 The trial trenching report will be checked and then reviewed by senior, qualified, experienced and competent professionals prior to issue to the *Employer* for acceptance. Final reports, following comments, will be checked and reviewed again prior to issue.

9 Change Control

9.1.1 During the course of the archaeological investigation unexpected, complex or undated archaeological remains may be encountered. In order to inform the decision-making process and to minimise delays to the enabling works construction programme it may be necessary to implement a contingency or vary the methodology or extent of the archaeological investigation.

9.1.2 The GWSI: HERDS establishes the need to manage unexpected discoveries and regularly review ongoing fieldwork events (Sections 7.6.5 and 7.6.17; Document No. HS2-HS2-EV-STR-000-000015). In order to promote rapid decision making and to minimise delays a clearly defined change control process will be followed. This change control process will enable:

- Rapid decision making during historic environment investigation;
- The implementation of contingencies;
- The variation of methodologies being used on site;
- The localised extension of investigation areas; and
- The rapid implementation of mitigation measures.

9.1.3 The change control process will be recorded using the proforma *Historic Environment Fieldwork Change Control Acceptance Sheet* at Appendix 2 of this LSWSI and will comprise the following steps:

1) The *Archaeological Contractor* will:
- prepare an interim summary of the investigation results noting key features or elements of the archaeological remains or structure;
- provide a proposal for the variation to the works or methodologies; and

- suggest any new or existing HERDS objectives to which the variation may provide opportunities for knowledge gain;

2) The interim summary will be submitted to the *Contractor's Historic Environment Manager* who will disseminate the results and arrange a meeting on site with the *Employer's Historic Environment Manager* and local authority (stakeholder) archaeologist;

3) At the site meeting all parties will:
- review the nature, extent and significance of the archaeological remains;
- review and agree the proposed variation to the works; and
- signify their endorsement or approval of the variation by signing the *Historic Environment Fieldwork Change Control Acceptance Form.*
- at the end of the site meeting the *Contractor's Historic Environment Manager* will instruct the *Archaeological Contractor* to implement the variation to the works.

4) Following the site meeting the *Contractor* will submit a copy of the completed the *Historic Environment Fieldwork Change Control Acceptance Form* to the *Employer* via eB.

5) Where the rapid implementation of mitigation measures is required the *Contractor* will, prior to completion of the ongoing archaeological investigation:
- prepare a new Project Plan detailing the aims, HERDS objectives and specification of the archaeological mitigation and submit it to the Employer for acceptance;

- Request a new site code from the *Employer*; and
- Update and resubmit the existing LSWSI to include the archaeological mitigation works.

10 Interface and Communication Plan

10.1.1 Due to the nature of the proposed works, it is considered that community engagement is not applicable for this trial trench evaluation. The results of the investigations will be disseminated to the wider public in due course, as appropriate.

11 Site Monitoring and Engagement Plan

11.1.1 Prior to commencing the works, the *Archaeological Contractor* shall agree a programme of weekly-written progress reports and periodic progress meetings with the *Contractor's* Historic Environment Manager and shall be represented at such meetings to the satisfaction of the *Contractor*. The *Archaeological Contractor* shall provide information describing progress on-site to date and feedback from any initial assessment.

11.1.2 Where required, the *Contractor's* Historic Environment Manager shall arrange site visits with specialist stakeholders and expert bodies to provide advice on-site where this is considered beneficial and agreed with the *Employer*. This will be undertaken within the *Employer's* communication protocols set out in the *Employer's* Community Relations Strategy.

11.1.3 Periodic updates on the progress of the Area Central Enabling Works archaeology programme shall be submitted to the *Employer* and Local Authority Archaeologist by the *Contractor's* Historic Environment Manager. The *Archaeology Contractor* shall provide information to the *Contractor's* Historic Environment Manager as requested to inform this reporting.

11.1.4 The *Contractor's* Historic Environment Manager shall arrange and convene monitoring site visits with the *Employer* to assess the quality and progress of the archaeological works and their adherence to HS2 technical standards and procedures.

11.1.5 The *Employer* may invite the Local Authority Archaeologist to attend these meetings, as appropriate. The *Employer* will be responsible for informing Historic England and the local authority historic environment specialists on the progress of fieldwork activities and findings.

11.1.6 In addition to monitoring visits, the *Employer* may plan and host media events or documentary recording, particularly in the event of a significant archaeological discovery. If requested to do so, the *Archaeological Contractor* shall provide the HS2 media team with escorted access to the Site. Any request for media access will be confirmed in advance, in writing, by the *Contractor's* Historic Environment Manager.

11.1.7 There shall be no unauthorised access to the works in any other circumstances. Any visits to the works shall be in accordance with the *Contractor's* health and safety, site access and security requirements.

12 Quality Assurance Processes and Plan

12.1.1 All archaeological works will be delivered in accordance with the *Contractor's* AWH Quality Plan (Document No. 1EW03-FUS-QY-PLN-C000-001658) and the standards and guidance set out in the following documents:

- High Speed Rail (London–West Midlands) Environmental Minimum Requirements.
- High Speed Rail (London–West Midlands) Environmental Minimum Requirements Annex 3: Heritage Memorandum (Document No. CS755 02/17).
- High Speed Rail (London–West Midlands) Environmental Minimum Requirements Annex 1: Code of Construction Practice (Document No. CS755 02/17).
- HS2 Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (Document No. HS2-HS2-EV-STR-000-000015).
- HS2 Technical Standard: Specification for Historic Environment Investigations. (Document No. HS2-HS2-EV-STD-000-000035).
- HS2 Technical Standard: Historic Environment Physical Archive Procedure (Document No. HS2-HS2-EV-STD-000-000039).
- HS2 Technical Standard: Historic Environment Digital Data Management and Archiving Procedure (Document No. HS2-HS2-EV-STD-000-000040).
- HS2 Cultural Heritage GIS Specification (Document No. HS2-HS2-GI-SPE-000-000004).
- Chartered Institute for Archaeologists (CIfA), 2014a. Code of Conduct.
- CIfA, 2014b. Standard and Guidance for Archaeological Field Evaluation.
- Historic England, 2015a. Management of Research Projects in the Historic Environment (and associated guides and project planning notes).

13 Resource Plan

13.1.1 The *Archaeological Contractor* shall provide project personnel of experience as described below. The personnel shall be approved by the *Contractor*. Approval may be withdrawn by the Employer at their discretion and in accordance with the contract conditions.

13.1.2 The *Archaeological Contractor* shall submit CVs of all proposed personnel including any specialists, but excluding site technician grades, to the *Contractor* for approval if this has not already been done as part of the pre-qualification process.

13.1.3 The works shall be managed, directed and staffed by appropriately qualified and experienced personnel. The *Archaeological Contractor's* Key Person shall possess at least ten years' relevant experience. Table 3 outlines the Connect personnel who will be involved in the evaluation.

Table 3 Connect Personnel

Name	Position
TBC	Lead Archaeologist
TBC	Supervisor
TBC	Archaeologist
TBC	Archaeologist

13.1.4 The excavation, sampling and recording of the works shall be project managed by a Fieldwork Director who is a Member of the Chartered Institute for Archaeologists (MCIfA). Supervisory staff shall have an appropriate level of demonstrable experience commensurate with their specific role i.e. an appropriate level of membership of the CIFA, IHBC or an equivalent demonstrable professional standing.

13.1.5 The *Archaeological Contractor's* project team shall include an environmental archaeologist suitably qualified in archaeological science and geo-archaeological sediment description methods, and on-site sample processing and assessment techniques.

13.1.6 The *Archaeological Contractor's* project team shall be staffed by technician grades with minimum six months' experience in appropriate aspects of excavation and recording.

13.1.7 Specialist staff employed on any aspect of the works, including post-excavation assessment or analysis of any kind including the writing of reports, shall be suitably qualified and shall be supervised by personnel with a minimum of ten years of relevant experience in their field (this may be inclusive of post-graduate studies).

13.1.8 Specialist staff shall be available, at 24 hours' notice, for the duration of the works to provide advice on any specialist tasks to be undertaken.

13.2 Site Specific Requirements

13.2.1 To deliver trial trench investigations the *Archaeological Contractor* shall provide:

- An Archaeological Risk Assessment and Method Statement inclusive of safe methods of working;
- Suitably qualified and competent staff who have valid CSCS cards;
- Suitably qualified and competent plant operators who have valid CSCS cards and certification;
- A team of suitably qualified archaeologists, experienced in archaeological investigation, recording and the nature of archaeological deposits which are expected on this site;
- Mechanical excavator(s) of a suitable type and size to cleanly excavate the trial trenches;
- Appropriate welfare and first aid facilities for the number of staff deployed to the Site;
- All fencing, signage, goal posts and security measures required to fulfil the aims and objectives set out in the Project Plan and this LSWSI; and
- Any other tools or materials the *Archaeological Contractor* required to successfully deliver the programme of archaeological trial trench evaluation defined in the relevant Project Plan and this LSWSI.

14 References

Title	Reference
Blair, J. 2005 The church in Anglo-Saxon society	Blair 2005
British Geological Survey, Geology of Britain viewer http://mapapps.bgs.ac.uk/geologyofbritain/home.html	BGS Online 2019
Campbell, G. Moffett, L. and Straker, V. 2011 Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (2nd ed.). Historic England Guidance	Campbell et al. 2011
Chartered Institute for Archaeologists (CIfA), 2014a. Code of Conduct.	CIfA 2014a
Chartered Institute for Archaeologists (CIfA) 2014b Standard and Guidance for Archaeological Field Evaluation	CIfA 2014b
Chartered Institute for Archaeologists (CIfA) 2014c Standard and Guidance for Archaeological Excavation	CIfA 2014c
Chartered Institute for Archaeologists (CIfA) 2014d Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives	CIfA 2014d
Cranfield Soil and Agrifood Institute, Soilscapes http://www.landis.org.uk/soilscapes/index.cfm	Soilscapes 2019
Egan, S and Atkins, R 2017 Pit alignment and middle Saxon open-ground cemetery at land off Banbury Road, Southam, Warwickshire, Birmingham and Warwickshire Archaeological Society Transactions vol 120, pp. 41-74	Egan and Atkins 2017
Fusion AWH Quality Plan	1EW03-FUV-QY-PLN-C000-001658
Fusion BIM Execution Plan	1EW03-FUS-IM-PLN-C000-000001
Fusion Construction Phase Health and Safety Plan	1EW03-FUV-HS-PLN-C000-000053
Fusion Incident & Emergency Preparedness Plan	1EW03-FUV-HS-PLN-C000-000001
Fusion Standard for Accident and Incident Investigation and Reporting	SH2 STD1
Harris, E C 1989 Principles of Archaeological Stratigraphy (2nd ed.) Academic Press	Harris 1989
High Speed Rail (London-West Midlands) Environmental Minimum Requirements Annex 3: Heritage Memorandum	CS755 02/17
High Speed Rail (London-West Midlands) Environmental Minimum Requirements Annex 1: Code of Construction Practice	CS755 02/17
Historic England 2011 Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and recovery to Post-excavation (2nd ed.).	HE 2011
Historic England 2015 Geoarchaeology: Using earth sciences to understand the archaeological record.	HE 2015

Historic England 2016 Preserving Archaeological Remains: Decision-taking for Sites under Development.	HE 2016
HS2 Phase One Environmental Statement and Supplementary Environmental Statements	CH-001-011 ES 3.5.2.14.4 CH-002-011 ES 3.5.2.14.5 CH-003-011 ES 3.5.2.14.6 CH-004-011 ES 3.4.5.14.7
HS2 Technical Standard: Cultural Heritage GIS Specification	HS2-HS2-GI-SPE-000-000004
HS2 Technical Standard: – Temporary Works	HS2-HS2-CV-STD-000-000005
HS2 Technical Standard: - Route wide soil resources plan	HS2-HS2-EV-STD-000-000008
HS2 Technical Standard: Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy	HS2-HS2-EV-STR-000-000015
HS2 Technical Standard: Specification for historic environment investigations	HS2-HS2-EV-STD-000-000035
HS2 Technical Standard: Specification for Project Plans and Location Specific Written Scheme of Investigations	HS2-HS2-EV-STD-000-000036
HS2 Technical Standard: Historic Environment Physical Archive Procedure	HS2-HS2-EV-STD-000-000039
HS2 Technical Standard: Historic Environment Digital Data Management and Archiving Procedure	HS2-HS2-EV-STD-000-000040
HS2 Enabling Works Information WI0200 General Constraints	1E001-HS2-PR-ITT-000-000098
Historic England 2015. Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide	Historic England 2015a
High Speed Rail (London–West Midlands) Environmental Minimum Requirements.	
Historic England 2015 Archaeometallurgy: guidance for best practice	Historic England 2015b
Hooke, D. 1981 Burial features in West Midland charters, in English Place-name Society Journal 13	Hooke 1981
Margary, I.D. 1973 Roman Roads in Britain (third edition)	Margary 197300
Mitchell, P.D. and Brickley, M. 2017 Updated Guidelines to the standards for Recording Human Remains, CIfA professional practice series	Mitchel and Brickley eds. 2017
MOLA 2015 Archaeological trial trench evaluation on land at Banbury Road, Southam, Warwickshire. Report 15/136	MOLA 2015

MOLA 2017 Archaeological mitigation on a pit alignment and a middle Saxon open ground cemetery at land off Banbury Road, Southam, Warwickshire. Report 17/117	MOLA 2017
Northamptonshire Archaeology 2011 Archaeological Geophysical Survey of land between Banbury Road and Kineton Road, Southam, Warwickshire. Report 11/186	Northamptonshire Archaeology 2011
Stratascan 2015, Geophysical Survey Report Stoneythorpe, Warwickshire, Report J8420	Stratascan 2015

15 Glossary of Terms

15.1.1 Content The following terms have been used in this report:

- **Archaeological Contractor** – the organisation undertaking the specific historic environment works for the Contractor.
- **Contractor** – the organisation undertaking the Enabling Works on behalf of the Employer.
- **Detailed Desk Based Assessment (DDBA)** – analytical document that builds on the information gathered previously in the Environmental Statement to address particular issues, questions or uncertainties within a given area. It may be developed to provide a more detailed understanding of the resource in an area to inform design development or construction programming.
- **Employer –** HS2 Ltd, the organisation responsible for delivery of HS2 Phase One Scheme and all terms and conditions, policies, procedures, and payments
- **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 combine historic environment investigation programme of assessment, evaluation and investigation.
- **Project Plans** – 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.

16 Appendices

16.1 Appendix 1 - Project Plan

Table 4 Project Plan

Document Number	Project Plan	Status
1EW03-FUS-EV-REP-CS07_CL24-007847	Project Plan for a Trial Trench Evaluation at Southam Warwickshire AC320	Code 3

16.2 Appendix 2 - Change Control Register

Historic Environment Fieldwork Change Control Acceptance Sheet	
Site Code:	
Site Name:	
Historic Environment Investigation Type:	
Contractor:	
Project Plan Doc. No.:	
LSWSI Doc. No.:	
Summary of Results	
Fieldwork Director:	Date:
Description of Proposed Change:	

Drawing / Sketch:

Change type: (Delete as applicable)	Implementation of Contingency	Variation of Methodology	Rapid Investigation	Extension of Investigation Area

Proposed HERDS Objectives:

Compiled by: (Archaeological Contractor)	Name	Date	Signature
Checked by: (Contractor)	Name	Date	Signature
Consultation with: (Stakeholder Archaeologist)	Name	Date	Signature
Approved by: (HS2 Historic Environment)	Name	Date	Signature

16.3 Appendix 3 - Figures