WP 029 B Historic Environment Works - Topsoil Sampling - Enabling Works North Contract

Location Specific Written Scheme of Investigation for Topsoil Sampling (Test Pitting)

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1 Executive Summary

1.1.1 This High Speed 2 (HS2) North Section Phase One Location Specific Written Scheme of Investigation (LS-WSI) details the proposed methodology and approach for a programme of topsoil sampling by test pitting which will examine the potential presence of prehistoric to early post medieval activity and its density within Area North. The works are required as part of the construction land requirements for the enabling works and subsequent main works for HS2 Phase One.

1.1.2 The archaeology of the early prehistoric and early medieval periods in particular can be difficult to identify as sub-surface remains through traditional intrusive evaluation. In some instances, the only evidence for activity in these periods may be material surviving in the ploughsoil. The recovery of artefacts during topsoil sampling may therefore contribute to improving an understanding of broader patterns of landscape exploitation particularly during the prehistoric and early medieval periods due to limited evidence currently prevalent across the West Midlands.

1.1.3 Works detailed within this LS-WSI are permitted by the High Speed Rail (London-West Midlands) Act (the Act), which provides powers for the construction and operation of HS2 Phase One, and the Heritage Memorandum, which sets out how historic environment (including heritage assets and their setting) will be addressed during the design and construction of HS2 Phase One.

1.1.4 The proposed locations of the test pitting areas identified in this LS-WSI have been informed by the Project Plan for the works (1EW04-LMJ_DJV-EV-PLN-N000-029011), which is attached within Appendix 1. The Project Plan was informed by the construction land requirements for the enabling works and subsequent main works for HS2 Phase One, as well as by current land use, and presence of open areas of land, suitable for topsoil sampling and land access availability. The proposed locations have also been guided by the Archaeological Character Zones (ACZ) set out in the Environmental Statement (ES) which take into consideration the topography, superficial geology, as well as the known and the archaeological potential as set out in the ES Heritage Risk Model (C253-ATK-EV-REP-000- 00002)

1.1.5 The LS-WSI for test pitting should be read alongside the Project Plan for Soil Sampling (test pitting) (1EW04-LMJ_DJV-EV-PLN-N000-029011).

1.1.6 The test pitting works constitute 20 separate test pitting blocks, each block measuring 1ha, distributed at intervals across Area North (Figures 1 to 9). The test pitting areas have been distributed across Area North to ensure that the maximum number of ACZs are examined. This will ensure that along with high potential ACZs, those ACZs where the archaeological character is poorly understood are examined for their potential to produce artefactual remains which could contribute to the Historic Environment Research and Delivery Strategy (HERDS) Objectives. DJV

shall review the results of Test Pitting during regular assurance visits and will assist Wessex Archaeology in assessing the ability of the recovered evidence to address Generic Written Scheme of Investigation (GWSI): HERDS Specific Objectives.

1.1.7 DJV may identify a need to alter the scope of works to appropriately address Specific Objectives and would liaise with the Employer in this eventuality. Final agreement of alteration to scope may involve HERDS meetings between Wessex Archaeology, DJV, the Employer and stakeholders. The Employer will determine whether an agreed alteration to scope necessitates production of an addendum to this LS-WSI.

1.1.8 The test pitting principally aims to improve understanding of the distribution of human activity across the landscape of Phase 1 EWC Area North with a particular emphasis on the early prehistoric and early medieval periods. Evidence for limited activity during the prehistoric and early medieval periods has previously been identified in the region, but has principally comprised isolated finds and artefact scatters, although Neolithic and early Bronze Age funerary and ceremonial activity is known, often from aerial photographic evidence. The knowledge gap for these periods is particularly recognised by the HS2 Environment Statement (ES) and the Historic Environment Research and Delivery Strategy (HERDS).

1.1.9 Discovery of unexpected finds of national importance shall be in dealt with in accordance with HS2 Procedure for the unexpected discovery of archaeological remains of national importance (HS2-HS2-EV-PRO-000-000009).

1.1.10 This LS-WSI sets out the aims of the test pitting, defines how the test pitting works will be delivered and identifies the timescale and proposed programme for the works. It includes details of programme management, cost control as well as resourcing, health and safety procedures and reporting requirements.

1.1.11 The GWSI: HERDS Specific Objectives for Knowledge Creation (KC) guiding the Project Plan are listed below:

- KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age
- KC7: Exploring the degree of continuity that existed between Late Mesolithic and Early Neolithic communities in terms of population mobility and subsistence strategies
- KC10: Provide further understanding of the transition between a mobile pattern of settlement in the Early Bronze Age to the development of fixed settlement and enclosure, in the Middle and Late Bronze Age.

- KC30: Identify the location and form of Early and Middle Saxon settlement and investigate evidence for land use in the period;

1.1.12 Four additional HERDS Objectives have been included as secondary objectives where there is the potential for artefactual evidence to improve an understanding of the density of settlement and utilisation of the landscape during the Romano-British and medieval periods:

- KC21: Assess the evidence for regional and cultural distinctiveness along the length of the Area North route in the Romano-British period, with particular regard to the different settlement types encountered along the Area North route;
- KC29: Can regional and cultural distinctiveness in the Romano-British period be defined through systematic surface collection?
- 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 (ref changes to agricultural practices; evidence for switch from arable to sheep farming);
- KC40: Identify patterns of change within medieval rural settlement from the 11th to mid-14th century (ref rapid economic and population expansion).

2 Location/ Site Background

2.1 Baseline

2.1.1 This LS-WSI has been produced in line with guidance outlined in the HS2 Technical Standard Specification for Historic Environment Project Plans and Location Specific Written Schemes of Investigation (HS2-HS2-EV-STD-000-000036).

2.1.2 The topsoil sampling covers the entirety of Phase One EWC Area North and will examine areas where previous and current land-use makes this type of investigation appropriate.

2.1.3 The archaeological and historical background of the HS2 Phase One route is presented in the HS2 Phase One Environmental Statement (ES), with Area North being sub-divided into 11 Community Forum Areas (CFAs):

- CFA16: Ladbroke and Southam
- CFA 17: Offchurch and Cubbington
- CFA 18.: Stoneleigh, Kenilworth and Burton Green
- CFA 19: Coleshill Junction

- CFA 20: Curdworth to Middleton
- CFA 21: Drayton Bassett, Hints and Weeford
- CFA 22: Whittington to Handsacre
- CFA 23: Balsall Common and Hampton in Arden
- CFA 24: Birmingham Interchange and Chelmsley Wood
- CFA 25: Castle Bromwich and Bromford
- CFA 26: Washwood Heath to Curzon Street

2.1.4 In general, Area North CFAs cross arable and pastoral land suitable for topsoil sampling. However, CFA 26: Washwood Heath to Curzon Street has been entirely excluded from the topsoil sampling due to its urban character.

2.1.5 To determine the archaeological potential of the CFAs, the ES divided them into broad Archaeological Character Areas (ACA), which were then sub-divided into Archaeological Character Sub-Zones for more in-depth understanding of archaeological potential. The Archaeological Character Sub-Zones (ASZ) baseline information for areas to be topsoil samples is summarised in Section 2.3.

3 Summary of archaeological potential and significance

3.1 Baseline

Precis

3.1.1 The GWSI: HERDS document highlights a knowledge gap for the distribution and character of prehistoric and early and middle Anglo-Saxon human activity at Area North. This may be due to several factors including a bias in the preservation of sites, site type and a lack of previous archaeological investigation.

Mesolithic and Early Neolithic

3.1.2 The distribution of Mesolithic and Early Neolithic activity is known principally from isolated find spots or flint scatters.

3.1.3 A review of Mesolithic finds recorded in the West Midlands suggests that well-drained elevated land close to water sources may have seen more activity than other locations, but acknowledges that it is not possible to determine the extent to which the data represents collection bias

(Garwood, 2011). Overall there are few areas in the region where systematic artefact collection projects have previously been undertaken.

3.1.4 Within the ES study area Mesolithic flints have been recovered during field walking around Middleton, Wishaw and Shenstone (CFA 20: Curdworth to Middleton). Over 1,500 Mesolithic flints (MWA7359) found on a south-facing clay slope overlooking a stream at Wishaw Hall Farm, around 1.2km west of the Limit of land to be acquired or used (LLAU), may indicate the location of peripatetic settlement activity. The superficial geology of this site suggests that well drained locations were not the sole determinant in site location for Mesolithic people.

3.1.5 Where large-scale fieldwork has been undertaken within the West Midlands it has produced very little Early Neolithic material, the limited evidence often comprises isolated pits such as an example found near Shenstone, 2km to the west of the ES study area, where an early Neolithic pit contained pottery and cereal grains (CFA 21: Drayton Bassett, Hints and Weeford)

3.1.6 A small number of early Neolithic monuments are known (Garwood, 2011) slightly beyond the ES study area. The northern reaches of CFA 22: Whittington to Handsacre lie just on the southern periphery of the Trent Valley in Staffordshire where intensive early prehistoric activity has been recorded. The early Neolithic evidence here includes two causewayed enclosures; one at Mavesyn Ridware, around 800m north west of the LLAU, and another at Alrewas, c.2km to the north east.

3.1.7 To the south the evidence includes a possible early Neolithic long barrow, alternatively interpreted as a medieval pillow mound (BHA167), south of Hampton-in-Arden around 550m west of the LLAU (CFA 23: Balsall Common and Hampton-in-Arden).

Late Neolithic to Iron Age

3.1.8 Nationally, there is greater visibility of Late Neolithic and Bronze Age funerary and ceremonial sites including stone circles and burial mounds with many interpreted from cropmarks visible on aerial photographs. The evidence for settlement, however, is poorly represented in the archaeological record.

3.1.9 Between the mid-late Bronze Age and the Iron Age there is a degree of continuity in the archaeological record. In the West Midlands settlement evidence is rare, but where evidence has been identified it usually comprises enclosures, often associated with round houses. Recorded evidence for extensive later prehistoric field systems is rare at the north of Area North, but pit alignments, probably representing early forms of landscape division, are widespread across the region.

3.1.10 In the vicinity of HS2 in Warwickshire evidence for Bronze Age funerary activity includes six barrows (MWAs 1411, 1705, 4875, 4630, 4629, and 4605) located within the lower Itchen Valley

and a further two possible barrows (LBS095) are recorded around 500m north east adjacent to Print Wood (CFA 17: Offchurch and Cubbington). Elsewhere ring ditches, possibly representing Bronze Age barrows (COL005), are visible on aerial photography adjacent to the River Cole to the south east of Coleshill Farm, located around 160m west of the LLAU (CFA 19: Coleshill Junction), and within the LLAU a possible ring ditch (CWM006) is recorded to the east of Curdworth (CFA 20: Curdworth to Middleton).

3.1.11 In the vicinity of HS2 in Staffordshire a middle Bronze Age cremation was excavated at Hints Quarry (CFA 21: Drayton Bassett, Hints and Weeford). Evidence for Bronze Age cremations has also been encountered during enabling works contracts (EWC) North archaeological mitigation located to the east of Ryknield Street near Lichfield (CFA 22: Whittington to Handsacre). Three potential ring ditches are recorded near three watercourses, the Fulfen Brook (WHA311), the Bourne Brook (WHA324) and the Pyford Brook (WHA360). Further ring ditches, as well as pit alignments and linear features (WHA361) have been recorded as cropmarks near Kings Bromley, on the southern periphery of the Trent Valley (CFA22: Whittington to Handsacre).

3.1.12 Evidence for early Bronze Age settlement activity in proximity to Area North is limited to one possible site at Meriden Quarry in Solihull where 15 pits and post holes containing urns and accessory vessels were recorded during archaeological excavation (CFA 23: Balsall Common and Hampton-in-Arden).

3.1.13 Evidence for Iron Age settlement activity has been recorded during the Area North archaeological works, including an enclosed settlement located east of South Cubbington Wood on a hill overlooking the River Leam to the south, and another enclosed settlement located on the southern side of the River Leam (CFA 17: Offchurch and Cubbington).

3.1.14 Possible late Bronze Age or Iron Age field systems have been recorded in two locations near Middleton and Kingsbury in north Warwickshire (CFA 20: Curdworth to Middleton) and emerging evidence from EWC North archaeological work at CFA 19: Coleshill Junction suggests the presence of widespread landscape division in the form of a series of extensive pit alignments.

3.1.15 Find spots of Neolithic and early Bronze Age artefacts within Area North study area include:

- Two flint artefacts of possible early Bronze Age date from Hall Walk, Coleshill around 400m east of the LLAU (CFA 19: Coleshill Junction).
- An axe-head (MWA 882) from Church Farm, Little Packington around 215m north east of the LLAU (CFA 24: Birmingham Interchange and Chelmsley Wood); and
- Four Neolithic or early Bronze Age axes (MST646, MST977, MST6317, MST2011) from CFA 22: Whittington to Handsacre, although their precise provenance is unknown.

3.1.16 Residual undated flint artefacts (MWA5129) were recovered during the excavation of an Iron Age and Romano-British site at Grimstock Hill, around 300m east of the LLAU, which may have included Neolithic and early Bronze Age material (CFA 19: Coleshill Junction).

Romano-British

3.1.17 The Roman road network is a key indicator for the changes which occurred within the West Midlands during the period. Three major Roman roads, Watling Street, Fosse Way and Ryknield Street cross the LLAU, within CFA 17: Offchurch and Cubbington, CFA 21: Drayton Bassett, Hints and Weeford and CFA 22: Whittington to Handsacre. These major roads were important communication and transportation networks used by both the Roman army and civilians. However, the evidence for Romano-British activity across the West Midlands is otherwise relatively limited when compared with the East Midlands and southern counties of England and the degree to which Romanisation occurred in the West Midlands has been questioned.

3.1.18 At the south of Area North there is greater evidence for civilian settlement, particularly around the River Avon which is considered to be culturally similar to the southern and eastern counties. Evidence here includes a possible villa and field system (STN034) at Glasshouse Wood, near Kenilworth; a possible settlement to the west of Thomas de Pipes Mill (STN108) and a Roman building within Kenilworth Golf Course (STN037) (CFA18). Further Roman villas are recorded across the landscape to the south of the Avon Valley and includes a possible villa and field system near Long Itchington (CFA16).

3.1.19 At the centre of Area North extensive evidence for settlement activity and a temple site has been recorded at Coleshill, near the River Tame (CFA19) and ongoing Area North archaeological evaluation and mitigation has identified evidence of extensive rural settlement activity extending to the west of Coleshill.

3.1.20 At the north of Area North the evidence for activity is more closely associated with the Roman road network and the site of military forts, where later nucleated civilian settlements developed. These include the sites on Watling Street at Mancetter, Warwickshire and at Wall, Staffordshire and part of an enclosed rural Romano-British settlement, investigated by EWC North slightly north of Ryknield Street near Streethay (CFA 22: Whittington to Handsacre).

3.1.21 Villas and farmsteads are less evident in the archaeological record in the northern portion of Area North. However, recovery of high-status artefacts have suggested a possible villa site near Curborough.

Early and Middle Anglo Saxon

3.1.22 The early Anglo Saxon period runs from the early 5th century (AD 410) to the return of Christianity and literacy in the late 6th century. The middle Saxon period comprises the 7th and 8th centuries.

3.1.23 Early and middle Anglo Saxon settlement is poorly represented in the archaeological record of the West Midlands with current evidence suggesting a dispersed pattern of isolated farmsteads. The formation of nucleated villages with large open fields, characteristic of the champion landscapes of central England, appears to begin in the middle Saxon period and continue throughout the 8th to 11th centuries.

3.1.24 Definitive evidence of early Anglo Saxon settlement in the West Midlands has been excavated around 8km north of Area North at Catholme in the Staffordshire Trent Valley, where settlement activity appears to have migrated over time along a gravel river terrace. Other settlement evidence has been recorded at several places in Warwickshire and Worcestershire, including three possible 6th century sunken floored buildings at Broom, in the Warwickshire Arrow valley. An early Anglo Saxon (pagan) cemetery has been excavated in Warwickshire at Alveston, in the Avon valley. Evidence for settlement, land management and societal structure in the early and middle Anglo Saxon periods is otherwise reliant upon place-name evidence and often non-contemporary historic documentary sources (Hooke, 2011).

3.1.25 In proximity to Area North the evidence for early to middle Anglo Saxon activity is generally sparse, but a small number of possible sites have been identified at the south within or around CFA 16: Ladbroke and Southam and CFA 17: Offchurch and Cubbington. These comprise:

- A possible early to middle Saxon cemetery (OFC011) discovered in 1876 just within CFA 17 on Snowford Road around 465m east of the LLAU.
- The two possible barrows at Print Wood (LBS095), whilst postulated as Bronze Age in origin (see 2.1.10), have alternatively been interpreted as pagan Anglo-Saxon burial mounds.
- Further early Saxon (pagan) burials have been recorded in the wider region, beyond CFA 16 and CFA 17, in the Leam, Itchen and Dene Valleys.
- A possible high status early medieval settlement (MWA1648) is indicated from cropmarks within the Itchen Valley at Snowford over 500m to the east of the LLAU. A pit excavated approximately 100m to the south east of this possible settlement contained 5th to 7th century pottery (MWA 10316).

3.1.26 Routeways originating in the Roman period may have continued in use during the early and middle Anglo Saxon period. These include the major Roman roads, Fosse Way, Watling Street

and Ryknield Street which cross the LLAU, respectively in CFA 17: Offchurch and Cubbington, CFA 21: Drayton Bassett, Hints and Weeford and CFA 22: Whittington to Handsacre. The location of the Staffordshire Hoard, just to the south of Watling Street near Hammerwich (around 7km west of the study area) suggests that this road may have continued to form a strategic highway during the early and middle Anglo Saxon period. A trackway (LBS024) recorded in a 10th century charter, crosses through CFA 16: Ladbroke and Southam between Wormleighton and Radbourne; it may have originated as a salt way in the Roman period linking Droitwich with markets in eastern England and may have continued in use during the early and middle Anglo Saxon period.

3.1.27 Find spots of isolated artefacts include an early medieval brooch (MWA9810) found c.1km south of Water Orton (CFA 19: Coleshill Junction); a silvered bronze mount (MSI1301) found near Molands Bridge, Meriden, 400m east of the LLAU; and a silver coin (MSI1267) from Hampton-in-Arden, c.50m west of the LLAU (CFA 23: Balsall Common and Hampton-in-Arden). Archaeological excavation in advance of the M6 Toll, to the west of CFA 20: Curdworth to Middleton, recovered a small number of early medieval pottery sherds.

Late Saxon to Post Medieval

3.1.28 By the 10th-11th centuries nucleated settlements and open field farming had become established within the southern lowland landscapes of the Warwickshire Feldon. In the upland and/or forested landscapes further north, associated with the Warwickshire Arden and the Cannock Forest in Staffordshire, a contrasting dispersed settlement pattern persisted. This is illustrated by the high numbers of moated sites established in the 12th and 13th centuries particularly notable within north Warwickshire, which includes the scheduled double moat at North Wood near Middleton (CFA20). As a consequence of the prevalent dispersed settlement pattern the north Warwickshire and Staffordshire portions of Area North has greater potential for unknown isolated settlement sites to be encountered. Deer parks were also established within these forested landscapes with examples associated with Cannock Forest in Staffordshire including Drayton, Shirral and Bangley (CFA21), whilst within the Arden there were deer parks at Coleshill (CFA1, Berkswell (CFA23) and at Park Hall in Birmingham (CFA25).

3.1.29 Ridge and furrow cultivation is recorded at various locations across Area North; the final ploughing event is likely to have occurred at different dates across the landscape from the late medieval to the 18th century. The majority of the arable farmland and the areas of common pasture heathland of Area North had been enclosed by the late 18th century.

3.2 Archaeological Character Sub-Zones

3.2.1 The ES subdivided each of the CFAs into Archaeological Character Zones (ACZ). There were 20 test pitting areas proposed along the Area North route.

3.2.2 Seventeen ACZ within six CFAs will be subject to topsoil sampling across Area North and only examined ACZs are summarised below. The test pitting areas were selected based upon open areas within the LLAU, topography, superficial geology, known and potential archaeology (cross-referenced to the ES Risk Model), current land use and land access availability.

3.2.3 The topography, geological and archaeological context of each of the test pitting areas is summarised by ACZ below.

CFA 19

3.2.4 Four ACZ are available for test pit sampling (figures 1 and 2):

- 19-07 Glacio-fluvial gravels and raised area north of River Cole (1 test pitting area)
- 19-13 Higher ground west of Coleshill residential expansion (2 test pitting areas (19-13a and 19-13b)=
- 19-17 River terrace gravels south and west of Water Orton (1 test pitting area)
- 19-21 Mudstones south of River Cole (1 test pitting area)

3.2.5 The four ACZ are dominated by mixed farming with the occasional woodland. Settlement is mostly dispersed in nature and modern industrial complexes are also present. The CFA comprises the floodplain and river terraces of the Cole Valley. The rises land to the east where Coleshill occupies a low ridge c.90-100m AOD. Superficial deposits comprising sands and gravels overlie 19-06, 19-13 and 19-17.

3.2.6 ACZ 19-13 is located to the west of known Iron Age and Romano British settlement.

3.2.7 The archaeological character of these ACZs is poorly understood, although there is the potential for prehistoric and later activity associated with the river valley. Topsoil sampling will examine the potential that the artefactual record may retain evidence for continuity of activity between the earlier prehistoric and early medieval periods.

3.2.8 The extent of the medieval Coleshill deer park is recorded in 19-06. The test pitting will examine the potential for any artefactual evidence collected to enhance understanding of social and economic change during the medieval period

CFA 20

- One ACZ is available for test pit sampling (figure 3).20-28 Langley Brook valley (1 test pitting area)

3.2.9 ACZ 20-28 is located in a farmed landscape associated with the Langley Brook, although settlement, industry, woodland and scrubland are also present The bedrock geology is Mercia

mudstone with superficial deposits comprising glacio-fluvial sands and gravels and river terrace sands and gravels . A narrow east-west band of alluvium is also present towards the north of the ACZ associated with the Langley Brook .

3.2.10 Prehistoric and Romano-British finds have been recovered from within or in the vicinity of 20-15, 20-28 and 20-30 and undated cropmarks are recorded in the wider landscape of the CFA. The test pits will examine the date and extent of prehistoric and Romano-British activity.

3.2.11 There are currently no known sites of early medieval date with the CFA. The ACZ is potentially favourable for settlement and agricultural activity during this period and the test pits will examine the potential for artefactual evidence to be present which could gain insight into a poorly understood period within this landscape.

3.2.12 Evidence for medieval settlement and agricultural activity is also recorded in 20-28 (original settlement of Middleton and Middleton Park). Test pitting would examine the potential for artefactual evidence for social and economic change during the medieval period.

CFA 21

- Three ACZ are available for test pit sampling (figure 4 and 5).21-03 Arable fields on terraces (2 test pitting area)
- 21-04 Hints Hills (2 test pitting area)
- 21-12 Arable fieldscape characterised by 18th and 19th century farms (1 test pitting area)

3.2.13 The ACZ lying furthest south (21-03) is characterised by fields in a valley landscape associated with the Gallows Brook. ACZ 21-04 lies to the west and north of 21-03 and is characterised by the Hints Hills an undulating landscape which peaks at 152m AOD at Brock Hurst plantation. ACZ 21-12 is located in the northern portion of the CFA and is dominated by a largely flat arable landscape. The bedrock geology of these three ACZ is Mercia Mudstone, with Diamicton till deposits in 21-03 and 21-04.

3.2.14 The wider landscape around the central portion of CFA, in the vicinity of Roman Road Watling Street, is rich in prehistoric and Romano-British sites. Prehistoric to Romano-British finds, have been recorded in 21-03 and 21-04. The test pitting areas will examine the date of any material culture recovered to identify evidence for continuity of activity across this landscape throughout the prehistoric period and potentially into the Romano-British period. Romano-British artefacts may have the potential to contribute to an understanding of cultural distinctiveness and extent of Romanisation within this landscape.

3.2.15 There are currently no known sites of early medieval date, but there is the potential that the valleys which cross the CFA could have supported activity during this period. All test pitting areas

will examine the potential for artefactual evidence to be present which could gain insight into a poorly understood period within this landscape.

3.2.16 ACZs 21-03 and 21-04 were located within medieval deer parks and consequently there is likely to be limited potential for the test pitting areas to contribute to an understanding social and economic change during this period.

CFA 22

3.2.17 Seven ACZ are available for test pit sampling (figures 6 and 7).

- 22-04 Fulfen brook (1 test pitting area)
- 22-06 Mare Brook (1 test pitting area)
- 22-07 Medieval Curborough (1 test pitting area)
- 22-08 Pyford/Full/Curborough Brook (1 test pitting area)
- 22-09 Ravenshaw Wood (1 test pitting area)
- 22-11 Bourne Brook (1 test pitting area)
- 22-18 Hill Farm (1 test pitting area)

3.2.18 The southern extent of the CFA was formerly heathland developed on low sandstone hills lying at around 80-90m AOD within the LLAU (22-18). The remainder of the landscape across the CFA lies between 65m to 70m AOD. Further north the CFA extends towards the Trent and Tame valleys and is crossed by five of its tributaries; four of the test pit areas are located in proximity to the tributaries (22-04, 22-06, 22-08, 22-11).

3.2.19 Alluvial deposits are associated with, the Pyford/Full/Curborough Brook (22-08), Bourne Brook (22-11) and a small unnamed watercourses in both 22-07. Sand and gravel deposits are present across 22-09 and 22-11 as well as to the west of the Pyford/Full/Curborough Brook in 22-08. Glaciofluvial sand and gravel deposits extend south east of the brook in 22-08 and into the northern portion of 22-07. Glacial head deposits are present within 22-06.

3.2.20 The ACZ are mostly under arable although pasture dominates 22-04 and 22-06. Woodland plantations, mixed with agriculture, are prominent in 22-09.

3.2.21 To the north, where the CFA lies on the edge of the Trent and Tame valleys, there are increasing numbers of known prehistoric and Romano-British sites. Cropmarks of this date, including ring ditches, enclosures and pit alignments, are recorded associated with the Mare Brook (22-06), the Pyford/Curborough Brook (22-08) and the Bourne Brook (22-11).

3.2.22 Area North trial trenching and subsequent archaeological recording encountered an Iron Age roundhouse and late prehistoric pit alignments in 22-11 and a small Romano-British settlement in 22-06. The test pitting areas associated with the minor watercourses and in areas of known prehistoric activity will examine the date of any material culture recovered to identify evidence for continuity of activity across this landscape throughout the prehistoric period and potentially into the Romano-British period.

3.2.23 The modern A38 follows the line of the Roman road Ryknield Street passing Streethay. To the south of the Ryknield Street the archaeological character is uncertain compared with the north of CFA 22. Area North trial trenching and subsequent archaeological recording in 22-04 encountered evidence for early Neolithic to middle Bronze Age activity, including an early Bronze Age cremation. Test pitting in 22-04 will further examine the evidence for the origins and continuity of activity from the prehistoric to Romano-British periods in the landscape to the south of Ryknield Street.

3.2.24 There are currently no known sites of early medieval date, but there is the potential that the valleys which cross this landscape could have supported activity during this period. All test pitting areas will examine the potential for artefactual evidence to be present which could gain insight into a poorly understood period within this landscape.

3.2.25 There is the potential for medieval activity, in the form of dispersed settlement and watermills, within 22-04, 22-07 and 22-18. Test pitting areas therefore also have the potential to chart the artefactual evidence for social and economic change throughout the medieval and early post period.

CFA 23

3.2.26 One ACZ is available for test pit sampling (figure 8).

- 23-15 Glacio-fluvial deposits west of Sixteen Acre Wood (1 test pitting area)

3.2.27 The CFA is crossed by the River Blythe which flows north and is fed by several small tributaries. The geology across CFA 23 is Mercia mudstone overlain by superficial deposits of till, sands and gravels, with river terrace deposits associated with the River Blythe. The CFA is dominated by fieldscapes principally comprised of large rectilinear and irregular fields.

3.2.28 Evidence for possible prehistoric and Romano-British activity has been identified within the CFA, but no evidence has so far been recorded in ACZ 23-15. The ACZ stands on superficial deposits of sand and gravel at around 100m AOD overlooking the River Blythe 385m to the north east. There is the potential that the landscape could have supported prehistoric and Romano-British activity. The test-pitting area will examine the date of any material culture recovered to identify evidence for continuity and density of activity within the wider landscape during these periods.

3.2.29 There are currently no known sites of early medieval date within the CFA, but there is the potential that the landscape could have supported activity during this period.. The test pitting area will examine the potential for artefactual evidence to be present which could gain insight into a poorly understood period within this landscape.

3.2.30 No known sites of medieval activity have been recorded in ACZ 23-15. Any material culture recovered will be examined to determine its potential for contributing to evidence for social and economic change.

CFA 24

- One ACZ is available for test pit sampling (figure 9). 24-07 Land to east of A452 Chester Road (1 test pitting area)

3.2.31 The ACZ overlooks the River Blythe and lies on Mercia mudstone with superficial glacial deposits. The ACZ comprises agricultural land, surviving between areas of modern development and infrastructure.

3.2.32 No known prehistoric or Romano-British sites are recorded. The location of 24-07, overlooking the river valley, offers the potential for prehistoric activity. The test pitting area will examine the potential for artefactual evidence to contribute to understanding the density of activity particularly during the early prehistoric and early medieval periods in this poorly understood landscape.

4 Aims and Specific Objectives

4.1 Aims

4.1.1 The aims and objectives of the mitigation are laid out within the Project Plan for Topsoil Sampling (1EW04-LMJ_DJV-EV-PLN-N000-029011).

4.1.2 All historic environment work on HS2 is guided by the Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS) (Ref HS2-HS2-EV-STR-000-000015). Its purpose is to establish the objectives and mechanisms for designing and carrying out all historic environment related investigations, in order for the fieldwork to have specific aims and objectives, rather than mitigating impacts to accumulate information.

4.1.3 The primary aim of the topsoil sampling by test pitting is to assess the Area North landscape to enhance understanding of the presence, location, density and character of human activity through the prehistoric and early medieval periods.

4.1.4 A secondary aim is to enhance understanding of the density and character of human activity in the Roman and medieval to early post medieval periods.

4.2 Contribution to GWSI: HERDS Specific Objectives

4.2.1 The GWSI: HERDS provides a comprehensive list of Specific Objectives for the historic environment for the whole HS2 Phase One North Section. The Project Plan has identified those objectives which are relevant for the topsoil sampling works.

4.2.2 Table 1 sets out the primary Specific Objectives of the programme for topsoil sampling by test pitting, which focuses upon the prehistoric and early medieval periods. Through delivery of the programme, and the addressed aims set out in the table, the results of the topsoil sampling will create knowledge and outputs that will contribute to these Specific Objectives.

Table 1: GWSI: HERDS Specific Objectives and evaluation strategy aims for the prehistoric and early medieval periods

GWSI: HERDS Specific Objective	**Contribution Potential**	**Strategy aim**
KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age. KC7: Exploring the degree of continuity that existed between Late Mesolithic and Early Neolithic communities in terms of population mobility and subsistence strategies KC10: Provide further understanding of the transition between a mobile pattern of settlement in the Early Bronze Age to the development of fixed settlement and enclosure, in the Middle and Late Bronze Age	The topsoil sampling will examine the quantity, nature and date of finds from the test pitting areas to contribute to an understanding of settlement location and patterns, as well as continuity of activity, during these periods along the HS2 route. The evidence for activity is currently poorly understood within the West Midlands.	The aim of the topsoil sampling will be to improve understanding of the location and density of early prehistoric activity across the HS2 route. Results could be used or adapted by future projects when devising fieldwork strategies
KC30: Identify the location and form of Early and Middle Saxon settlement and investigate evidence for land use in the period.	The topsoil sampling will examine the quantity, nature and date of finds from the test pitting areas to contribute to an understanding of settlement location and patterns across Area North and the wider HS2 route.	The aim of the topsoil sampling will be to improve understanding of early medieval activity particularly the identification of settlement location and improving understanding of and extent of associated land use. Results could be used or adapted by future projects when devising fieldwork strategies.

4.2.3 Table 2 sets out the primary Specific Objectives of the programme for topsoil sampling by test pitting, which focuses upon the Roman and medieval to early post medieval periods.

Table 2: GWSI: HERDS Specific Objectives and evaluation strategy aims for the Roman and medieval to early post medieval periods

GWSI: HERDS Specific Objective	Contribution Potential	Strategy aim
KC21: Assess the evidence for regional and cultural distinctiveness along the length of the Area North route in the Romano-British period, with particular regard to the different settlement types encountered along the Area North route KC29: Can regional and cultural distinctiveness in the Romano-British period be defined through systematic surface collection?	The topsoil sampling will examine the quantity, nature, location and date of finds from test pitting areas to contribute to understanding cultural distinctiveness and density of activity along the HS2 route. A comparison of the nature of the evidence recovered from the evidence from the north of Area North to the southern portions have the potential to test current understanding of the perceived cultural differences.	The aim of the topsoil sampling will be to improve understanding of Romano-British activity, particularly to examine whether cultural distinctiveness can be identified, settlement location and density in particular, across the HS2 route. Results could be used or adapted by future projects when devising fieldwork strategies
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 (ref changes to agricultural practices; evidence for switch from arable to sheep farming KC40: Identify patterns of change within medieval rural settlement from the 11th to mid-14th century (ref rapid economic and population expansion	The topsoil sampling will examine the quantity, nature, location and date of finds from test pitting areas to understand the potential for changing levels of activity which indicate demographic variation and/or potential for changes to agricultural practices across Area North and the wider HS2 route. In order to fully assess the potential for the test pitting to contribute to KC35 early post medieval material culture will also be examined.	The aim of the topsoil sampling will aim to improve an understanding of the distribution, date and density of finds to investigate the degree to which this evidence could contribute to the understanding of national demographic and land-use changes either side of the mid-14th century. Results could be used or adapted by future projects when devising fieldwork strategies

5 Scope and Methodology

5.1 Introduction

5.1.1 The investigative fieldwork set out in this LS-WSI comprises test pitting work. The total area proposed for investigation amounts to 20ha comprised of 1ha test pitting areas distributed at intervals across the Area North route. The proposed location of the test pitting areas has been dictated by the construction land requirements for the enabling works and subsequent main

works for HS2 Phase One and by factors including existing land use, notably areas of open land, topography, superficial geologies, and the results of the ES Risk Model as far as can be reasonably known. The proposed 1ha test pitting areas may be subject to re-location or alteration (but retaining an overall area of 1ha) dependent upon currently unknown on-site constraints and land access arrangements

5.1.2 The test pitting areas include eight sites which will be undertaken during WP29C Archaeological Mitigation

5.1.3 The proposed test pitting areas are shown on figures 1–9.

5.1.4 This LS-WSI for the test pitting has been prepared in accordance with HS2 Technical Standard – Specification for historic environment project plans and location specific written schemes of investigation (HS2-HS2-EV-STD-000-000036). The LS-WSI provides the detailed method of investigation, including excavation, sampling, recording, test pit locations, dimensions, access arrangements, welfare, accommodation, site safety, RAMS, etc.

5.1.5 Wessex Archaeology will include their own utilities review, assess utilities and necessary safe systems of work in their RAMS (Appendix 3), including, but not limited to verification of utilities location on-site prior to commencing any works. This LS-WSI will be approved by the Employer prior to starting work.

5.1.6 DJV shall review mitigation results during regular assurance visits. DJV will assist Wessex Archaeology in assessing the ability of the recovered evidence to address GWSI: HERDS Specific Objectives. DJV may identify a need to alter the scope of works, including the scope of archaeological and palaeoenvironmental sampling, to appropriately address Specific Objectives, and would liaise with the Employer in this eventuality. Final agreement of alteration to scope may involve HERDS meetings between Wessex Archaeology, DJV, the Employer and stakeholders. The Employer will determine whether an agreed alteration to scope necessitates production of an addendum to the LS-WSI.

5.2 Test pitting

5.2.1 The topsoil sampling strategy comprises 20 1ha test pitting areas located at intervals along the Area North route (figures 1 to 9). The topsoil sampling will comprise test pits dug at 20m intervals across the 1ha test pitting areas, equating to a total number of 25 test pits. Each test pit will be located to NGR using RTK GNSS. An offset grid pattern (e.g. staggered) will be used (as set out by Clive Orton, Sampling in Archaeology). The dimensions of each test pit will be 1m x 1m.

5.2.2 Where the initial results of the test pitting suggest activity extends beyond the 1ha test pitting/investigation area additional test pitting may be undertaken limited to a 30m buffer beyond the 1ha test pitting area. A contingency of a maximum 30% across the Area North route

of additional test pits will be used, with agreement of the Employer and as appropriate, to extend the test pit areas, or increase sample density, where results warrant further investigation. Wessex Archaeology's flint and finds specialist will identify the character and significance of archaeological finds during test pitting and will provide a summary of results on a weekly basis. The summary results will inform the decision to increase the extent of the test pit areas or increase the sample density in review with HS2 and stakeholders.

5.2.3 Deposits within the test-pits will be machine-excavated in sequence under archaeological control: ploughsoil, subsoil or other soil horizons (if present) and then the first c.0.1m of the geological substrate. The sequence of deposits will be carefully recorded, with emphasis placed upon the identification of any intermixing of ploughsoil, subsoil/soil horizons and the geological substrate.

5.2.4 Excavated soils and sediments will be dry sieved (if feasible) initially using a 10 mm mesh for recovery of artefacts. A sample (20%) of the sieved soils shall be subject to a second phase of sieving using a 4mm mesh to test for presence of small artefacts, e.g. lithic micro-debitage. If significant assemblages of artefacts are identified during the second phase of sieving then all of the context containing these artefacts will be re-sieved through the 4mm mesh. If the nature of the soils prevents dry sieving then wet sieving will be used.

5.2.5 Wessex Archaeology will ensure that site staff undergo basic lithics identification training prior to works commencing. Struck and/or burnt flint or stone will be collected for rapid examination by Wessex Archaeology's lithics specialist.

5.2.6 Any archaeological finds noted during machine excavation of soils or substrate will be bagged individually. The locations of any in-situ finds observed below ploughsoil will be recorded in 3D by RTK GNSS. Archaeological material recovered by sieving of soils will also be bagged individually, but will only be located to context and test pit

5.2.7 Sieving stations will be set-up in close proximity to the test-pits, where feasible, to allow the spoil to be sieved as soon as it is excavated. Larger artefacts recovered by sieving will be bagged individually and will be located by context and test pit. Concentrations of small easily damaged, artefacts, such as micro-debitage, from any single context will be bagged collectively, but should be stored in a rigid container, such as a plastic storage box, separate from heavier artefacts, to prevent damage etc.

5.2.8 Any recovered artefacts will be examined throughout the phase of test pitting in order to monitor the effectiveness of the methodology and provide feedback on the chronology and character of artefacts recovered. Finds will be rapidly assessed by Wessex Archaeology's lithics and/or finds specialists during the completion of test pitting blocks. The results of the rapid assessment will

be reviewed by Wessex Archaeology and DJV and in consultation with stakeholders and HS2 and the sampling density will be increased where results warrant.

5.2.9 Any clusters of burnt flint or fire-cracked stone will be highlighted, as this material may provide an indication of the proximity of hearths.

5.2.10 Where discrete features or features of particularly significance are identified within the dimensions of the test pit then these will be excavated. Where excavation of features defines significant archaeology then results will be reviewed and the potential to return for further phases of work will be discussed with HS2 and stakeholders.

Setting Out

5.2.11 All spatial setting out and recording shall be in accordance with The Ordnance Survey National Grid and Ordnance Survey Newlyn Datum (ODN) as defined by the OS Active GNSS network and use of a Virtual reference system. A minimum of three Permanent Ground Markers (PGM) shall be created using this system.

5.2.12 Each 1ha test pitting area shall be located to a horizontal accuracy of +/– 0.05m. The corner points shall be set out with Real Time Kinematic (RTK) Global Navigation Satellite System (GNSS) equipment or other suitable automated equipment referenced from the PGMs.

Recording

5.2.13 Recording shall be undertaken by Wessex Archaeology to the general requirements as described in the GWSI: HERDS and the Technical Standard – Specification for Historic Environment Investigations (HS2-HS2-EV-STD-000-000035). During the Archaeological Recording a sufficient sample of the archaeological features and deposits revealed must be sampled/or 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.

5.2.14 Recording is to include, as a minimum:

- The written record of individual context descriptions on appropriate pro-forma;
- Sections (1:10 or 1:20 scale) of cut features and significant deposits;
- Plans at appropriate scales (1:10, 1:20 or 1:50);
- Other drawn and written records on appropriate pro-forma;
- Single context planning should be used only if appropriate (i.e. where there is a complex sequence); and
- Digital photographs.

5.2.15 If any archaeological features have been identified during the excavation of the test pits a 'site location plan', indicating site north shall be prepared at 1:1250. A plan at 1:200 (or 1:100) shall be prepared showing the location of archaeology investigated in relation to the test pits. The location of site plans will be identified using OSGB co-ordinates.

5.2.16 Section drawings shall be located on the relevant plan and OSGB co-ordinates recorded.

5.2.17 A record of the full extent in plan of all archaeological features and 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 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 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 Cultural Heritage GIS Standard (HS2-HS2-GI-SPE-000-000004). Single context planning shall be used where complex stratigraphy is encountered.

5.2.18 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 Contractor during the course of the excavations. Spot dating shall be incorporated onto this diagram during the course of excavations.

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

5.2.20 The photographic record will be in digital format, captured by cameras with a minimum sensor size of 10 megapixel, resulting in high resolution TIFF (uncompressed) images. Photographs will illustrate both the detail and context of the principal archaeological features discovered. In addition, the 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.

Finds

5.2.21 All archaeological finds pre-dating the 19th century will be retained. Finds dating to the 19th century onwards may be recorded on site and not retained.

5.2.22 Wessex Archaeology may propose a selection and retention policy if large assemblages of certain categories of finds are expected or are unexpectedly recovered. Proposals for selection and retention will be agreed with DJV, Stakeholders and the receiving museum and must be

approved by the Employer before Wessex Archaeology enacts them. The selection and retention policy will follow the 'Technical Standard - Historic environment physical archiving procedure' (HS2-HS2-EV-STD-000-000039) and the strategy will follow the CIfA Archive Selection Toolkit (http://cifa.heritech.net/selection-toolkit). The usual categories of material considered by the policy/strategy will comprise:

- Ceramic building material;
- Kiln and furnace structure;
- Ceramic wasters;
- Industrial waste samples such as slag;
- Non-descript wall plaster;
- Plaster and mortar samples;
- Building stone samples;
- Animal bone, especially from contexts with large residual pottery assemblages that nullify study of the animal bone due to the potential for large residuality of animal bone; and
- Post-medieval bottle glass.

5.2.23 Any finds requiring active conservation or specific storage conditions will be dealt with immediately in line with First Aid for Finds (Watkinson and Neal 1998).

5.2.24 Wessex Archaeology shall be responsible for the protection of all finds and for their transport (including loading and unloading) to the processing facilities or other location as agreed with the Employer.

Metallic Object and Residue

5.2.25 Assessment of finds assemblages shall include x-radiography of metallic objects (after initial screening to exclude obviously modern objects). 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. Where soil sediments are suitable and if other indications of archaeological activity are present then a magnet may be used to rapidly scan soil sediments for hammerscale and other industrial residues.

Treasure

5.2.26 In the event of the discovery during Phase One of HS2 of item(s) that may constitute 'Treasure', as defined by the Treasure Act 1996 and Treasure (Designation) Order 2002, Wessex

Archaeology will comply with the DCMS' The Treasure Act 1996 Code of Practise (2nd Revision). The Treasure Act defines 'Treasure' as:

- Any metallic object, other than a coin, provided that at least 10 per cent by weight of metal is precious metal (that is, gold or silver) and that it is at least 300 years old when found. If the object is of prehistoric date it will be Treasure provided any part of it is precious metal.
- Any group of two or more metallic objects of any composition of prehistoric date that come from the same find (see below)
- Two or more coins from the same find provided they are at least 300 years old when found and contain 10 per cent gold or silver (if the coins contain less than 10 per cent of gold or silver there must be at least ten of them). Only the following groups of coins will normally be regarded as coming from the same find: Hoards that have been deliberately hidden; Smaller groups of coins, such as the contents of purses, that may have been dropped or lost; Votive or ritual deposits.
- Any object, whatever it is made of, that is found in the same place as, or had previously been together with, another object that is Treasure.
- Any object that would previously have been treasure trove, but does not fall within the specific categories given above. Only objects that are less than 300 years old, that are made substantially of gold or silver, that have been deliberately hidden with the intention of recovery and whose owners or heirs are unknown will come into this category.

5.2.27 **Note**: An object or coin is part of the 'same find' as another object or coin if it is found in the same place as, or had previously been together with, the other object. Finds may have become scattered since they were originally deposited in the ground.

5.2.28 All finds falling within the definitions of treasure shall be reported immediately to DJV who will inform the Contractor and Employer.

5.2.29 Wessex Archaeology will ensure that all finds of Treasure are reported to the Coroner within 14 days of discovery, or within 14 days of recognition that the find/s constitute Treasure.

5.2.30 Wessex Archaeology will initially report the find/s to Teresa Gilmore, the Portable Antiquities Scheme Finds Liaison Officer (FLO), Staffordshire and West Midlands. The FLO will often provide assistance in determining whether find/s constitute Treasure and may report the discovery to the Coroner on the finder's behalf. The FLO will also contact the British Museum to obtain a unique Treasure reference number for the find and this will act as a constant identifier throughout the process.

5.2.31 To protect the finds from theft, Wessex Archaeology shall record the finds and remove them to a safe place on the day of discovery. Where excavation, recording and removal is not feasible or appropriate on the day of discovery, Wessex Archaeology shall liaise with the Contractor to ensure that enhanced site security is provided to protect such finds following the WP29 site security plan (1EW04-LMJ-SC-N000-029001).

5.2.32 Subject to the Provisions of the Treasure Act 1996, all material that is defined as Treasure is vested in the franchisee or, if none, the Crown.

Human Remains

5.2.33 In the event that human remains are identified during Archaeological Recording, all work must be undertaken in accordance with the 'Burial Grounds, Human remains and monuments procedure' (HS2-HS2-EV-PRO-0000-000008).

5.2.34 Wessex Archaeology shall notify DJV and the Contractor immediately upon discovery of unexpected human remains. DJV shall notify the Employer, so that the Employer's human remains procedures can be implemented. DJVs notification to the Employer may initially be made personally or by telephone but shall be confirmed in writing (email will suffice) within 24 hours of discovery.

5.2.35 After notification to DJV, Wessex Archaeology will cease all works on unexpected human remains until further instruction is provided by the Employer.

5.2.36 In accordance with Sections 8.2.23 – 8.2.27 of 'HS2 Burial Grounds, Human Remains and Monuments Procedure' (HS2-HS2-EV-PRO-000-000008) Wessex Archaeology will inform the Coroner or Police, and the local authority Environmental Health Officer of the discovery of unexpected human remains and provide brief background information which will enable a decision to visit the site, or confirm that the human remains are of no interest. The decision regarding a site visit, or notification of no interest must be provided by the Coroner, and or Police and the EHO within two working days of notification.

5.2.37 Wessex Archaeology will complete any exhumation of human remains in accordance with the requirements of their recognised osteoarchaeologist. In some circumstances DJV may consult Historic England and other stakeholders for input to exhumation and sampling strategy.

5.2.38 Human remains, once recognised, will be metal detected immediately to determine whether any metallic grave goods are present. If possible, following the Employer's 'Burial Grounds, Human remains and monuments procedure'' (HS2-HS2-EV-PRO-0000-000008) and 'Best practice for exhumation of human remains' (CIfA 2017, Historic England 2018, IfA 2004), burials with metallic grave goods shall be excavated, recorded and lifted on the day of discovery to avoid the risk of vandalism and theft. Where this is not feasible or appropriate, Wessex Archaeology shall ensure,

on liaison with the Contractor, that adequate site security is provided. As a minimum, this will require a 24-hour comprehensive security regime until sensitive remains have been recorded and lifted. This is a particular issue for rural sites and 'isolated burials'.

5.2.39 Human remains will be accorded due dignity, care and respect at all times. Wessex Archaeology may need to screen the remains, dependent on their location.

Backfilling

5.2.40 Test pits will be backfilled with arisings and levelled using the bucket of the excavator.

6 Post-Investigation Reporting and Archiving

6.1.1 All reporting will be carried out in accordance with the 'GWSI: HERDS requirements' (HS2-HS2-EV-STR-000-000015).

6.1.2 A fully illustrated factual report will be produced for the Archaeological Recording within six weeks of completion of the fieldwork, unless otherwise agreed with the Employer. The report will be structured as follows:

- Executive Summary.
- Introduction, including site location and project background, aims, and GWSI: HERDS Specific Objectives (as identified in the Project Plan).
- Baseline summary, including topography and geology, designated assets; archaeological potential and previous work(s) relevant to the archaeology of the site (e.g. DDBA, previous surveys).
- Detailed Scope and Methodology, to include dates of fieldwork, the areas investigated at each stage and the rationale in relation to the Specific Objectives.
- Results and observations, along with the following supporting sections, as necessary:
  - Test Pitting
  - Finds reporting (including a technological analysis identifying material type, characteristics (including for example the metrical, typological and technological attributes of lithics) and date)
  - Spatial analysis recording finds densities
  - Interpretation of results against original expectations and Specific Objectives

- Review of the topsoil sampling strategy (i.e. success and confidence rating)

- Conclusions
  - Synthesis of results within wider context and summary of significance
  - Assessment of achievement (or not) of the Specific Objectives
  - Statement of Potential for further fieldwork or analysis of the archive to address Specific Objectives.
- Recommendations
- Potential research aims for further investigation (if required).
- - Also to include, if warranted, recommendation for addition of HERDS Specific Objectives and update to the resource assessment.
- Publication and dissemination proposals, including archive deposition
- References to all primary and secondary sources consulted;
- Acknowledgements
- Appendices will comprise (where appropriate) illustrations, selected photographs of representative and/or significant features and finds., context table, finds reports, site matrices and full definitions of the interpretation terms used in the report and a copy of the OASIS record.

6.1.3 The following figures will be included in the mitigation report as a minimum:

- Site location
- Survey extents
- Location of each Test Pitting Area
- Distribution plans for test pitting areas where a high-density of finds is indicated by the results of the fieldwork (heat-map)
- Selected photographs of representative and/or significant finds

6.1.4 If Wessex Archaeology foresees a requirement for extension to completion of either stage of reporting they will immediately notify the Contractor and DJV so that extension can be discussed with the Employer.

6.1.5 The creation and curation of the archaeological physical archive compiled as a result of the archaeological works conducted by the HS2 scheme shall comply with the Historic Environment Physical Archiving Strategy (HS2-HS2-EV-STR-000-000018) and Technical Standard - Historic environment physical archiving procedure (HS2-HS2-EV-STD-000-000039).

6.1.6 The guidance for the creation, curation and dissemination of digital data created as a result of the archaeological works conducted by the HS2 scheme shall be in accordance with the Historic environment digital data management and archiving procedure (HS2-HS2-EV-STD-000-000040) and Historic environment digital data management and archiving strategy (HS2-HS2-EV-STR-000-000019).

6.1.7 The Heritage Memorandum for Phase One of HS2 recognises the need to deposit the HS2 archaeological and built heritage archive appropriately and the Employer is committed to working with Historic England and local authorities to identify suitable repository/ies to enable the deposition of the artefacts and records generated by the HS2 heritage works.

7 Dissemination

7.1.1 In accordance with professional standard practice, Wessex Archaeology will complete an 'Online Access to the Index of Archaeological Investigations' (OASIS) record. To achieve compliance of OASIS records in compliance with Employer requirements a small number of steps are necessary:

- Wessex Archaeology will register for an OASIS login using HS2 prefix, i.e. *'HS2-Wessex Archaeology'.*
- The OASIS record 'project name' field will be completed using HS2 as a prefix to the project name. The project name will exactly replicate the Final Report title.
- HS2 site codes will be added as identifiers to the OASIS record 'associates project reference codes' field.
- HS2 will be specified as the archive depository in the OASIS record.
- The OASIS record will be presented in the Final Report as an appendix
- Wessex Archaeology report/s will only be uploaded to the relevant OASIS record after 'Code 1' approval of the report has been received from HS2.

7.1.2 Digital and hard copies of reports will be submitted to the relevant Historic Environment Record (HER) and the National Record for the Historic Environment (NRHE) in accordance with their requirements.

7.1.3 Significant discoveries will be reported in summary in the local archaeological society journal and/or other relevant journal as appropriate.

8 Information Management

8.1.1 GIS deliverables will be provided in accordance with the 'Cultural Heritage GIS Specification' (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.

8.1.2 Mapping and spatial data deliverables will conform to the Employer's GIS Standards as set out in HS2-HS2-GI-STD-000-000002 and other associated referenced documents.

8.1.3 The standard template for reports (HS2-HS2-PM-TEM-000-000004) will be used.

9 Quality Assurance Process

9.1.1 Wessex Archaeology will liaise with DJV regarding the works programme and quality assurance of the archaeological works. In the event of potential delays to programme, Wessex Archaeology will issue an Early Warning Notice (EWN) via CEMAR following internal approval by Wessex Archaeology's Project Director.

9.1.2 Wessex Archaeology will have direct communication with LM on contractual matters and non-archaeological quality assurance; DJV will be informed of any EWNs raised in the course of the works.

9.1.3 The works will be overseen and internally quality-assessed by Wessex Archaeology's senior management and will be directed by Wessex Archaeology's Project Director.

9.1.4 All parties will follow the Employer's protocols for Intra- and Inter-project communication, which will consist of the following format:

- Weekly progress meetings will be held to discuss the progress of on-site works, forecasting of the works programme and to highlight any potential EWNs; and
- Matters arising from progress meetings will be discussed and meeting minutes will be forwarded to all parties (Wessex Archaeology, DJV, LM).

9.1.5 The following interfaces are anticipated on the basis of current information:

- The Employer (HS2);
- The Contractor (LM-JV)

- The Archaeological Consultant (DJV);
- Third party stakeholders via DJV; and
- Other contractors working on separate parts of the evaluation area.

9.1.6 Following completion, Wessex Archaeology's work will be formally signed off by the Employer. Formal sign off will be through a written process utilising a fieldwork sign-off sheet submitted by Wessex Archaeology to DJV. DJV will review and, subsequent to any required revision, will submit the sign off sheet to the Employer for final approval.

9.1.7 Wessex Archaeology will submit a draft of all reports to Asite for review. DJV and the Contractor will provide internal feedback and may require that Wessex Archaeology amends documentation before acceptance. Wessex Archaeology will subsequently upload accepted documents to Asite so that the Contractor can issue them to the Employer. The Employer may provide feedback and require amendment to submitted documents before final approval.

10 Community Engagement

10.1.1 Community Engagement lies at the heart of historic environment works for HS2 Phase One. The Historic Environment Research and Delivery Strategy (HS2-HS2-EV-STR-000-000015) is clear in setting out three tenets as key to delivery of an innovative new approach to archaeological research and investigation: creating knowledge, involving people, and legacy. The HERDS sets out specific objectives for Community Engagement (CE):

- CE1: Marking and communicating the changes to landscapes and environments;
- CE2: Identifying and sharing our stories;
- CE3: Meeting the challenge of inspiring the next generation;
- CE4: Accessible information and knowledge sharing; and
- CE5: Contribute to the process and facilitation of audience project creation.

Community Engagement Scope

10.1.2 Wessex Archaeology will offer activities and events that involve and keep the community and stakeholders informed and develop an understanding of local history and archaeology. Community engagement will strive to include harder-to-reach audiences (e.g. BAME, youth and low-income groups).

10.1.3 Archaeological investigations provide an opportunity to exploit the benefits of personal and social satisfaction and access to professional and specialist knowledge, forge closer relationship

between communities and environment, provide 'good news' stories for local and national press, and fulfil social and community obligations (GWSI: HERDS. Section 9.1.2).

10.1.4 Event and activity type will depend on Health and Safety, interest from local groups, Wessex Archaeology's capability, resource, works programme and site conditions. Wessex Archaeology will organise events and activities in liaison with the Employer, the Contractor and DJV.

10.1.5 Wessex Archaeology will deliver at least two types of engagement selected from the list below, with the flexibility for further engagement depending on outcomes and uptake.

- Notifications and illustrated fact sheets – for distribution to agreed groups and across agreed networks
- Community and local interest groups site visits - subject to Health and Safety, ground conditions, weather and accessibility, programme;
- Community open days - including artefact handling, information boards;
- Drop-in events - including artefact handling, information boards;
- Lectures and talks – to local interest groups, societies, parish and community groups;
- Blogs and online materials – in conjunction with HS2 Commonplace;
- Site photography and drone footage;
- School visits – in conjunction with LM Skills Education and Employment (SEE); and
- Participation in archaeological fieldwork stages and post-excavation work (where possible and appropriate), e.g. community excavation and recording, research.

Community Engagement Set Up, Approval and Publicity

10.1.6 Events and activities will be set up in line with the Contractor's objectives on engagement, using and building on site and/or area specific engagement plans or stakeholder matrices. Activities and events will support the pillars of the Employer's community engagement strategy: creating knowledge, involving people, and legacy.

10.1.7 Public events and activities will be promoted and advertised through channels and networks appropriate to the type, scale and potential participants/audience for the event or activity at least 6 week in advance.

10.1.8 Wessex Archaeology will supply all text and images for use in Community Engagement to DJV for review and for approval by the Contractor and the Employer (at least 2 weeks prior to promotion).

10.1.9 In addition to the HS2 corporate channels listed below, other opportunities for publicity should be sought and communicated to the Employer, Contractor and DJV in a mini communication plan. Local press (radio, newspaper and TV) and relevant local digital platforms should be considered, as should historical and archaeological societies, Council for British Archaeology West Midlands and local museums platforms.

- HS2 corporate website – options include a press release, revamped page content – to be determined by HS2;
- Commonplace websites for Birmingham, Solihull, Warwickshire and Staffordshire – each website to be updated with consistent key messages, fact sheet(s), responses to FAQs together with some bespoke messages tailoring the page to the local context;
- E-news alerts from Commonplace – distributing HS2 fact sheet(s), notifications, blogs, webpage updates, etc; and
- HS2 social media – Facebook, Twitter and LinkedIn – LM to provide the content; HS2 to post.

Community Engagement Delivery

10.1.10 Delivery of activities and events will usually be attended by representatives of the Employer, the Contractor and/or DJV.

10.1.11 Wessex Archaeology will provide engagement / feedback forms to participants in Community Engagement activities and events and may create an engagement form specific to the subject matter to aid reporting.

10.1.12 Activities and events should:

- Be locally-based if possible;
- Focus on the archaeology of the site and immediate area; and
- Be tailored to the audience.

Community Engagement Reporting

10.1.13 Following activities and events, Wessex Archaeology will communicate information on factors such as numbers, achievements, interest and appetite for further engagement to the Employer, the Contractor and DJV.

11 Health, Safety and Environment

11.1.1 Health and safety consideration will be of paramount importance in conducting all fieldwork. Safe working practices will override archaeological considerations at all times. Wessex Archaeology will supply trained, competent and suitably qualified staff to perform the tasks and operate the equipment used on site.

11.1.2 Wessex Archaeology will undertake the work in accordance with the health and Safety at Work Act 1974 and the Management of Health and Safety at Work Regulations 1999 as well as in accordance with the Employer's health and safety requirements and with any site-specific health and safety requirements.

11.1.3 Wessex Archaeology will be responsible for the implementation of, adherence to and reporting of health and safety during the mitigation.

11.1.4 A draft site-specific Risk Assessment and Method Statement (RAMS) for the mitigation has been produced and is included as Appendix 3. All work on site is to be carried out in accordance with the procedures set out in this RAMS.

11.1.5 All staff deployed onto site are to be fully inducted by the Employer and will have read and signed the RAMS (Appendix 3) before commencing work.

11.1.6 Wessex Archaeology have still to be made aware by the Contractor of any ecological constraints on the site.

11.1.7 The current land use of the site has been assessed during site walkovers.

11.1.8 There will be no working under extant tree canopies or in the proximity of tree canopies to avoid potentially cutting through roots as this may have safety implications. There will be no tracking over areas of potential tree roots.

12 Site specific details

12.1 Access and Welfare

12.1.1 Access will be provided by HS2 and LM and landowner liaison by Wessex Archaeology is likely to be minimal. Should negotiation and interaction with the owners of adjacent land parcels be required this will be undertaken by LM's land access team.

12.1.2 Communication and engagement with third parties will use the Employer's communication protocols set out in the Employer's and/or Contractor's Community Relations Strategy.

12.1.3 Wessex Archaeology will supply plant, welfare and site security for the duration of the mitigation works.

12.2 Safety and Security

12.2.1 Vehicles will be parked on site only.

12.2.2 Any tools and equipment being retained overnight and at weekends will be stored in the site cabin only.

12.2.3 Procedures to be followed when dealing with members of the public are outlined within the RAMS (Appendix 3).

12.2.4 No lone working is permitted.

12.2.5 Wessex Archaeology is providing security including remote alarm systems and mobile response.

12.3 Accommodation

12.3.1 Where required, accommodation will be provided as close to the site as possible to reduce environmental impact and driver fatigue.

12.4 Insurance

12.4.1 Both public liability (£10,000,000) and professional indemnity insurance (£5,000,000) are held by Wessex Archaeology.

13 Programme and Staff

13.1.1 The proposed programme of works is set out below.

Activity	Start Date	End Date
Site walkover inspections	TBC	TBC
Mobilisation and Compound Setup	18/01/2021	16/05/2021
Test Pitting	18/01/2021	16/05/2021
Post-ex analysis and Reporting	19/05/2021	TBC
Archiving	TBC	TBC

13.1.2 Organograms and CVs of key staff are provided in Appendix 4.

14 Resourcing requirements and budget

14.1.1 The following resourcing requirements and costs are required to undertake each site: More detailed information has been provided to LM in a pricing schedule and mobilisation breakdown.

Activity	Cost
LS WSI (WSI), Site Specific RAMS	£2,341.93
Site Walkovers	£2,460.56
Prelims –compound mobilisation, hire and demobilisation (per site)	£3,607.23
Test Pitting (per site)	£14,920.10
Reporting (per site)	£2,738.75
Contingency fieldwork (excavation, sieving and recording of single test pit)	£741.09
Total for excavation, sieving and recording of full contingency of 30% extra test pits across scheme	£55,581.75
Contingency reporting on single extra test pit (assumes no more than average of 0.5kg of finds per test pit)	£109.55
Processing and reporting on finds over 0.5kg per test pit	£120.00/kg
Total for reporting on full contingency of 30% extra test pits across scheme	£8,216.25

15 References and Glossary

15.1 References

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CIfA 2014c Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives (revised edition October 2020). Reading, CIfA

CIfA 2017 Updated Guidelines to the Standards for Recording Human Remains

CIfA Toolkit for selecting archaeological archives (https://www.archaeologists.net/selection-toolkit)

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HS2 Technical Standard Specification for historic environment investigations – Document reference HS2-HS2-EV-STD-000-000035

HS2 Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS) – Document reference HS2-HS2-EV-STR-000-000015

HS2 Cultural Heritage GIS Specification– Document reference HS2-HS2-GI-SPE-000-000004

HS2 Geographic Information System Standards– Document reference HS2-HS2-GI-STD-000-000002

HS2 Topsoil Sampling Scheme Wide Assessment Guidance– Document reference PH1-HS2-EV-PLN-000-000092

McKinley, J I 2013 Cremation: excavation, analysis and interpretation of material from cremation related contexts, in S Tarlow and L Nilsson Stutz (eds) The Oxford Handbook of the Archaeology of Death and Burial. Oxford University Press 147–71

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SMA 1995 Towards an Accessible Archaeological Archive. Society of Museum Archaeologists

Watkinson, D and Neal, V 1998 First Aid for Finds: practical guide for archaeologists. United Kingdom Institute for Conservation of Historic & Artistic Works

15.2 Acronyms

Acronym	Title
CIfA	Chartered Institute for Archaeologists
EH	English Heritage (now Historic England)
ES	Environmental Statement
EWC	Enabling works contracts
GIS	Geographic Information System
GPS	Global Positioning System
GWSI	Generic Written Scheme of Investigation
HE	Historic England (formerly English Heritage)
HER	Historic Environment Record
HERDS	Historic Environment Research and Delivery Strategy
HS2	High Speed 2
LLAU	Limit of land to be acquired or used
LPA	Local Planning Authority
OASIS	Online Access to the Index of Archaeological Investigations
RTK	Real Time Kinematic
WSI	Written Scheme of Investigation

16 Appendices

Appendix 1: Project Plan

WP 029 B Historic Environment Works – Topsoil Sampling – Enabling Works North Contract

Project Plan for Topsoil Sampling (Test Pitting)

Document Number: 1EW04-LMJ_DJV-EV-PLN-N000-029011

Revision	Author	Checked by	Approved by	Date	Reason for revision
C01	Debbie Taylor DJV	Glenn Rose DJV	Alastair Hancock DJV	21/01/2020	Issued for acceptance
C02	Debbie Taylor DJV	Glenn Rose DJV	Alastair Hancock DJV	03/07/2020	Issued for acceptance
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1 Executive Summary

1.1.1 This High Speed 2 (HS2) North Section Phase One 'Project Plan' details the proposed approach and methodology for a programme of topsoil sampling by test pitting which will examine the potential presence of prehistoric to medieval-early post medieval activity and its density within Area North.

1.1.2 The archaeology of the early prehistoric and early medieval periods in particular can be difficult to identify as sub-surface remains through traditional intrusive evaluation. In some instances, the only evidence for activity in these periods may be material surviving in the ploughsoil. The recovery of artefacts during topsoil sampling may therefore contribute to improving an understanding of broader patterns of landscape exploitation particularly during the prehistoric and early medieval periods due to limited evidence currently prevalent across the West Midlands.

1.1.3 Works within this Project Plan are permitted by the High Speed Rail (London-West Midlands) Act (the Act), which provides powers for the construction and operation of HS2 Phase One, and the Heritage Memorandum, which sets out how historic environment (including heritage assets and their setting) will be addressed during the design and construction of HS2 Phase One.

1.1.4 The test pitting area locations identified in the Project Plan take into account the construction land requirements for the enabling works and subsequent main works for HS2 Phase One as well as current land use, presence of open areas of land suitable for topsoil sampling and land access availability. The test pitting areas are positioned to examine the maximum possible number of Archaeological Character Zones (ACZ), as set out in the Environmental Statement (ES). The baseline information collated for the ACZ have been used to inform the background to the chosen test pitting locations, including the topography, superficial geology, as well as the known and potential archaeological character as set out in the ES Heritage Risk Model (C253-ATK-EV-REP-000-00002). Twenty test pitting areas in 1ha blocks have been selected to sample Area North (figures 1 to 7).

1.1.5 The test pitting principally aims to improve understanding of the distribution of human activity across the landscape of Phase 1 EWC Area North with a particular emphasis on the early prehistoric and early medieval periods. Evidence for limited activity during the prehistoric and early medieval periods has previously been identified in the region, but has principally comprised isolated finds and artefact scatters, although Neolithic and early Bronze Age funerary and ceremonial activity is known, often from aerial photographic evidence. The knowledge gap for these periods is particularly recognised by the HS2 Environmental Statement (ES) and the Historic Environment Research and Delivery Strategy (HERDS).

1.1.6 The purpose of this Project Plan is to:

- Outline the scope and aims of the programme of topsoil sampling by test pitting.

- Outline the approach and methodology to be employed. These details will be covered comprehensively in the Location Specific Written Scheme of Investigation (LS-WSI); and
- Set out the proposed deliverables and reporting mechanisms.

1.1.7 The work proposed by this Project Plan will primarily aim to contribute to GWSI: HERDS Specific Objectives addressing the extent and character of prehistoric and early/middle Saxon activity in the region, which is limited by a paucity of recovered artefactual evidence and known sites. Four HERDS Objectives have been identified to be addressed:

- KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age;
- KC7: Exploring the degree of continuity that existed between Late Mesolithic and Early Neolithic communities in terms of population mobility and subsistence strategies
- KC10: Provide further understanding of the transition between a mobile pattern of settlement in the Early Bronze Age to the development of fixed settlement and enclosure in the Middle and Late Bronze Age
- KC30: Identify the location and form of Early and Middle Saxon settlement and investigate evidence for land use in the period;

1.1.8 Four additional HERDS Objectives have been included as secondary objectives where there is the potential for artefactual evidence to improve an understanding of the density of settlement and utilisation of the landscape during the Romano-British and medieval periods:

- KC21: Assess the evidence for regional and cultural distinctiveness along the length of the Area North route in the Romano-British period, with particular regard to the different settlement types encountered along the Area North route;
- KC29: Can regional and cultural distinctiveness in the Romano-British period be defined through systematic surface collection?
- 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 (ref changes to agricultural practices; evidence for switch from arable to sheep farming);
- KC40: Identify patterns of change within medieval rural settlement from the 11th to mid-14th century (ref rapid economic and population expansion).

2 Location / Site Background

2.1 Introduction

2.1.1 This Project Plan has been prepared in accordance with guidelines set out in *HS2 Technical Standard – Specification for historic environment project plans and location specific written schemes of investigation* (HS2-HS2-EV-STD-000-000036).

2.1.2 The topsoil sampling is being undertaken within Phase One EWC Area North, and will examine selected areas taking into account factors such as previous and current land-use, geology, topography and the ability to access land.

2.1.3 The archaeological and historical background of the HS2 Phase One route is presented in the HS2 Phase One Environmental Statement (ES), with Area North being sub-divided into 11 Community Forum Areas (CFAs):

- CFA 16: Ladbroke and Southam
- CFA 17: Offchurch and Cubbington
- CFA 18: Stoneleigh, Kenilworth and Burton Green
- CFA 19: Coleshill Junction
- CFA 20: Curdworth to Middleton
- CFA 21: Drayton Bassett, Hints and Weeford
- CFA 22: Whittington to Handsacre
- CFA 23: Balsall Common and Hampton in Arden
- CFA 24: Birmingham Interchange and Chelmsley Wood
- CFA 25: Castle Bromwich and Bromford
- CFA 26: Washwood Heath to Curzon Street

2.1.4 In general Area North CFAs cross arable and pastoral land suitable for topsoil sampling. However, CFA 26: Washwood Heath to Curzon Street has been entirely excluded from the topsoil sampling due to its urban character.

2.1.5 To determine the archaeological potential of the CFAs, the ES divided them into broad Archaeological Character Areas (ACA), which were then sub-divided into Archaeological Character Sub-Zones for more in-depth understanding of archaeological potential. The Archaeological Character Sub-Zones (ACZ) baseline information for areas to be topsoil sampled is summarised in Section 2.3.

2.2 Archaeological Baseline

Precis

2.2.1 The GWSI: HERDS document highlights a knowledge gap for the distribution and character of prehistoric and early and middle Anglo-Saxon human activity at Area North. This may be due to several factors including a bias in the preservation of sites, site type and a lack of previous archaeological investigation.

Mesolithic and Early Neolithic

2.2.2 The distribution of Mesolithic and Early Neolithic activity is known principally from isolated find spots or flint scatters.

2.2.3 A review of Mesolithic finds recorded in the West Midlands suggests that well-drained elevated land close to water sources may have seen more activity than other locations, but acknowledges that it is not possible to determine the extent to which the data represents collection bias (Garwood, 2011). Overall there are few areas in the region where systematic artefact collection projects have previously been undertaken.

2.2.4 Within the ES study area Mesolithic flints have been recovered during field walking around Middleton, Wishaw and Shenstone (CFA 20: Curdworth to Middleton). Over 1,500 Mesolithic flints (MWA7359) found on a south-facing clay slope overlooking a stream at Wishaw Hall Farm, around 1.2km west of the LLAU, may indicate the location of peripatetic settlement activity. The superficial geology of this site suggests that well drained locations were not the sole determinant in site location for Mesolithic people.

2.2.5 Where large-scale fieldwork has been undertaken within the West Midlands it has produced very little Early Neolithic material, the limited evidence often comprises isolated pits such as an example found near Shenstone, 2km to the west of the ES study area, where an early Neolithic pit contained pottery and cereal grains (CFA 21: Drayton Bassett, Hints and Weeford)

2.2.6 A small number of early Neolithic monuments are known (Garwood, 2011) slightly beyond the ES study area. The northern reaches of CFA 22: Whittington to Handsacre lie just on the southern periphery of the Trent Valley in Staffordshire where intensive early prehistoric activity has been recorded. The early Neolithic evidence here includes two causewayed enclosures; one at Mavesyn Ridware, around 800m north west of the LLAU, and another at Alrewas, c.2km to the north east.

2.2.7 To the south the evidence includes a possible early Neolithic long barrow, alternatively interpreted as a medieval pillow mound (BHA167), situated south of Hampton-in-Arden around 550m west of the LLAU (CFA 23: Balsall Common and Hampton-in-Arden).

Late Neolithic to Iron Age

2.2.8 Nationally, there is greater visibility of Late Neolithic and Bronze Age funerary and ceremonial sites including stone circles and burial mounds with many interpreted from cropmarks visible on aerial photographs. The evidence for settlement, however, is poorly represented in the archaeological record.

2.2.9 Between the mid-late Bronze Age and the Iron Age there is a degree of continuity in the archaeological record. In the West Midlands settlement evidence is rare, but where evidence has been identified it usually comprises ditched enclosures, often with associated round houses. Recorded evidence for extensive later prehistoric field systems is rare at the north of Area North, but pit alignments, probably representing early forms of landscape division, are widespread across the region.

2.2.10 In the vicinity of HS2 in Warwickshire evidence for Bronze Age funerary activity includes six barrows (MWAs 1411, 1705, 4875, 4630, 4629, and 4605) located within the lower Itchen Valley and a further two possible barrows (LBS095) are recorded around 500m north east adjacent to Print Wood (CFA 17: Offchurch and Cubbington). Elsewhere ring ditches, possibly representing Bronze Age barrows (COL005), are visible on aerial photography adjacent to the River Cole to the south east of Coleshill Farm, located around 160m west of the LLAU (CFA 19: Coleshill Junction), and within the LLAU a possible ring ditch (CWM006) is recorded to the east of Curdworth (CFA 20: Curdworth to Middleton).

2.2.11 In the vicinity of HS2 in Staffordshire a middle Bronze Age cremation was excavated at Hints Quarry, (CFA 21: Drayton Bassett, Hints and Weeford). Evidence for Bronze Age cremations has also been encountered during EWC North archaeological mitigation located to the east of Ryknield Street near Lichfield (CFA 22: Whittington to Handsacre). Three potential ring ditches are recorded near three watercourses, the Fulfen Brook (WHA311), the Bourne Brook (WHA324) and the Pyford Brook (WHA360). Further ring ditches, as well as pit alignments and linear features (WHA361) have been recorded as cropmarks near Kings Bromley, on the southern periphery of the Trent Valley (CFA22: Whittington to Handsacre).

2.2.12 Evidence for early Bronze Age settlement activity in proximity to Area North is limited to one possible site at Meriden Quarry in Solihull where 15 pits and post holes containing urns and accessory vessels were recorded during archaeological excavation (CFA 23: Balsall Common and Hampton-in-Arden).

2.2.13 Evidence for Iron Age settlement activity has been recorded during the Area North archaeological works, including an enclosed settlement located east of South Cubbington Wood on a hill overlooking the River Leam to the south, and another enclosed settlement located on the southern side of the River Leam (CFA 17: Offchurch and Cubbington).

2.2.14 Possible late Bronze Age or Iron Age field systems have been recorded in two locations near Middleton and Kingsbury in north Warwickshire (CFA 20: Curdworth to Middleton) and emerging evidence from EWC North archaeological work at CFA 19: Coleshill Junction

suggests the presence of widespread landscape division in the form of a series of extensive pit alignments.

2.2.15 Find spots of Neolithic and early Bronze Age artefacts within Area North study area include:

- Two flint artefacts of possible early Bronze Age date from Hall Walk, Coleshill around 400m east of the LLAU (CFA 19: Coleshill Junction).
- An axe-head (MWA 882) from Church Farm, Little Packington around 215m north east of the LLAU (CFA 24: Birmingham Interchange and Chelmsley Wood); and
- Four Neolithic or early Bronze Age axes (MST646, MST977, MST6317, MST2011) from CFA 22: Whittington to Handsacre, although their precise provenance is unknown.

2.2.16 Residual undated flint artefacts (MWA5129) were recovered during the excavation of an Iron Age and Romano-British site at Grimstock Hill, around 300m east of the LLAU, which may have included Neolithic and early Bronze Age material (CFA 19: Coleshill Junction).

Romano-British

2.2.17 The Roman road network is a key indicator for the changes which occurred within the West Midlands during the period. Three major Roman roads, Watling Street, Fosse Way and Ryknield Street cross the LLAU, within CFA 17: Offchurch and Cubbington, CFA 21: Drayton Bassett, Hints and Weeford and CFA 22: Whittington to Handsacre. These major roads were important communication and transportation networks used by both the Roman army and civilians. However, the evidence for Romano-British activity across the West Midlands is otherwise relatively limited when compared with the East Midlands and southern counties of England and the degree to which Romanisation occurred in the West Midlands has been questioned.

2.2.18 At the south of Area North there is greater evidence for civilian settlement, particularly around the River Avon which is considered to be culturally similar to the southern and eastern counties. Evidence here includes a possible villa and field system (STN034) at Glasshouse Wood, near Kenilworth; a possible settlement to the west of Thomas de Pipes Mill (STN108) and a Roman building within Kenilworth Golf Course (STN037) (CFA18). Further Roman villas are recorded across the landscape to the south of the Avon Valley and includes a possible villa and field system near Long Itchington (CFA16).

2.2.19 At the centre of Area North extensive evidence for settlement activity and a temple site has been recorded at Coleshill, near the River Tame (CFA19) and ongoing Area North archaeological evaluation and mitigation has identified evidence of extensive rural settlement activity extending to the west of Coleshill.

2.2.20 At the north of Area North the evidence for activity is more closely associated with the Roman road network and the site of military forts, where later nucleated civilian settlements developed. These include the sites on Watling Street at Mancetter, Warwickshire and at Wall,

Staffordshire and part of an enclosed rural Romano-British settlement, investigated by EWC North slightly north of Ryknield Street near Streethay (CFA 22: Whittington to Handsacre).

2.2.21 Villas and farmsteads are less evident in the archaeological record in the northern portion of Area North. However, recovery of high-status artefacts have suggested a possible villa site near Curborough.

Early and Middle Anglo Saxon

2.2.22 The early Anglo Saxon period runs from the early 5th century (AD 410) to the return of Christianity and literacy in the late 6th century. The middle Saxon period comprises the 7th and 8th centuries.

2.2.23 Early and middle Anglo Saxon settlement is poorly represented in the archaeological record of the West Midlands with current evidence suggesting a dispersed pattern of isolated farmsteads. The formation of nucleated villages with large open fields, characteristic of the champion landscapes of central England, appears to begin in the middle Saxon period and continue throughout the 8th to 11th centuries.

2.2.24 Definitive evidence of early Anglo Saxon settlement in the West Midlands has been excavated around 8km north of Area North at Catholme in the Staffordshire Trent Valley, where settlement activity appears to have migrated over time along a gravel river terrace. Other settlement evidence has been recorded at several places in Warwickshire and Worcestershire, including three possible 6th century sunken floored buildings at Broom, in the Warwickshire Arrow valley. An early Anglo Saxon (pagan) cemetery has been excavated in Warwickshire at Alveston, in the Avon valley. Evidence for settlement, land management and societal structure in the early and middle Anglo Saxon periods is otherwise reliant upon place-name evidence and often non-contemporary historic documentary sources (Hooke, 2011).

2.2.25 In proximity to Area North the evidence for early to middle Anglo Saxon activity is generally sparse, but a small number of possible sites have been identified at the south within or around CFA 16: Ladbroke and Southam and CFA 17: Offchurch and Cubbington. These comprise:

- A possible early to middle Saxon cemetery (OFC011) discovered in 1876 just within CFA 17 on Snowford Road around 465m east of the LLAU.
- The two possible barrows at Print Wood (LBS095), whilst postulated as Bronze Age in origin (see 2.1.10), have alternatively been interpreted as pagan Anglo-Saxon burial mounds.
- Further early Saxon (pagan) burials have been recorded in the wider region, beyond CFA 16 and CFA 17, in the Leam, Itchen and Dene Valleys.
- A possible high status early medieval settlement (MWA1648) is indicated from cropmarks within the Itchen Valley at Snowford over 500m to the east of the LLAU. A pit excavated approximately 100m to the south east of this possible settlement

contained 5th to 7th century pottery (MWA 10316).

2.2.26 Routeways originating in the Roman period may have continued in use during the early and middle Anglo Saxon period. These include the major Roman roads, Fosse Way, Watling Street and Ryknield Street which cross the LLAU, respectively in CFA 17: Offchurch and Cubbington, CFA 21: Drayton Bassett, Hints and Weeford and CFA 22: Whittington to Handsacre. The location of the Staffordshire Hoard, just to the south of Watling Street near Hammerwich (around 7km west of the study area) suggests that this road may have continued to form a strategic highway during the early and middle Anglo Saxon period. A trackway (LBS024) recorded in a 10th century charter, crosses through CFA 16: Ladbroke and Southam between Wormleighton and Radbourne; it may have originated as a salt way in the Roman period linking Droitwich with markets in eastern England and may have continued in use during the early and middle Anglo Saxon period.

2.2.27 Find spots of isolated artefacts include an early medieval brooch (MWA9810) found c.1km south of Water Orton (CFA 19: Coleshill Junction); a silvered bronze mount (MSI1301) found near Molands Bridge, Meriden, 400m east of the LLAU; and a silver coin (MSI1267) from Hampton-in-Arden, c.50m west of the LLAU (CFA 23: Balsall Common and Hampton-in-Arden). Archaeological excavation in advance of the M6 Toll, to the west of CFA 20: Curdworth to Middleton, recovered a small number of early medieval pottery sherds.

Late Saxon to Post Medieval

2.2.28 By the 10th-11th centuries nucleated settlements and open field farming had become established within the southern lowland landscapes of the Warwickshire Feldon. In the upland and/or forested landscapes further north, associated with the Warwickshire Arden and the Cannock Forest in Staffordshire, a contrasting dispersed settlement pattern persisted. This is illustrated by the high numbers of moated sites established in the 12th and 13th centuries particularly notable within north Warwickshire, which includes the scheduled double moat at North Wood near Middleton (CFA20). As a consequence of the prevalent dispersed settlement pattern the north Warwickshire and Staffordshire portions of Area North has greater potential for unknown isolated settlement sites to be encountered. Deer parks were also established within these forested landscapes with examples associated with Cannock Forest in Staffordshire including Drayton, Shirral and Bangley (CFA21), whilst within the Arden there were deer parks at Coleshill (CFA19), Berkswell (CFA23) and at Park Hall in Birmingham (CFA25).

2.2.29 Ridge and furrow cultivation is recorded at various locations across Area North; the final ploughing event is likely to have occurred at different dates across the landscape from the late medieval to the 18th century. The majority of the arable farmland and the areas of common pasture heathland of Area North had been enclosed by the late 18th century.

2.3 Archaeological Character Sub-Zones

2.3.1 The ES subdivided each of the CFAs into Archaeological Character Zones (ACZ). There are 20 test pitting areas proposed along the Area North route.

2.3.2 Seventeen ACZ within six CFAs will be subject to topsoil sampling across Area North and only examined ACZs are summarised below. The test pitting areas were selected based upon open areas within the LLAU, topography, superficial geology, known and potential archaeology (cross-referenced to the ES Risk Model), current land use and land access availability.

2.3.3 The topography, geological and archaeological context of each of the test pitting areas is summarised by ACZ below.

CFA19

2.3.4 Four ACZ are available for test pit sampling (figure 1).

- 19-06 Glacio-fluvial gravels and raised area north of River Cole (1 test pitting area)
- 19-13 Higher ground west of Coleshill residential expansion (2 test pitting areas (19-13a and 19-13b);
- 19-17 River terrace gravels south and west of Water Orton (1 test pitting area)
- 19-21 Mudstones south of River Cole (1 test pitting area)

2.3.5 The four ACZ are dominated by mixed farming with the occasional woodland. Settlement is mostly dispersed in nature and modern industrial complexes are also present. The CFA comprises the floodplain and river terraces of the Cole Valley. The rises land to the east where Coleshill occupies a low ridge c.90-100m AOD. Superficial deposits comprising sands and gravels overlie 19-06, 19-13 and 19-17.

2.3.6 ACZ 19-13 is located to the west of known Iron Age and Romano British settlement.

2.3.7 The archaeological character of these ACZs is poorly understood, although there is the potential for prehistoric and later activity associated with the river valley. Topsoil sampling will examine the potential that the artefactual record may retain evidence for continuity of activity between the earlier prehistoric and early medieval periods.

2.3.8 The extent of the medieval Coleshill deer park is recorded in 19-06. The test pitting will examine the potential for any artefactual evidence collected to enhance understanding of social and economic change during the medieval period.

CFA20

2.3.9 One ACZ is available for test pit sampling (figure 2).

- 20-28 Langley Brook valley (1 test pitting area)

2.3.10 ACZ 20-28 is located in a farmed landscape associated with the Langley Brook, although settlement, industry, woodland and scrubland are also present The bedrock geology is Mercia mudstone with superficial deposits comprising glacio-fluvial sands and gravels and river terrace sands and gravels . A narrow east-west band of alluvium is also present towards the north of the ACZ associated with the Langley Brook .

2.3.11 Prehistoric and Romano-British finds have been recovered from within or in the vicinity of 20-15, 20-28 and 20-30 and undated cropmarks are recorded in the wider landscape of the CFA. The test pits will examine the date and extent of prehistoric and Romano-British activity.

2.3.12 There are currently no known sites of early medieval date with the CFA. The ACZ is potentially favourable for settlement and agricultural activity during this period and the test pits will examine the potential for artefactual evidence to be present which could gain insight into a poorly understood period within this landscape.

2.3.13 Evidence for medieval settlement and agricultural activity is also recorded in 20-28 (original settlement of Middleton and Middleton Park). Test pitting would examine the potential for artefactual evidence for social and economic change during the medieval period.

CFA 21

2.3.14 Three ACZ are available for test pit sampling (figure 3).

- 21-03 Arable fields on terraces (2 test pitting areas (21-03a and 21-03b))
- 21-04 Hints Hills (2 test pitting areas (21-04a and 21-04b))
- 21-12 Arable fieldscape characterised by 18th and 19th century farms (1 test pitting area)

2.3.15 The ACZ lying furthest south (21-03) is characterised by fields in a valley landscape associated with the Gallows Brook. ACZ 21-04 lies to the west and north of 21-03 and is characterised by the Hints Hills an undulating landscape which peaks at 152m AOD at Brock Hurst plantation. ACZ 21-12 is located in the northern portion of the CFA and is dominated by a largely flat arable landscape. The bedrock geology of these three ACZ is Mercia Mudstone, with Diamicton till deposits in 21-03 and 21-04.

2.3.16 The wider landscape around the central portion of CFA, in the vicinity of Roman Road Watling Street, is rich in prehistoric and Romano-British sites. Prehistoric to Romano-British finds, have been recorded in 21-03 and 21-04. The test pitting areas will examine the date of any material culture recovered to identify evidence for continuity of activity across this landscape throughout the prehistoric period and potentially into the Romano-British period. Romano-British artefacts may have the potential to contribute to an understanding of cultural distinctiveness and extent of Romanisation within this landscape.

2.3.17 There are currently no known sites of early medieval date, but there is the potential that the valleys which cross the CFA could have supported activity during this period. All test pitting areas will examine the potential for artefactual evidence to be present which could gain insight into a poorly understood period within this landscape.

2.3.18 ACZs 21-03 and 21-04 were located within medieval deer parks and consequently there is likely to be limited potential for the test pitting areas to contribute to an understanding social and economic change during this period.

CFA 22

2.3.19 Seven ACZ are available for test pit sampling (figures 4 and 5).

- 22-04 Fulfen brook (1 test pitting area)
- 22-06 Mare Brook (1 test pitting area)
- 22-07 Medieval Curborough (1 test pitting area)
- 22-08 Pyford/Full/Curborough Brook (1 test pitting area)
- 22-09 Ravenshaw Wood (1 test pitting area)
- 22-11 Bourne Brook (1 test pitting area)
- 22-18 Hill Farm (1 test pitting area)

2.3.20 The southern extent of the CFA was formerly heathland developed on low sandstone hills lying at around 80-90m AOD within the LLAU (22-18). The remainder of the landscape across the CFA lies between 65m to 70m AOD. Further north the CFA extends towards the Trent and Tame valleys and is crossed by five of its tributaries; four of the test pit areas are located in proximity to the tributaries (22-04, 22-06, 22-08, 22-11).

2.3.21 Alluvial deposits are associated with, the Pyford/Full/Curborough Brook (22-08), Bourne Brook (22-11) and a small unnamed watercourses in both 22-07. Sand and gravel deposits are present across 22-09 and 22-11 as well as to the west of the Pyford/Full/Curborough Brook in 22-08. Glaciofluvial sand and gravel deposits extend south east of the brook in 22-08 and into the northern portion of 22-07. Glacial head deposits are present within 22-06.

2.3.22 The ACZ are mostly under arable although pasture dominates 22-04 and 22-06. Woodland plantations, mixed with agriculture, are prominent in 22-09.

2.3.23 To the north, where the CFA lies on the edge of the Trent and Tame valleys, there are increasing numbers of known prehistoric and Romano-British sites. Cropmarks of this date, including ring ditches, enclosures and pit alignments, are recorded associated with the Mare Brook (22-06), the Pyford/Curborough Brook (22-08) and the Bourne Brook (22-11).

2.3.24 Area North trial trenching and subsequent archaeological recording encountered an Iron Age roundhouse and late prehistoric pit alignments in 22-11 and a small Romano-British settlement in 22-06. The test pitting areas associated with the minor watercourses and in areas of known prehistoric activity will examine the date of any material culture recovered to identify evidence for continuity of activity across this landscape throughout the prehistoric period and potentially into the Romano-British period.

2.3.25 The modern A38 follows the line of the Roman road Ryknield Street passing Streethay. To the south of the Ryknield Street the archaeological character is uncertain compared with the north of CFA 22. Area North trial trenching and subsequent archaeological recording in 22-04 encountered evidence for early Neolithic to middle Bronze Age activity, including an early Bronze Age cremation. Test pitting in 22-04 will further examine the evidence for the origins and continuity of activity from the prehistoric to Romano-British periods in the landscape to the south of Ryknield Street.

2.3.26 There are currently no known sites of early medieval date, but there is the potential that the valleys which cross this landscape could have supported activity during this period. All test pitting areas will examine the potential for artefactual evidence to be present which could gain insight into a poorly understood period within this landscape.

2.3.27 There is the potential for medieval activity, in the form of dispersed settlement and watermills, within 22-04, 22-07 and 22-18. Test pitting areas therefore also have the potential to chart the artefactual evidence for social and economic change throughout the medieval and early post period.

CFA 23

2.3.28 One ACZ is available for test pit sampling (figure 6).

- 23-15 Glacio-fluvial deposits west of Sixteen Acre Wood (1 test pitting area)

2.3.29 The CFA is crossed by the River Blythe which flows north and is fed by several small tributaries. The geology across CFA 23 is Mercia mudstone overlain by superficial deposits of till, sands and gravels, with river terrace deposits associated with the River Blythe. The CFA is dominated by fieldscapes principally comprised of large rectilinear and irregular fields.

2.3.30 Evidence for possible prehistoric and Romano-British activity has been identified within the CFA, but no evidence has so far been recorded in ACZ 23-15. The ACZ stands on superficial deposits of sand and gravel at around 100m AOD overlooking the River Blythe 385m to the north east. There is the potential that the landscape could have supported prehistoric and Romano-British activity. The test-pitting area will examine the date of any material culture recovered to identify evidence for continuity and density of activity within the wider landscape during these periods.

2.3.31 There are currently no known sites of early medieval date within the CFA, but there is the potential that the landscape could have supported activity during this period.. The test pitting

area will examine the potential for artefactual evidence to be present which could gain insight into a poorly understood period within this landscape.

2.3.32 No known sites of medieval activity have been recorded in ACZ 23-15. Any material culture recovered will be examined to determine its potential for contributing to evidence for social and economic change.

CFA24

2.3.33 One ACZ is available for test pit sampling (figure 7).

- 24-07 Land to east of A452 Chester Road (1 test pitting area)

2.3.34 The ACZ overlooks the River Blythe and lies on Mercia mudstone with superficial glacial deposits. The ACZ comprises agricultural land, surviving between areas of modern development and infrastructure.

2.3.35 No known prehistoric or Romano-British sites are recorded. The location of 24-07, overlooking the river valley, offers the potential for prehistoric activity. The test pitting area will examine the potential for artefactual evidence to contribute to understanding the density of activity particularly during the early prehistoric and early medieval periods in this poorly understood landscape.

2.4 Construction Proposals

2.4.1 The enabling works required across HS2 Area North are outlined in the HS2 Design Element Statement (DES).

2.4.2 The majority of HS2 Area North is within a rural landscape. It is assumed that as a minimum topsoil will be removed within the LLAU as part of the enabling and subsequent main works, with work including establishment of compounds, access roads, soil storage areas, landscaping and subsequent construction of HS2.

2.5 Archaeological Implications

2.5.1 The majority of the LLAU has not previously been developed and much of it remains in agricultural use. The enabling and main works have the potential to result in the removal of artefactual material, which may be found within the topsoil.

3 Aims and Specific Objectives

3.1 Aim

3.1.1 The aim of this Project Plan is to:

- define the aims and scope of the programme of topsoil sampling for test pitting and how the work will contribute to specific objectives, in accordance with the GWSI:

HERDS;

- outline the overall approach and methodology to be employed; and
- set out the proposed deliverables and reporting mechanisms.

3.1.2 All historic environment work on HS2 is guided by the Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS) (Ref HS2-HS2-EV-STR-000-000015). Its purpose is to establish the objectives and mechanisms for designing and carrying out all historic environment related investigations, in order for the fieldwork to have specific aims and objectives, rather than mitigating impacts to accumulate information.

3.1.3 The primary aim of the topsoil sampling by test pitting is to assess the Area North landscape to enhance understanding of the presence, location, density and character of human activity through the prehistoric and early medieval periods. A secondary aim is to enhance understanding of the density and character of human activity in the Roman and medieval to early post medieval periods.

3.2 Contribution to GWSI: HERDS Objectives

3.2.1 The GWSI: HERDS document provides a comprehensive list of Specific Objectives for the historic environment for the whole HS2 Phase One North Section. Table 1 sets out the Specific Objectives of the works identified in this Project Plan.

3.2.2 Table 1 sets out the primary Specific Objectives of the programme for topsoil sampling by test pitting, which focuses upon the prehistoric and early medieval periods. Through delivery of the programme, and the addressed aims set out in the table, the results of the topsoil sampling will create knowledge and outputs that will contribute to these Specific Objectives.

Table 1 GWSI: HERDS Specific Objectives and evaluation strategy aims for the prehistoric and early medieval periods

GWSI: HERDS Specific Objective	Contribution Potential	Comment
KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age KC7: Exploring the degree of continuity that existed between Late Mesolithic and Early Neolithic communities in terms of population mobility and subsistence strategies KC10: Provide further understanding of the transition between a mobile pattern of settlement in the Early Bronze Age to	The topsoil sampling will examine the quantity, nature and date of finds from the test pitting areas to contribute to an understanding of settlement location and patterns, as well as continuity of activity, during these periods along the HS2 route. The evidence for activity is currently poorly understood within the West Midlands.	The aim of the topsoil sampling will be to improve understanding of the location and density of early prehistoric activity across the HS2 route. Results could be used or adapted by future projects when devising fieldwork strategies.

GWSI: HERDS Specific Objective	Contribution Potential	Comment
the development of fixed settlement and enclosure in the Middle and Late Bronze Age		
KC30: Identify the location and form of Early and Middle Saxon settlement and investigate evidence for land use in the period.	The topsoil sampling will examine the quantity, nature and date of finds from the test pitting areas to contribute to an understanding of settlement location and patterns across Area North and the wider HS2 route.	The aim of the topsoil sampling will be to improve understanding of early medieval activity particularly the identification of settlement location and improving understanding of and extent of associated land use. Results could be used or adapted by future schemes when devising fieldwork strategies.

3.2.3 Table 2 sets out the primary Specific Objectives of the programme for topsoil sampling by test pitting, which focus upon the Roman and medieval periods.

Table 2 GWSI: HERDS Specific Objectives and evaluation strategy aims for the Romano-British and medieval periods

GWSI: HERDS Specific Objective	Contribution Potential	Comment
KC21: Assess the evidence for regional and cultural distinctiveness along the length of the Area North route in the Romano-British period, with particular regard to the different settlement types encountered along the Area North route KC29: Can regional and cultural distinctiveness in the Romano-British period be defined through systematic surface collection?	The topsoil sampling will examine the quantity, nature, location and date of finds from test pitting areas to contribute to understanding cultural distinctiveness and density of activity along the HS2 route. A comparison of the nature of the evidence recovered from the evidence from the north of Area North to the southern portions have the potential to test current understanding of the cultural differences which have been discussed in paragraphs 2.2.17 to 2.2.21.	The aim of the topsoil sampling will be to improve understanding of Romano-British activity, particularly to examine whether cultural distinctiveness can be identified, settlement location and density in particular, across the HS2 route. Results could be used or adapted by future projects when devising fieldwork strategies
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 (ref changes to agricultural practices; evidence for switch from arable to sheep farming KC40: Identify patterns of change within medieval rural settlement from the 11th	The topsoil sampling will examine the quantity, nature, location and date of finds from test pitting areas to understand the potential for changing levels of activity which indicate demographic variation and/or potential for changes to agricultural practices across Area North and the wider HS2 route. In order to fully assess the potential for the test pitting to contribute to KC35	The aim of the topsoil sampling will aim to improve an understanding of the distribution, date and density of finds to investigate the degree to which this evidence could contribute to the understanding of national demographic and land-use changes either side of the mid-14th century.

GWSI: HERDS Specific Objective	Contribution Potential	Comment
to mid-14th century (ref rapid economic and population expansion	early post medieval material culture will also be examined.	Results could be used or adapted by future projects when devising fieldwork strategies

4 Community Engagement

4.1.1 Community Engagement lies at the heart of historic environment works for HS2 Phase One. The Historic Environment Research and Delivery Strategy (Document No.: HS2-HS2-EV-STR-000-000015) is clear in setting out three tenets as key to delivery of an innovative new approach to archaeological research and investigation: creating knowledge, involving people, and legacy. The HERDS sets out specific objectives for Community Engagement (CE):

- CE1: Marking and communicating the changes to landscapes and environments
- CE2: Identifying and sharing our stories
- CE3: Meeting the challenge of inspiring the next generation
- CE4: Accessible information and knowledge sharing
- CE5: Contribute to the process and facilitation of audience project creation

Community Engagement Scope

4.1.2 The Archaeological Contractor will offer activities and events that keep the community and stakeholders informed, and develops an understanding of local history and archaeology. Activities will strive to engage harder-to-reach audiences (e.g. BAME, youth and low-income Community engagement will strive to include harder-to-reach audiences (e.g. BAME, youth and low-income groups).

4.1.3 Archaeological investigations provide an opportunity to exploit the benefits of personal and social satisfaction and access to professional and specialist knowledge, forge closer relationship between communities and environment, provide 'good news' stories for local and national press, and fulfil social and community obligations (GWSI: HERDS 9.1.2).

4.1.4 Event and activity type will depend on Health and Safety, interest from local groups, Archaeological Contractor capability, resource, works programme and site conditions. The Archaeological Contractor will organise events and activities in liaison with the Employer, the Contractor and DJV.

4.1.5 The Archaeological Contractor will deliver at least two types of engagement selected from the list below, with the flexibility for further engagement depending on outcomes and uptake.

- Notifications and illustrated fact sheets – for distribution to agreed groups and across

agreed networks;

- Community and local interest groups site visits - subject to Health and Safety, ground conditions, weather and accessibility, programme;
- Community open days - including artefact handling, information boards
- Drop-in events – including artefact handling, information boards;
- Lectures and talks – to local interest groups, societies, parish and community groups;
- Blogs and online materials – in conjunction with HS2 Commonplace;
- School visits – in conjunction with LM Skills Education and Employment (SEE); and
- Participation in archaeological fieldwork stages and post-excavation work (where possible and appropriate), e.g. community excavation and recording, research.

Community Engagement Set Up, Approval and Publicity

4.1.6 Events will be set up in line with the Contractor's objectives on engagement, using and building on site and/or area specific engagement plans or stakeholder matrices. Activities and events will support the pillars of the Employer's community engagement strategy: creating knowledge, involving people, and legacy.

4.1.7 Public events and activities and will be promoted and advertised through channels and networks appropriate to the type, scale and potential audience events at least 6 weeks in advance.

4.1.8 The Archaeological Contractor will supply all text and images for use in Community Engagement to DJV, the Contractor and the Employer for review and for approval at least 2 weeks prior to commencement of promotion.

4.1.9 In addition to the HS2 corporate channels listed below, other opportunities for publicity should be sought and communicated to the Employer, Contractor and DJV in a mini communication plan. Local press (radio, newspaper and TV) and relevant local digital platforms should be considered, as should historical and archaeological societies, Council for British Archaeology West Midlands and local museums platforms.

- HS2 corporate website – options include a press release, revamped page content – to be determined by HS2;
- Commonplace websites for Birmingham, Solihull, Warwickshire and Staffordshire – each website to be updated with consistent key messages, fact sheet(s), responses to FAQs together with some bespoke messages tailoring the page to the local context;
- E-news alerts from Commonplace – distributing HS2 fact sheet(s), notifications, blogs, webpage updates, etc; and

- HS2 social media – Facebook, Twitter and LinkedIn – LM to provide the content; HS2 to post.

Community Engagement Delivery

4.1.10 Delivery of activities and events will usually be attended by representatives of the Employer, the Contractor and/or DJV.

4.1.11 The Archaeological Contractor will provide engagement / feedback forms to participants in Community Engagement activities and events and may create an engagement form specific to the subject matter to aid reporting.

4.1.12 Activities and events should:

- Be locally-based if possible;
- Focus on the archaeology of the site and immediate area; and
- Be tailored to the audience.

Community Engagement Reporting

4.1.13 Following activities and events, the Archaeological Contractor will communicate information on factors such as numbers, achievements, interest and appetite for further engagement to the Employer, the Contractor and DJV.

5 Scope and Methodology

5.1 Introduction

5.1.1 The investigative fieldwork outlined in this Project Plan comprises test pitting. The work has been designed to meet HS2 GWSI: HERDS Specific Objectives. The total area proposed for investigation amounts to 20ha comprised of 1ha test pitting areas distributed across Area North. The proposed location of the test pitting areas has taken into account the construction land requirements for the enabling works and subsequent main works for HS2 Phase One and factors including existing land use, areas of open land, topography, superficial geologies and land access avaialbility. The proposed 1ha test pitting areas may be subject to re-location or alteration (but retaining an overall area of 1ha) dependent upon currently unknown on-site constraints and land access arrangements.

5.1.2 The proposed test pitting areas are shown on figures 1 to 7.

5.2 Location Specific Written Scheme of Investigation

5.2.1 The Archaeological Contractor will produce a Location Specific Written Scheme of Investigation (LS-WSI) for the Test Pitting in accordance with HS2 Technical Standard – Specification for historic environment project plans and location specific written schemes of

investigation (HS2-HS2-EV-STD-000-000036). The LS-WSI will provide the detailed method of investigation, including excavation, recording, area of mitigation, dimensions, access arrangements, welfare, accommodation, site safety, RAMS, etc. The LS-WSI will be approved by the Employer prior to starting work.

5.2.2 DJV shall review the results of the Test Pitting and will assist the Archaeological Contractor in assessing the ability of the recovered evidence to address GWSI: HERDS Specific Objectives. DJV may identify a need to alter the scope of works to appropriately address Specific Objectives, and would liaise with the Employer in this eventuality. Final agreement of alteration to scope may involve HERDS meetings between the Archaeological Contractor, DJV, the Employer and stakeholders. The Employer will determine whether an agreed alteration to scope necessitates production of an addendum to the LS-WSI.

5.3 Test Pitting

5.3.1 The top soil sampling strategy comprises 20 1ha test pitting areas located at intervals along the Area North route (figures 1 to 7). The topsoil sampling will comprise test pits dug at 20m intervals in 1ha test pitting areas to a total number of 25 test pits and located to NGR using RTK GNSS. An offset grid pattern (e.g. staggered) will be used (as set out by Clive Orton, Sampling in Archaeology). The dimensions of each test pit will be 1m x 1m.

5.3.2 Where the initial results of the test pitting suggest activity extends beyond the 1ha test pitting/investigation area additional test pitting may be undertaken limited to a 30m buffer beyond the 1ha test pitting area. A contingency of a maximum 30% across the Area North route of additional test pits will be used, with agreement of the Employer and as appropriate, to extend the test pit areas, or increase sample density, where results warrant further investigation.

5.3.3 The Archaeological Contractor's flint and finds specialist will identify the character and significance of archaeological finds during test pitting and will provide a summary of results on a weekly basis. The summary results will inform the decision to increase the extent of the test pit areas or increase the sample density in review with the Employer and stakeholders.

5.3.4 Deposits within the test-pits will be machine-excavated in sequence under archaeological control: ploughsoil, subsoil or other soil horizons (if present) and then the first c.0.1m of the geological substrate. The sequence of deposits will be carefully recorded, with emphasis placed upon the identification of any intermixing of ploughsoil, subsoil/soil horizons and the geological substrate.

5.3.5 Excavated soils and sediments will be dry sieved (if feasible) initially using a 10 mm mesh for recovery of artefacts. A sample (20%) of the sieved soils shall be subject to a second phase of sieving using a 4mm mesh to test for presence of small artefacts, e.g. lithic micro-debitage. If significant assemblages of artefacts are identified during the second phase of sieving then all of the context containing these artefacts will be re-sieved through the 4mm mesh. If the

nature of the soils prevents dry sieving then wet sieving will be used where logistically possible. If required, where soils are difficult to sieve, the material will be placed in clear piles to the side of each test pit and hand sorted.

5.3.6 The Archaeological Contractor will ensure that site staff undergo basic lithics identification training prior to works commencing. Struck and/or burnt flint or stone will be collected for rapid examination by the Archaeological Contractor's lithics specialist.

5.3.7 Any archaeological finds noted during machine excavation of soils or substrate will be bagged individually. The locations of any in-situ finds observed below ploughsoil will be recorded in 3D by RTK GNSS. Archaeological material recovered by sieving of soils will also be bagged individually, but will only be located to context and test pit

5.3.8 Sieving stations will be set-up in close proximity to the test-pits, where feasible, to allow the spoil to be sieved as soon as it is excavated. Larger artefacts recovered by sieving will be bagged individually and will be located by context and test pit. Concentrations of small easily damaged, artefacts, such as micro-debitage, from any single context will be bagged collectively, but should be stored in a rigid container, such as a plastic storage box, separate from heavier artefacts, to prevent damage etc.

5.3.9 Any recovered artefacts will be examined throughout the phase of test pitting in order to monitor the effectiveness of the methodology and provide feedback on the chronology and character of artefacts recovered. Finds will be rapidly assessed by the Archaeological Contractor's lithics and/or finds specialists during the completion of test pitting blocks. The results of the rapid assessment will be reviewed by the Archaeological Contractor and DJV and the sample density may be increased where results warrant and with the agreement of the Employer.

5.3.10 Any clusters of burnt flint or fire-cracked stone will be highlighted, as this material may provide an indication of the proximity of hearths.

5.3.11 Where discrete features, or features of particular significance are identified within the dimensions of the test pit then these will be excavated. Where excavation of features defines significant archaeology or significant concentrations of lithic finds (e.g. suggesting potential temporary or long-term occupation) then results will be reviewed and the potential to return for further phases of work will be discussed with the Employer and stakeholders.

Setting Out

5.3.12 All spatial setting out and recording shall be in accordance with The Ordnance Survey National Grid and Ordnance Survey Newlyn Datum (ODN) as defined by the OS Active GNSS network and use of a Virtual reference system. A minimum of three Permanent Ground Markers (PGM) shall be created using this system.

5.3.13 Each 1ha test pitting area shall be located to a horizontal accuracy of +/– 0.05m. The corner points shall be set out with Real Time Kinematic (RTK) Global Navigation Satellite System (GNSS) equipment or other suitable automated equipment referenced from the PGMs.

Finds

5.3.14 All archaeological finds pre-dating the 19th century will be retained. Finds dating to the 19th century onwards may be recorded on site and not retained.

5.3.15 The Archaeological Contractor may propose a selection and retention policy if large assemblages of certain categories of find are expected, or are unexpectedly recovered.

5.3.16 Proposals for selection and retention will be agreed with DJV, Stakeholders and the receiving museum, and must be approved by the Employer before the Archaeological Contractor enacts them. The selection and retention policy will follow the Technical Standard - Historic environment physical archiving procedure (HS2-HS2-EV-STD-000-000039) and the strategy will follow the CIfA Archive Selection Toolkit (http://cifa.heritech.net/selection-toolkit). The usual categories of material considered by the policy/strategy will comprise:

- Ceramic building material;
- Kiln and furnace structure;
- Ceramic wasters;
- Industrial waste samples such as slag;
- Non-descript wall plaster;
- Plaster and mortar samples;
- Building stone samples;
- Animal bone, especially from contexts with large residual pottery assemblages that nullify study of the animal bone due to the potential for large residuality of animal bone; and
- Post-medieval bottle glass.

5.3.17 Any finds requiring active conservation or specific storage conditions will be dealt with immediately in line with First Aid for Finds (Watkinson and Neal 1998).

5.3.18 The Archaeological Contractor shall be responsible for the protection of all finds and for their transport (including loading and unloading) to the processing facilities or other location as agreed with the Employer.

Metallic Objects and Residue

5.3.19 Assessment of finds assemblages shall include x-radiography of metallic objects (after initial screening to exclude obviously modern objects). 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. Where soil sediments are suitable and if other indications of archaeological activity are present then a magnet may be used to rapidly scan soil and sediments for hammerscale and other industrial residues.

Treasure

5.3.20 In the event of the discovery of 'treasure' as defined below, the Treasure Act 1996 will apply to works for Phase One of + and the Archaeological Contractor shall comply with it. The Treasure Act defines 'Treasure' as:

- Any metallic object, other than a coin, provided that at least 10 per cent by weight of metal is precious metal (that is, gold or silver) and that it is at least 300 years old when found. If the object is of prehistoric date it will be Treasure provided any part of it is precious metal.
- Any group of two or more metallic objects of any composition of prehistoric date that come from the same find (see below)
- Two or more coins from the same find provided they are at least 300 years old when found and contain 10 per cent gold or silver (if the coins contain less than 10 per cent of gold or silver there must be at least ten of them). Only the following groups of coins will normally be regarded as coming from the same find: Hoards that have been deliberately hidden; smaller groups of coins, such as the contents of purses that may have been dropped or lost; Votive or ritual deposits.
- Any object, whatever it is made of, that is found in the same place as, or had previously been together with, another object that is Treasure.
- Any object that would previously have been treasure trove, but does not fall within the specific categories given above. Only objects that are less than 300 years old, that are made substantially of gold or silver, that have been deliberately hidden with the intention of recovery and whose owners or heirs are unknown will come into this category.

5.3.21 **Note:** An object or coin is part of the *'same find'* as another object or coin if it is found in the same place as, or had previously been together with, the other object. Finds may have become scattered since they were originally deposited in the ground.

5.3.22 All finds falling within the definitions of treasure shall be reported immediately to DJV who will inform the Contractor and Employer.

5.3.23 The Archaeological Contractor will ensure that all finds of Treasure are reported to the Coroner within 14 days of discovery, or within 14 days of recognition that the find/s constitute Treasure.

5.3.24 The Archaeological Contractor will initially report the find/s to the Portable Antiquities Scheme Finds Liaison Officer (FLO). The FLO will often provide assistance in determining whether find/s constitute Treasure and may report the discovery to the Coroner on the finder's behalf. The FLO will also contact the British Museum to obtain a unique Treasure reference number for the find and this will act as a constant identifier throughout the process.

5.3.25 To protect the finds from theft, the Archaeological Contractor shall record the finds and remove them to a safe place on the day of discovery. Where recording and removal is not feasible or appropriate on the day of discovery, the Archaeological Contractor shall ensure, on liaison with the Contractor, that adequate site security is provided by the Contractor.

5.3.26 Subject to the Provisions of the Treasure Act 1996, all material that is defined as Treasure is vested in the franchisee or, if none, the Crown.

Human Remains

5.3.27 In the event that human remains are identified during Test Pitting, all work must be undertaken in accordance with the *Burial Grounds, Human remains and monuments procedure* (HS2-HS2-EV-PRO-0000-000008).

5.3.28 The Archaeological Contractor shall notify DJV and the Contractor immediately upon discovery of unexpected human remains. DJV shall notify the Employer, so that the Employer's human remains procedures can be implemented. DJVs notification to the Employer may initially be made personally or by telephone but shall be confirmed in writing (email will suffice) within 24 hours of discovery.

5.3.29 Human remains, once recognised, will be metal detected immediately to determine whether any metallic grave goods are present. After subsequent notification to DJV the Archaeological Contractor will then cease all works on unexpected human remains until further instruction is provided by the Employer.

5.3.30 The Archaeological Contractor will ensure, on liaison with the Contractor, that adequate site security is maintained until a Schedule 20 notification is granted. As a minimum, this will require a 24-hour comprehensive security regime until sensitive remains have been recorded and lifted. This is a particular issue for rural sites and 'isolated burials'.

5.3.31 In accordance with Sections 8.2.23 – 8.2.27 of HS2 *Burial Grounds, Human Remains and Monuments Procedure* (HS2-HS2-EV-PRO-000-000008) the Archaeological Contractor will inform the Coroner or Police, and the local authority Environmental Health Officer of the discovery of human remains and provide brief background information which will enable a decision to visit the site, or confirm that the human remains are of no interest. The decision

regarding a site visit, or notification of no interest must be provided by the Coroner, and or Police and the EHO within two working days of notification.

5.3.32 The Employer's *Burial Grounds, Human remains and monuments procedure* (HS2-HS2-EV-PRO-0000-000008) and best practice for exhumation of human remains (CIfA 2017, Historic England 2018, IfA 2004) will be followed during all works on human remains.

5.3.33 The Archaeological Contractor will complete any exhumation of human remains in accordance with advice provided by their recognised osteoarchaeologist. In some circumstances DJV may consult Historic England and other stakeholders for input to exhumation and sampling strategy.

5.3.34 In accordance with Schedule 20, appropriate measures will be taken to ensure respect for unexpected human remains is observed. If appropriate this will include screening the excavation in accordance with the Code of Construction Practice (CoCP) such as to be effective to shield the remains from public view, and permitting access to that part of the site only to persons whose presence is necessary for carrying out of the archaeological works.

Backfilling

5.3.35 Generally, all backfill material shall consist of non-toxic, uncontaminated, non-putrescible, natural and inert material which shall be compacted and (if necessary) tested (dynamic compaction test or other) in accordance with a specification provided by the Contractor. Surface conditions shall be reinstated to the required standard.

6 Post-Investigation Reporting and Archiving

6.1.1 All reporting will be carried out in accordance with the GWSI: HERDS requirements (HS2-HS2-EV-STR-000-000015).

6.1.2 A fully illustrated factual report will be produced for the Archaeological Recording within six weeks of completion of the fieldwork, unless otherwise agreed with the Employer. The report will be structured as follows:

- Executive Summary;
- Introduction, including site location and project background, aims, and GWSI: HERDS Specific Objectives (as identified in this Project Plan);
- Baseline summary, including topography and geology, designated assets; archaeological potential and previous work(s) relevant to the archaeology of the site (e.g. DDBA, previous surveys);
- Detailed Scope and Methodology, to include dates of fieldwork, the areas investigated

at each stage and the rationale in relation to the Specific Objectives.

- Results and observations, along with the following supporting sections:
  - Test Pitting
  - Finds reporting (including a technological analysis identifying material type, characteristics (including for example the metrical, typological and technological attributes of lithics) and date)
  - Spatial analysis recording finds densities
  - Interpretation of results against original expectations and Specific Objectives
  - Review of the topsoil sampling strategy (i.e. success and confidence rating)
- Conclusions:
  - Synthesis of results within wider context and summary of significance.
  - Assessment of achievement (or not) of the Specific Objectives.
  - Statement of Potential for further fieldwork or analysis of the archive to address Specific Objectives.
- Recommendations
  - Potential research aims for further investigation (if required).
  - Also to include, if warranted, recommendation for addition of HERDS Specific Objectives and update to the resource assessment.
- Publication and Dissemination proposals, including archive deposition.
- References to all primary and secondary sources consulted.
- Acknowledgements.
- Appendices ,which will include (where appropriate) illustrations, selected photographs of representative and/or significant features and finds., context table, finds reports, environmental reports, scientific reports, site matrices, full definitions of the terms used in the report and a copy of the OASIS record.

6.1.3 The following figures will be included in the Topsoil Sampling (Test Pitting) report:

- Site location
- Survey extents
- Location of each Test Pitting Area

- Survey results to distribution plans for test pitting areas where a high-density of finds is indicated by the results of the fieldwork (heat-map)
- Selected photographs of representative and/or significant finds

6.1.4 If the Archaeological Contractor foresees a requirement for extension to completion of reporting they will immediately notify DJV so that extension can be discussed with the Employer.

6.1.5 The creation and curation of the archaeological physical archive compiled as a result of the archaeological works conducted by the HS2 scheme shall comply with the Historic Environment Physical Archiving Strategy (HS2-HS2-EV-STR-000-000018) and Technical Standard - Historic environment physical archiving procedure (HS2-HS2-EV-STD-000-000039).

6.1.6 The guidance for the creation, curation and dissemination of digital data created as a result of the archaeological works conducted by the HS2 scheme shall be in accordance with the Historic environment digital data management and archiving procedure (HS2-HS2-EV-STD-000-000040) and Historic environment digital data management and archiving strategy (HS2-HS2-EV-STR-000-000019).

6.1.7 The Heritage Memorandum for Phase One of HS2 recognises the need to deposit the HS2 archaeological and built heritage archive appropriately and the Employer is committed to working with Historic England and local authorities to identify suitable repository/ies to enable the deposition of the artefacts and records generated by the HS2 heritage works.

7 Dissemination

7.1.1 In accordance with professional standard practice the Archaeological Contractor will complete an Archaeological Data Service (ADS) 'Online Access to the Index of Archaeological Investigations' ('OASIS') record. To achieve completion of OASIS records in compliance with Employer requirements a small number of specific steps are necessary:

- The Archaeological Contractor will register for an OASIS login using an HS2 prefix, i.e. '*HS2-Archaeological Contractor Name'*.
- The OASIS record 'project name' field will be completed using HS2 as a prefix to the project name. The project name will exactly replicate the Final Report title.
- HS2 site codes will be added as identifiers to the OASIS record 'associated project reference codes' field.
- HS2 will be specified as the archive depository in the OASIS record.
- The OASIS record will be presented in the Factual Report as an appendix.

- Archaeological Contractor report/s will only be uploaded to the relevant OASIS record only after 'Code 1' approval of the report has been received from the Employer.

7.1.2 The relevant Historic Environment Record (HER) and the National Record for the Historic Environment (NRHE) will have access to Code 1 HS2 documents from the ADS in accordance with the Historic environment digital data management and archiving procedure (HS2-HS2-EV-STD-000-000040).

7.1.3 The Employer will report significant discoveries in summary in the local archaeological society journal and/or other relevant journal as appropriate.

8 Information Management

8.1.1 GIS deliverables will be provided by the Archaeological Contractor in accordance with the Cultural Heritage GIS Specification (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.

8.1.2 The Archaeological Contractor will ensure that mapping and spatial data deliverables will conform to the Employer's GIS Standards as set out in HS2-HS2-GI-STD-000-000002 and other associated referenced documents.

8.1.3 The standard template for reports (HS2-HS2-PM-TEM-000-000004) will be used.

9 Quality Assurance Processes

9.1.1 The Archaeological Contractor will liaise with DJV regarding the works programme and quality assurance of the archaeological works. In the event of potential delays to programme, the Archaeological Contractor will issue an Early Warning Notice (EWN) via CEMAR following internal approval by the Archaeological Contractor's Project Director.

9.1.2 The Archaeological Contractor will have direct communication with the Contractor on contractual matters and non-archaeological quality assurance; DJV will be informed of any EWNs raised in the course of the works.

9.1.3 The works will be overseen and internally quality-assessed by the Archaeological Contractor's senior management and will be directed by the Archaeological Contractor's Project Director.

9.1.4 All parties will follow the Employers protocols for Intra- and Inter-project communication, which will consist of the following format:

- Weekly progress meetings will be held to discuss the progress of on-site works, forecasting of the works programme and to highlight any potential EWNs;
- Matters arising from progress meetings will be discussed and meeting minutes will be forwarded to all parties (Archaeological Contractor, DJV, the Contractor).

9.1.5 The following interfaces are anticipated on the basis of current information:

- The Contractor (LM-JV)
- The Archaeological Consultant (DJV);
- Third party stakeholders via DJV;
- The Employer (HS2) via DJV;
- Other contractors.

9.1.6 Following completion, the Archaeological Contractors work will be formally signed off by the Employer. Formal sign off will be through a written process utilising a fieldwork sign-off sheet submitted by the Archaeological Contractor to DJV. DJV will review and, subsequent to any required revision, will submit the sign off sheet to the Employer for final approval.

9.1.7 The Archaeological Contractor will submit a draft of all reports to Asite for review. DJV and the Contractor will provide internal feedback and may require that the Archaeological Contractor amends documentation before acceptance. The Archaeological Contractor will subsequently upload accepted documents to Asite so that the Contractor can issue them to the Employer. The Employer may provide feedback and require amendment to submitted documents before final approval.

10 Evidence of Engagement

10.1.1 Evidence of stakeholder engagement undertaken for the C01 Project Plan for Topsoil Sampling, as well as DJV responses to stakeholder comments provided in Appendix B of the revised C02 Project Plan for Topsoil Sampling, is set out in Appendix B.

10.1.2 Evidence of stakeholder engagement undertaken for the C03 Project Plan for Topsoil Sampling as well as DJV responses to stakeholder comments is also set out in Appendix B.

11 References

Reference	HS2 document reference no.
CIfA (Chartered Institute for Archaeologists) 2017 Updated Guidelines to the Standards for Recording Human Remains	n/a
CIfA (Chartered Institute for Archaeologists). Toolkit for selecting archaeological archives (https://www.archaeologists.net/selection-toolkit)	n/a
HE (Historic England) 2015 Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record	n/a

HE (Historic England). Managing Lithic Scatters and Sites: Archaeological guidance for planning authorities and developers	n/a
HS2 Technical Standard Specification for historic environment investigations	HS2-HS2-EV-STD-000-000035
HS2 Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS)	HS2-HS2-EV-STR-000-000015
HS2 Cultural Heritage GIS Specification	HS2-HS2-GI-SPE-000-000004
HS2 Geographic Information System Standards	HS2-HS2-GI-STD-000-000002
HS2 Topsoil Sampling Scheme Wide Assessment Guidance	PH1-HS2-EV-PLN-000-000092
Garwood, P. (2011) 'The earlier prehistory of the west midlands' in the Archaeology of the West Midlands: A framework for research, ed. S. Watt, University of Birmingham	N/A
Hooke, D. (2011) 'The post-Roman and the early medieval periods in the west midlands: a potential archaeological agenda' in the Archaeology of the West Midlands: A framework for research, ed. S. Watt, University of Birmingham	N/A

12 Glossary of terms

12.1.1 The following terms may have been used in this report:

- **Archaeological Contractor** – the organisation undertaking the archaeological work on behalf of the Contractor.
- **Contractor** – LM JV: the body responsible for the terms and conditions, policies, procedures and payments.
- **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.
- **DJV** – the body responsible to the Contractor for assurance of historic environment work and all communication with the Employer and other stakeholders regarding the archaeological strategy, scope and method of work.
- **Employer** – Hs2 Ltd.
- **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, recording project). The plans respond to the Specific Objectives set out in the GWSI: HERDS and are delivered within an agreed budget.

- **Works** – the specific historic environment assessment, evaluation or investigation works at each location.

Acronyms

ADS	Archaeology Data Service
CLR	Construction Land Requirement
DDBA	Detailed Desk-Based Assessment
ES	Environmental Statement
GIS	Geographical Information System
GWSI: HERDS	Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy
HE	Historic England (Formally English Heritage)
HER	Historic Environment Record
LLAU	Limits of Land to be Acquired or Used
LS-WSI	Location Specific Written Scheme of Investigation
NRHE	National Record for the Historic Environment
OASIS	Online Access to the Index of archaeological investigations
PDF	Portable Document Format

Appendix A: Figures

A B C D E

1 2 3 4 5

19-17

19-13b

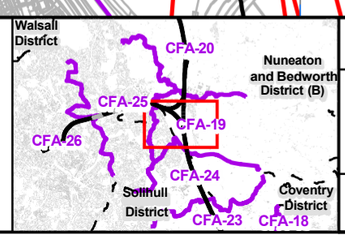
19-13a

19-06

19-21

Legend

- Route in tunnel
- Route on surface
- Community forum boundary
- Land potentially required during construction
- District/Borough boundary
- Water Body
- Test pitting areas (100m x 100m)
- Ancient Woodland



Map Number: Figure 1

Map Name: Topsoil Sampling (Test Pitting)

Community Forum Area 19

HS2

Registered in England. Registration number 06791686.
Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA

Scale at A3: 1:15,000

0 150 300 450 600 Metres

Doc Number: 1EW04-LMJ-EV-PLN-N000-029015

Date: 13/04/21

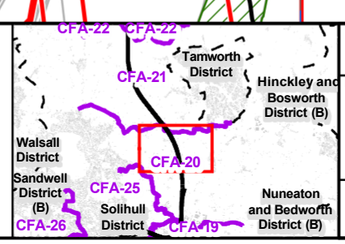
A B C D E

1 2 3 4 5

20-28

Legend

- Route in tunnel
- Route on surface
- Community forum boundary
- Land potentially required during construction
- District/Borough boundary
- Water Body
- Test pitting areas (100m x 100m)
- Ancient Woodland



Map Number

Figure 2

Map Name

Topsoil Sampling
(Test Pitting)

Community Forum Area 20

HS2

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Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA

Scale at A3: 1:15,000

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Metres

Date: 13/04/21

Doc Number: 1EW04-LMJ-EV-PLN-N000-029015

A B C D E

1 2 3 4 5

21-12

21-04b

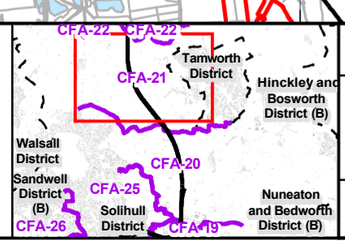
21-04a

21-03b

21-03a

Legend

- Route in tunnel
- Route on surface
- Community forum boundary
- Land potentially required during construction
- District/Borough boundary
- Water Body
- Test pitting areas (100m x 100m)
- Ancient Woodland



Map Number

Figure 3

Map Name

Topsoil Sampling
(Test Pitting)

Community Forum Area 21

HS2

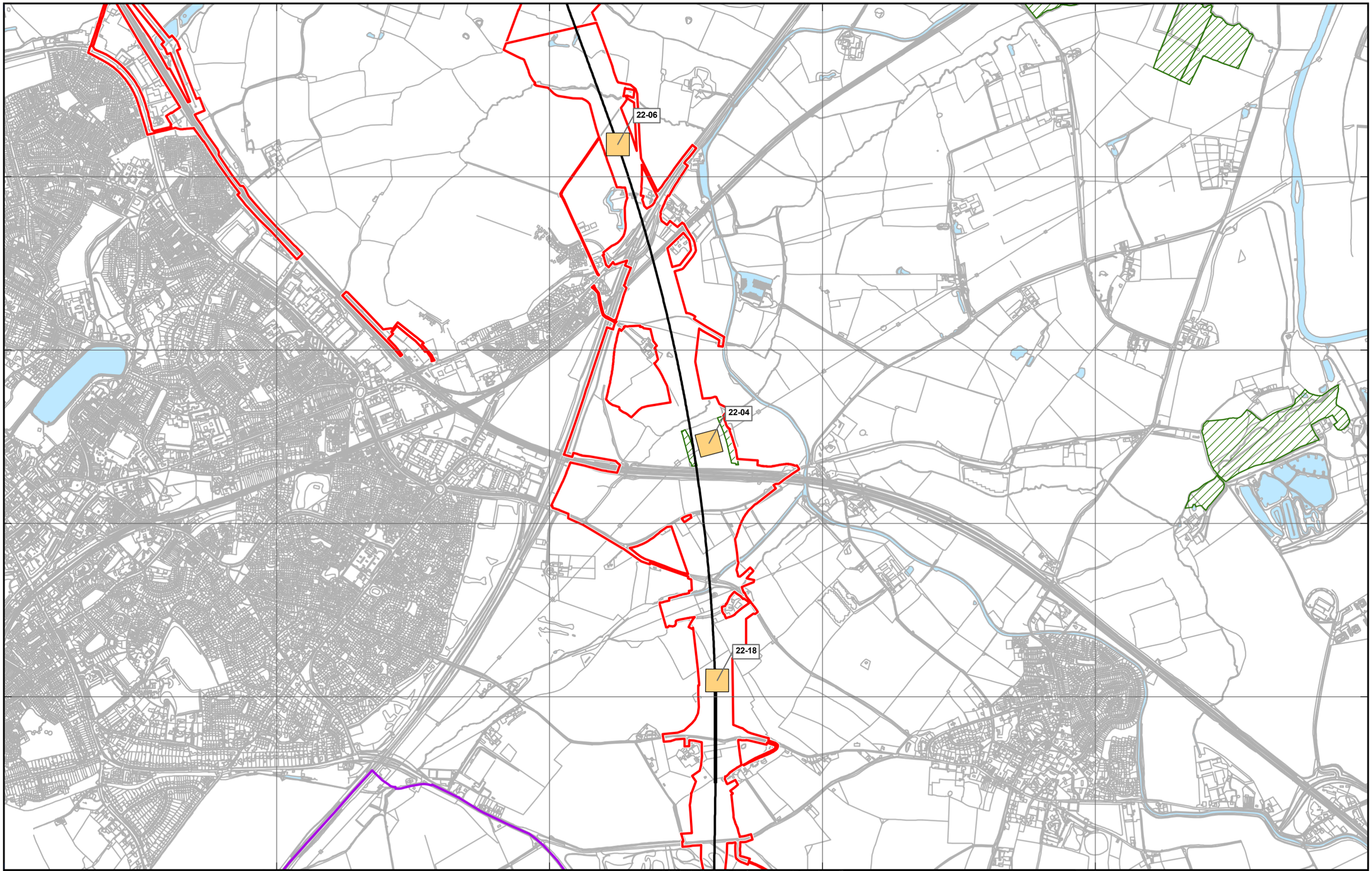
Registered in England. Registration number 06791686.
Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA

Scale at A3: 1:28,226

0 280 560 840 1,120
Metres

Date: 18/06/21

Doc Number: 1EW04-LMJ-EV-PLN-N000-029015



Legend

- Route in tunnel
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- Community forum boundary
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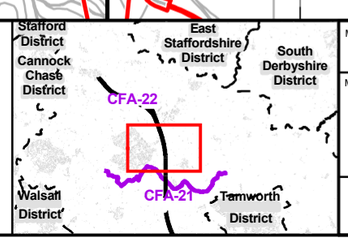
- District/Borough boundary
- Water Body
- Test pitting areas (100m x 100m)
- Ancient Woodland



Map Number

Figure 4

Map Name

Topsoil Sampling
(Test Pitting)

Community Forum Area 22

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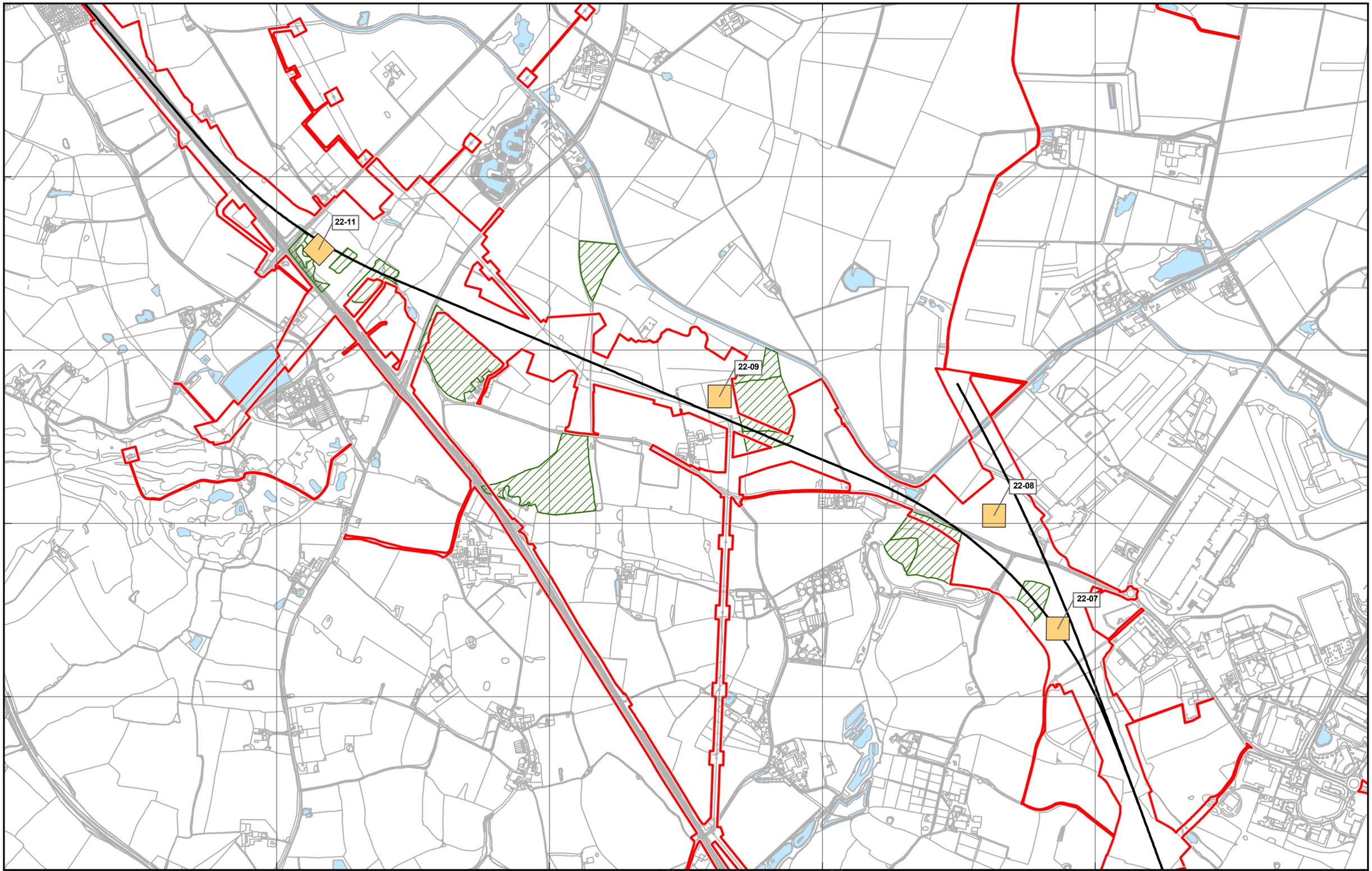
Metres

Doc Number: 1EW04-LMJ-EV-PLN-N000-029015

Date: 13/04/21



Legend

- Route in tunnel
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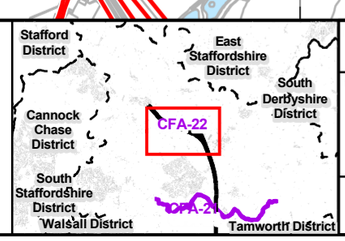


Map Number

Figure 5

Map Name

Topsoil Sampling
(Test Pitting)

Community Forum Area 22

HS2

Registered in England. Registration number 06791686.
Registered office: 2 Snow Hill, Queensway, Birmingham, B4 6GA

Scale at A3: 1:15,000

0 150 300 450 600
Metres

Date: 13/04/21

Doc Number: 1EW04-LMJ-EV-PLN-N000-029015

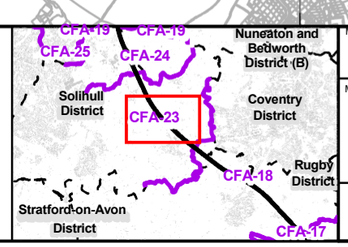
A B C D E

1 2 3 4 5

23-15

Legend

- Route in tunnel
- Route on surface
- Community forum boundary
- Land potentially required during construction
- District/Borough boundary
- Water Body
- Test pitting areas (100m x 100m)
- Ancient Woodland



Map Number

Figure 6

Map Name

Topsoil Sampling (Test Pitting)

Community Forum Area 23

Scale at A3: 1:15,000

0 150 300 450 600 Metres

Doc Number: 1EW04-LMJ-EV-PLN-N000-029015

Date: 13/04/21

A B C D E

1 2 3 4 5

24-07

Legend

- Route in tunnel
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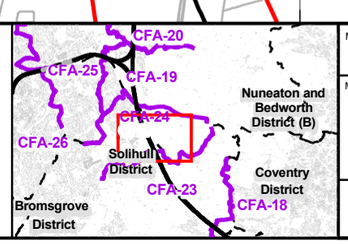
- Land potentially required during construction
- District/Borough boundary
- Water Body
- Test pitting areas (100m x 100m)
- Ancient Woodland



Map Number

Figure 7

Map Name

Topsoil Sampling (Test Pitting)

Community Forum Area 24

HS2

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Scale at A3: 1:15,000

0 150 300 450 600 Metres

Doc Number: 1EW04-LMJ-EV-PLN-N000-029015

Date: 13/04/21

Appendix B: Evidence of Engagement

Consultee and date (Project Plan C01)	Comment	How this has been addressed in the C02 Project Plan
Shane Kelleher (Staffordshire County Archaeologist) 10/1/2020	Generally what is proposed in terms of the methodology is fine, and the chosen locations for sampling in Staffordshire seem sound and well considered. Obviously I would like to see more test pitting areas and, as such, it would be useful to have a more detailed explanation as to how you arrived at the number of test pitting areas required in the CFAs. As a sampling strategy it is difficult to get an overall understanding as to how this fits in with work that HS2 has already done or is planning to do in the area- how much geophys/fieldwalking other prospection has been done in these areas by HS2 and what is proposed in terms of trial trenching in these Community Forum Areas? Using the test pitting as a means of improving our understanding of broader patterns of landscape exploitation is very welcome, however the concern would be if the results of the test pitting are used as a reason for not undertaking further evaluation if the results are limited or 'blank'.	Section 1.1 has been updated to clarify the methodology regarding the identification of test pitting areas across the CFAs. The proposed test pitting will not replace other methods of evaluation and is to be completed in addition to completed, or ongoing area wide EWC Phase 1 Area North geophysical survey, LiDAR, geoarchaeological study and trial trenching.
Shane Kelleher (Staffordshire County Archaeologist) 10/1/2020	1.1.1 notes that the proposed programme of works will examine the potential presence of prehistoric to post-medieval activity- however, elsewhere in the document, for example in the HERDS objectives section and 3.1.3 post med is not included.	The project plan has been updated to clarify that the test pitting will include early post medieval material culture where this could contribute specifically to KC35.
Shane Kelleher (Staffordshire County Archaeologist) 10/1/2020	1.1.3 assume by accessible you mean suitability for test pitting rather than the ability to access the land?	Yes, suitability for test pitting. Paragraph 1.1.3 has been amended to remove the word 'accessible'.
Shane Kelleher (Staffordshire County Archaeologist) 10/1/2020	1.1.3 I am not completely satisfied that utilising instances of previous archaeological work is an appropriate means of making decisions on density of test pitting as it is likely that such instances of previous work will reflect	This has been clarified in 1.1.4. The test pitting has been designed to ensure that areas where archaeological potential is poorly understood are examined for their potential to contribute to the

	the lack of development in the area rather than the lack of finds or past activity, particularly in rural areas	HERDS Specific Objectives identified in the Project Plan.
Shane Kelleher (Staffordshire County Archaeologist) 10/1/2020	2.2.9 You could update this to include the Bronze Age cremation(s) and possible settlement encountered by HS2- related works near Ryknield Street (near Cappers Lane)	Amended. Now included in Section 2.2.11.
Shane Kelleher (Staffordshire County Archaeologist) 10/1/2020	2.2.9 What about the Iron age?	Amended. Iron age now included in Sections 2.2.13 and 2.2.14
Shane Kelleher (Staffordshire County Archaeologist) 10/1/2020	2.2.16 You could update this to include the Romano British farmstead encountered by HS2-related works at Streethay	This site is now included in Section 2.2.20.
Shane Kelleher (Staffordshire County Archaeologist) 10/1/2020	4 Great to see that Community Engagement is going to form part of this scheme of works. Will be interesting to see how this is achieved given the nature of the archaeological works and the large study area	Noted.
Shane Kelleher (Staffordshire County Archaeologist) 10/1/2020	4.1.7 One week in advance isn't an awful lot of notice for many of the activities/events on the list!	Amended to 6 weeks.
Shane Kelleher (Staffordshire County Archaeologist) 10/1/2020	5.3.12 Has consideration been given to using the CIfA Selection Toolkit? The draft HS2 Phase 1 Archive Policy references this	Paragraph 5.3.12 is updated to reference the CIfA Archive Selection Toolkit.
Shane Kelleher (Staffordshire County Archaeologist) 10/1/2020	5.3.2 How will a decision be made in terms of using the contingency? What does 'where results warrant further investigation' mean in reality- have you got a set of criteria to assist with making such a judgement or will it be on a case by case basis?	The decision will be made on a case by case basis after review of summary assessment results of test pit blocks with stakeholders and HS2, and the agreement of HS2 Historic Environment Team.
Anna Stocks (Warwickshire County Archaeologist) 11/1/2020	The project design only covers test pitting, however, the Project Plan for the southern portion of Warwickshire also includes other techniques such as metal detecting and fieldwalking. I would expect similar approaches to be taken across the whole route, so that comparable data sets can be generated and analysed.	The Area North Project Plan sets out the scope and methodology for topsoil sampling by test pitting only. Any programmes of EWC North metal detecting or fieldwalking would be agreed with HS2 Historic Environment Team.

Anna Stocks (Warwickshire County Archaeologist) 11/1/2020	The proposed strategy, specifically a number of 1ha areas being chosen to test pit, here also differs to that proposed to the south; what implications will this have for detailed analysis along the route?	The 1ha test areas have been selected, following discussions with HS2 and Historic England, as representing a valid sample methodology across Area North, which will offer results comparable with those from other HS2 Areas.
Anna Stocks (Warwickshire County Archaeologist) 11/1/2020	The Project Plan should confirm what is meant by 'accessible'. I would not expect temporary constraints, such as the presence of crops, other HS2 related work or possible landowner access constraints to influence the proposed areas examined	'Accessible' is removed from the Project Plan text. Further detail now provided in Sections 1.1.3 and 1.1.4.
Anna Stocks (Warwickshire County Archaeologist) 11/1/2020	Para. 1.1.3 refers to land access being a potential constraint, in what scenarios is this expected to be an issue (I note that Debbie Taylor has previously advised 'that landowner access constraints were not a consideration as part of the selection process')?	Test pitting will be programmed to avoid land access constraints. However, it is possible that some test pitting areas may need to be relocated with ACZ, e.g. ecological constraint, or due to programme clash with other non-heritage EWC North Work Packages.
Anna Stocks (Warwickshire County Archaeologist) 11/1/2020	To what extent has previous analysis of local settlement patterns been taken into account when developing this strategy? Previous work across this area suggested that activity during some periods, such as Saxon period, was away from the better drained areas (see Alexander, Magnus. 2008. *Archaeological Resource Assessment of the Aggregates Producing Areas of Warwickshire and Solihull. Final Report Draft.* Warwick: Warwickshire County Council); has research such as this been taken into account? Can you provide further information about **how** the analysis of the topography and superficial geology was undertaken and used?	Section 1.1 and Section 2.3 has been amended to further clarify the methodology for the location of test pitting areas. The test pit blocks do not focus on better drained areas, they are distributed across different topography and superficial geology. Review of topography and superficial geology was completed to exclude areas where test pitting would be unlikely to yield results of any value, such as deposits of Holocene alluvium
Anna Stocks (Warwickshire County Archaeologist) 11/1/2020	Para. 4.1.5 sets out a series of public engagement options, and states that two from the list will be undertaken. I would recommend that 'notifications and illustrated fact sheets' be undertaken for most sites, with a further two being chosen from the list.	Specific methods of community engagement will be developed in the LS-WSI by the Archaeological Contractor and with the agreement of HS2
Anna Stocks (Warwickshire County Archaeologist) 11/1/2020	What is proposed to be done with the 'site photography and drone footage' included as bullet point 7 in para. 4.1.5?	Amended to remove bullet point.

Anna Stocks (Warwickshire County Archaeologist) 11/1/2020	Para. 4.1.7 states that promotion of events will be undertaken at least 1 week in advance. One week is inadequate notice of events, a longer lead in time should be required, especially if the events are during the week, to enable people to: a) Find out about the events, and b) Arrange to attend the activity. This is particularly important if you are publicising events through newspapers, who will require a longer lead in time.	Amended to read 6 weeks
Anna Stocks (Warwickshire County Archaeologist) 11/1/2020	There are several references to the ES Risk model, but little reference to more recent work undertaken (both HS2 related and other) being taken into account. Has it?	The test pitting has taken into account the results from the HS2 EWC trial trenching and this has been clarified where relevant in Section 2.3.
Anna Stocks (Warwickshire County Archaeologist) 11/1/2020	5.3.3 should confirm that the test pits will be machine-excavated under archaeological control (I am presuming that they would be).	Amended.
Anna Stocks (Warwickshire County Archaeologist) 11/1/2020	Para. 5.3.3 stated that only a 'sample' of soil will be wet sieved, if it is not suitable for dry sieving. Why is the whole sample not being wet sieved – could this not introduce biases?	Sub-sampling of soils for wet sieving is removed from text. All soil from test pits will be wet sieved if unsuitable for dry sieving. Now Section 5.3.4.
Anna Stocks (Warwickshire County Archaeologist) 11/1/2020	Para. 5.3.2 makes provision for further work where 'the results warrant further investigation'. What criteria will be used to trigger that 'further investigation'? I would highlight that our sites, especially Saxon ones can contain few finds, therefore the presence of just one find in a test pit could suggest further work would be appropriate.	The decision to extend the test pitting area or increase the sample density will be made following submission of the finds specialist's summary reports, for review with HS2 and stakeholders and with the agreement of HS2 Historic Environment Team
Anna Stocks (Warwickshire County Archaeologist) 11/1/2020	Has any analysis of the statistical veracity of this approach been undertaken? Only a very small proportion of the route is being test pitting – will this have implication for any conclusions reached?	The 1ha test areas have been selected, following discussions with HS2 and Historic England, as representing a valid sample methodology across Area North, which will offer results comparable with those from other HS2 Areas.

Consultee and date (Project Plan C03)	Comment	How this has been addressed in the Project Plan
Shane Kelleher (Staffordshire County Archaeologist). Sent via email on 20/05/2021.	No comment returned	n/a
Anna Stocks (Warwickshire County Archaeologist). Sent via email on 20/05/2021.	No comment returned	n/a
Historic England (Jonathan Last, Chris Welch and Jim Williams). Sent via email 20/05/2020 and comment returned 25/05/2021.	Section 2.2.28: Last sentence should probably refer to Cannock Forest, not the Chase.	Amended.
Historic England (Jonathan Last, Chris Welch and Jim Williams). Sent via email 20/05/2020 and comment returned 25/05/2021.	Section 2.3: Outlines the distribution of the sample areas. However, while it is stated that (2.3.1) 'There are 20 test pitting areas proposed', if you add them up in the lists that follow you get 22: 5 in CFA19, 1 in CFA20, 5 in CFA21, 9 in CFA22, 1 in CFA23, 1 in CFA24. On the other hand, the figures at the end only show 19. There needs to be a single consistent list of where they are doing the work.	Test-pitting area 22-13 was included in error in the bullet point list and there is only one (not two) test pitting areas in ACZ 22-18. Text amended and this now corrects this error leaving a total of 20 test pitting areas. Test pitting area 21-12 was missing from Figure 3 and this has now been updated.
Historic England (Jonathan Last, Chris Welch and Jim Williams). Sent via email 20/05/2020 and comment returned 25/05/2021.	Section 4 on community engagement is unfortunately vague. What sort of engagement is envisaged for the test-pitting, e.g. getting people involved in digging their own test-pits in gardens etc. That would be great, but nothing is specified here.	The Community Engagement section introduces a range of activities which could be utilised as part of the project and sets out the minimum requirement. The decision for choosing appropriate activities for engagement is at the discretion of the archaeological contractor.
Historic England (Jonathan Last, Chris Welch and Jim Williams). Sent via email 20/05/2020 and comment returned 25/05/2021.	The methodology section refers 'to a total number of 25 test pits' in each area (5.3.1) – but if you are digging a pit every 20m along a line measuring 100m that gives 6 TPs (at 0, 20, 40, 60, 80 and 100m). If adjacent rows are offset, i.e. row 2 TPs are at 10, 30, 50, 70 and 90m, that would be 5, so a 1 ha area on its own would have 3 double rows of 11 pits, i.e. 33 pits?	The 1ha blocks of test pitting will include a total of 25 test pits. Alternate lines of text pits will be offset, with distribution of the total of 25 test pits within each 1ha area determined by the archaeological contractor.
Historic England (Jonathan Last, Chris Welch and Jim Williams). Sent via email	Section 5.3.5: 'Excavated soils and sediments will be dry sieved (if feasible) initially using an 8 – 10 mm mesh' –	Amended to read 10mm.

20/05/2020 and comment returned 25/05/2021.	which is it, 8 or 10mm? Consistency of approach is the key to this kind of exercise.	
Historic England (Jonathan Last, Chris Welch and Jim Williams). Sent via email 20/05/2020 and comment returned 25/05/2021.	'If the nature of the soils prevents dry sieving then wet sieving will be used' – how will this be organised, since this would be a non-trivial operation, but I suspect quite likely to be required given the intractable soils in some areas? On Area Central, in difficult soils the material was dumped in clear piles by the side of the test pit and hand sorted, and it would be very helpful if this was proposed here (which would allow consistency with Area Central work).	As suggested, wet sieving will need to take into account non-trivial factors such as test pitting location, nature of soils and logistical specifics. Detail regarding these factors are not for the Project Plan. Detail on how this will be achieved is for the LS-WSI and subsequent detailed discussion and agreement between LM and their archaeological sub-contractor. The suggested approach of hand sorting of excavated soils is now included in the Project Plan, use of this methodology will be discussed and agreed with HS2 should site conditions and logistical factors necessitate.
Historic England (Jonathan Last, Chris Welch and Jim Williams). Sent via email 20/05/2020 and comment returned 25/05/2021.	Section 5.3.14: Is it necessary to use this term 'Late Post Medieval' here (or anywhere else)? What about using pre- and post- 1800?	The Project Plan text is amended in line with this suggestion.
Historic England (Jonathan Last, Chris Welch and Jim Williams). Sent via email 20/05/2020 and comment returned 25/05/2021.	Appendix B (Evidence of Engagement) says in a couple of places that 'The 1ha test areas have been selected, following discussions with HS2 and Historic England, as representing a valid sample methodology across Area North, which will offer results comparable with those from other HS2 Areas', but we no longer believe this is the case since this programme has been significantly reduced from the earlier iterations we commented on, which proposed 68 test pitting areas.	DJV historic response to comment on the C01 version of the Project Plan (included above) is not altered. However, Historic England's view on the revised strategy instructed by HS2 and presented in the C03 Project Plan is noted.
Historic England (Jonathan Last, Chris Welch and Jim Williams). Sent via email 20/05/2020 and comment returned 25/05/2021.	Section 1.1.4: 'The test pitting areas identified in the Project Plan have been randomly selected… The proposed locations have also been guided by the Archaeological Character Zones (ACZ)…' - these statements appear contradictory; maybe they mean randomly selected within specific character zones?	Text updated to address this comment.

Historic England (Jonathan Last, Chris Welch and Jim Williams). Sent via email 20/05/2020 and comment returned 25/05/2021.	Section 2.2.15: This should specify if they are talking about metal or stone axes here	Information on material type is not available from available HER datasets.
Historic England (Jonathan Last, Chris Welch and Jim Williams). Sent via email 20/05/2020 and comment returned 25/05/2021.	Section 2.3.2: 'Eighteen ACZ within five CFAs will be subject to topsoil sampling' – the list below includes 6 CFAs	'Eighteen ACZ' is incorrect – this is amended to 'Seventeen ACZ'. 'five CFAs' is incorrect -this is amended to 'six CFAs'.
Historic England (Jonathan Last, Chris Welch and Jim Williams). Sent via email 20/05/2020 and comment returned 25/05/2021.	Section 2.3.19: 'Seven ACZ are available for test pit sampling'	Number of test-pits sample areas noted for each ACZ has been updated in response to comment on Section 2.3 above. Seven is the correct total for CFA 22.
Historic England (Jonathan Last, Chris Welch and Jim Williams). Sent via email 20/05/2020 and comment returned 25/05/2021.	Table 1 This states that 'Results could be used or adapted by future projects when devising fieldwork strategies' – does this refer to follow-up work that could be carried out if they do find anything?	Text amended to clarify that the use of the results could be used or adapted for use by future non-HS2 projects.

Appendix 2: Figures

418000

420000

290000

19-19

19-18

20-01

19-18

19-08

19-16

19-10

19-17

19-13

19-19

19-17

19-13B

19-09

19-17

19-13A

19-23

19-13

19-15

19-14

19-12

19-15

19-06

19-07

19-07

19-06

19-22

19-02

19-11

19-01

19-02

Whitacre Pool

River Blythe

Keeper's Cottage

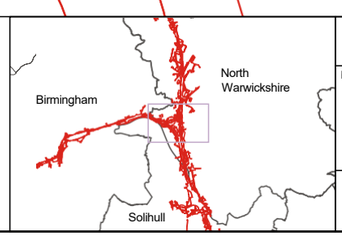
Blyth Plantation

Blythe Bridge Plantations

Round

Legend

- Test pitting area
- Land potentially required during construction
- Archaeological character sub-zone
- Utilities buffer
- Overhead line
- Sewer
- Gas service



Map Number

Figure 1

Map Name

Topsoil Sampling (Test Pitting) Location Plan

Community Forum Area :
Community Forum Area CFA19

HS2

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

Scale at A3: 1:12,500

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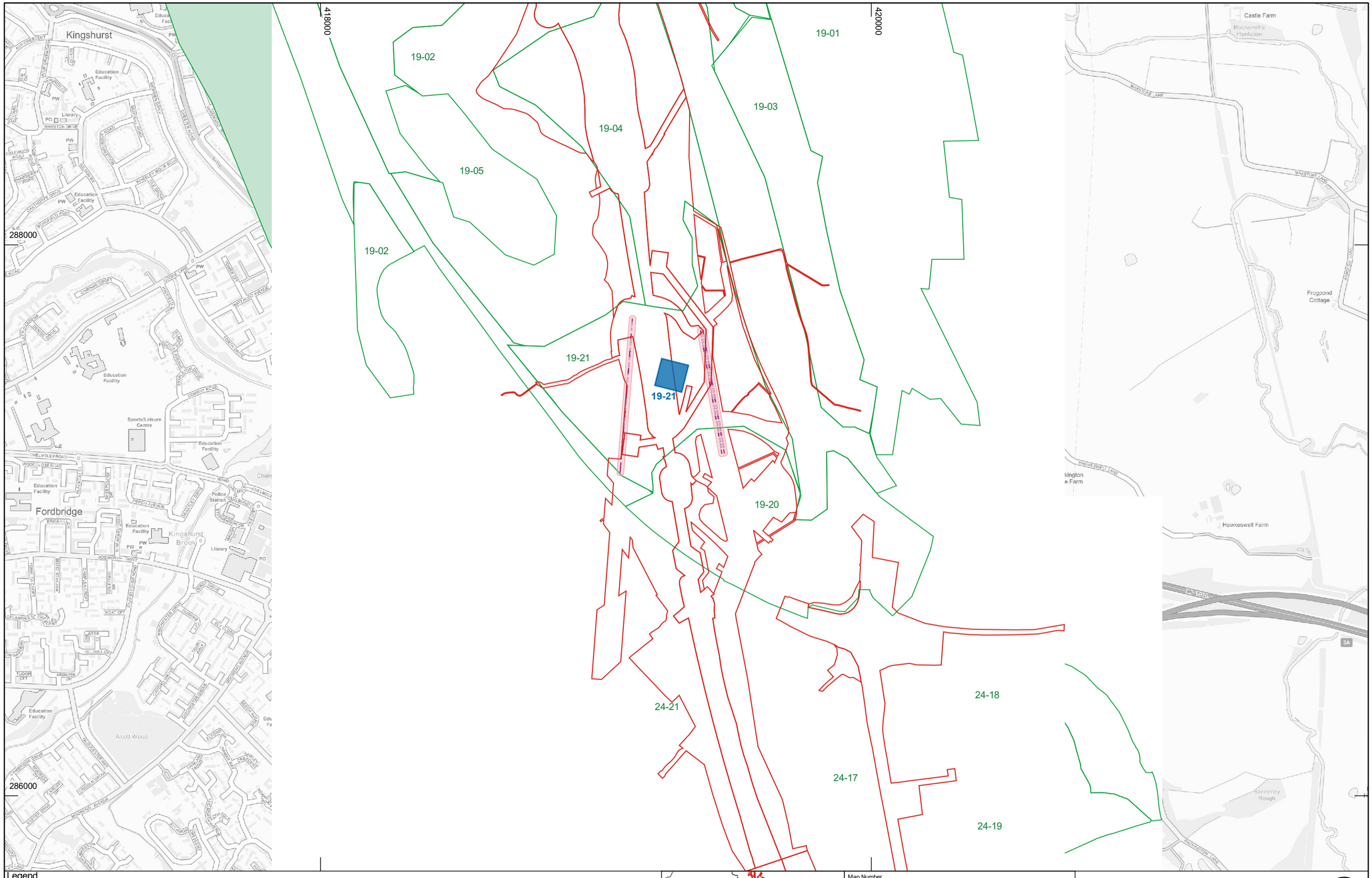
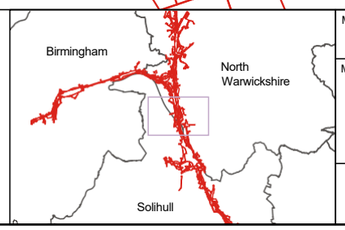
Doc Number: 1EW04-LMJ_WEX-EV-MST-N000-029002

Date: 03/09/21



Legend

- Test pitting area
- Land potentially required during construction
- Archaeological character sub-zone
- Utilities buffer
- Overhead line



Map Number

Figure 2

Map Name

Topsoil Sampling (Test Pitting) Location Plan

Community Forum Area :
Community Forum Area CFA19

HS2

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0 500 m

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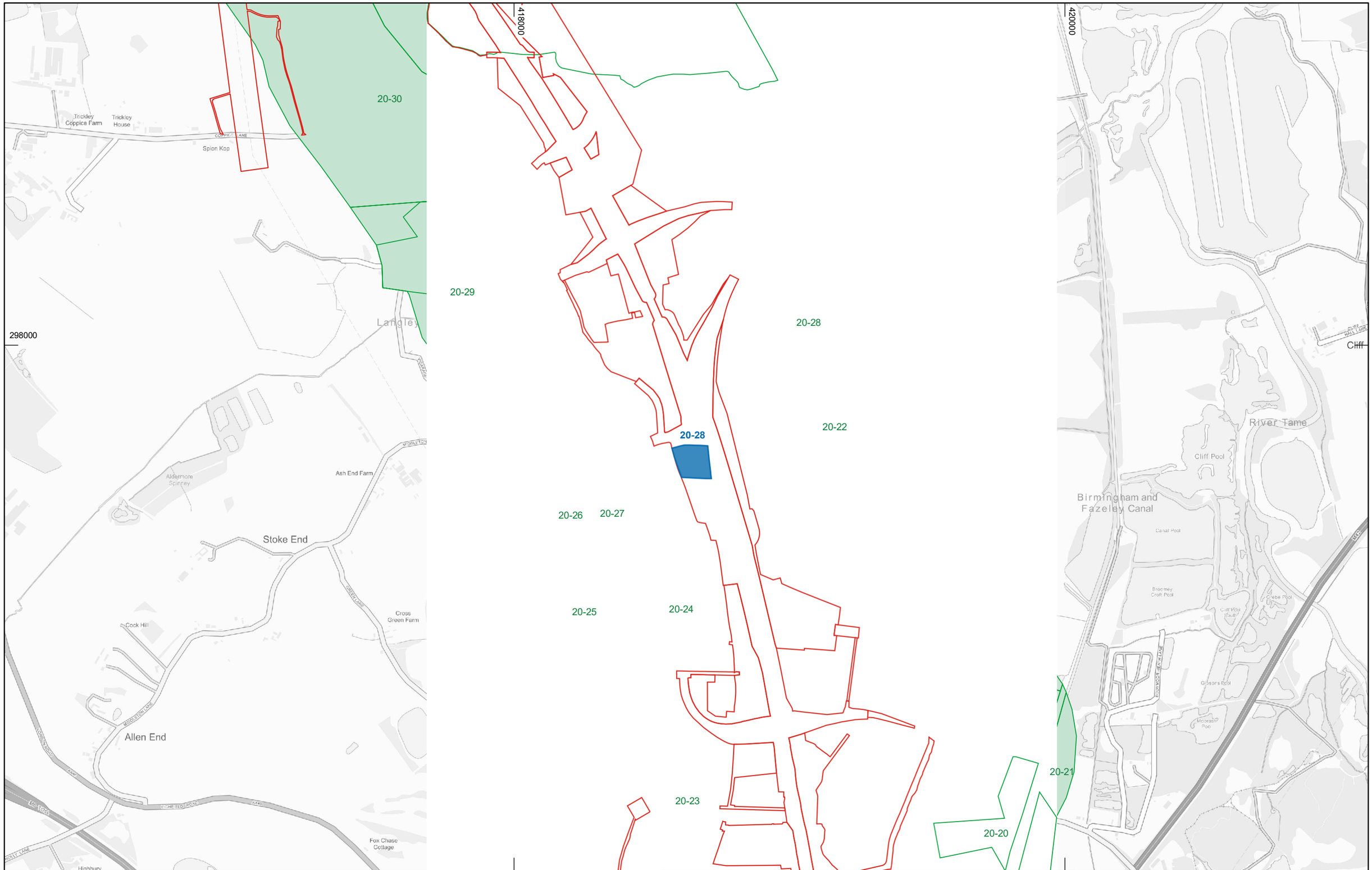
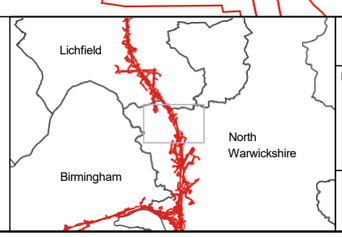
Date: 03/09/21



Legend

- Test pitting area
- Land potentially required during construction
- Archaeological character sub-zone



Map Number

Figure 3

Map Name

Topsoil Sampling (Test Pitting) Location Plan

Community Forum Area : Community Forum Area CFA20

Scale at A3: 1:12,500

0 500 m

Doc Number: 1EW04-LMJ_WEX-EV-MST-N000-029002

Date: 03/09/21

414000

416000

418000

302000

21-06

21-04B

21-04A

21-04

21-03

21-03B

21-03A

21-03

Mile Oak

Hospital

Education Facility

Bourne Brook Cut

Seventeen Acre Wood

Lodge Farm

Legend

- Test pitting area
- Land potentially required during construction
- Archaeological character sub-zone
- Utilities buffer
- Overhead line
- Gas service

Lichfield

Birmingham

North Warwickshire

Map Number

Figure 4

Map Name

Topsoil Sampling (Test Pitting) Location Plan

Community Forum Area :
Community Forum Area CFA21

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Birmingham B4 6GA.

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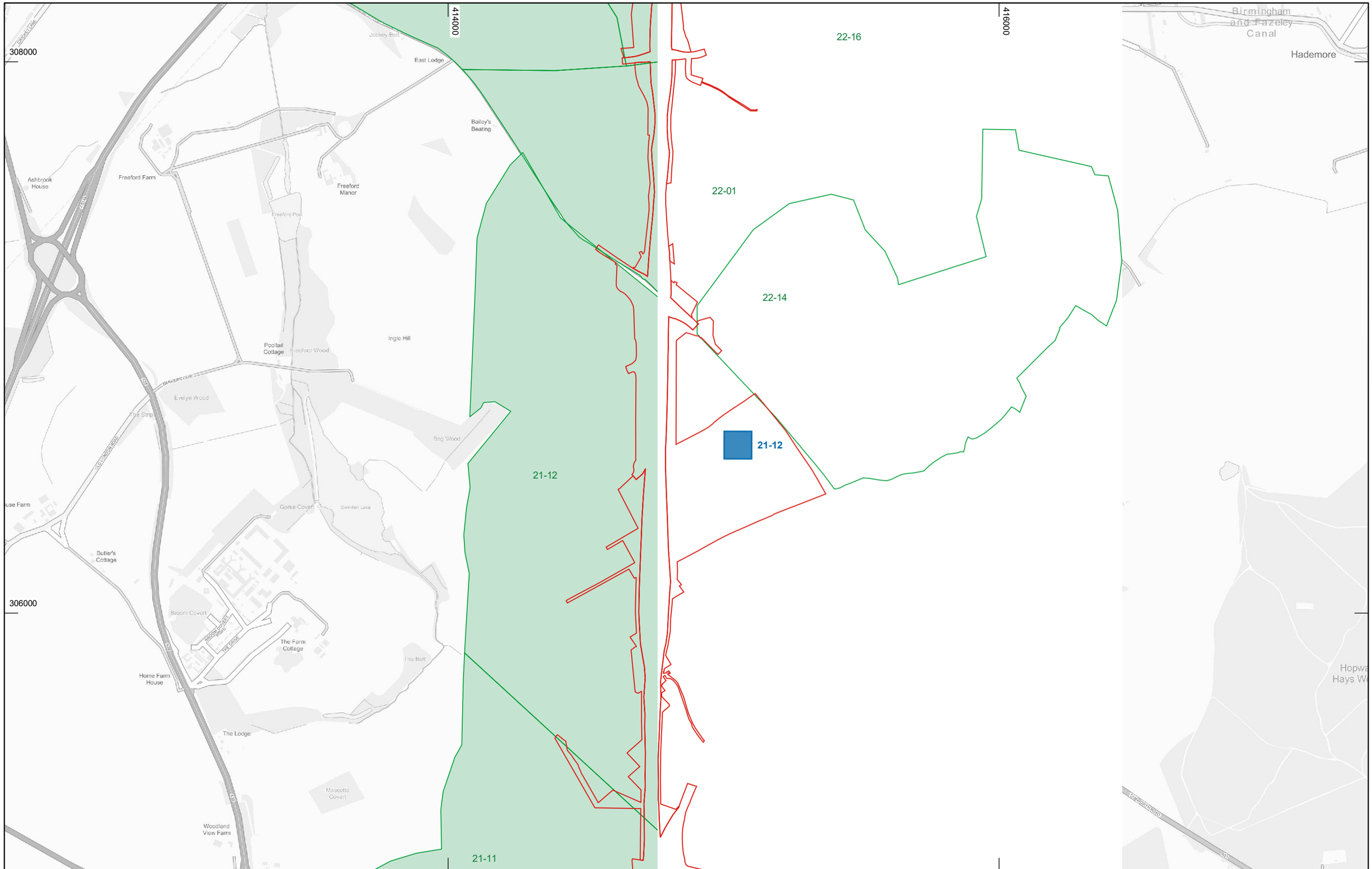
0 500 m

Doc Number: 1EW04-LMJ_WEX-EV-MST-N000-029002

Date: 03/09/21



Legend

- Test pitting area
- Land potentially required during construction
- Archaeological character sub-zone

Map Number

Figure 5

Map Name

Topsoil Sampling (Test Pitting) Location Plan

Community Forum Area :
Community Forum Area CFA21

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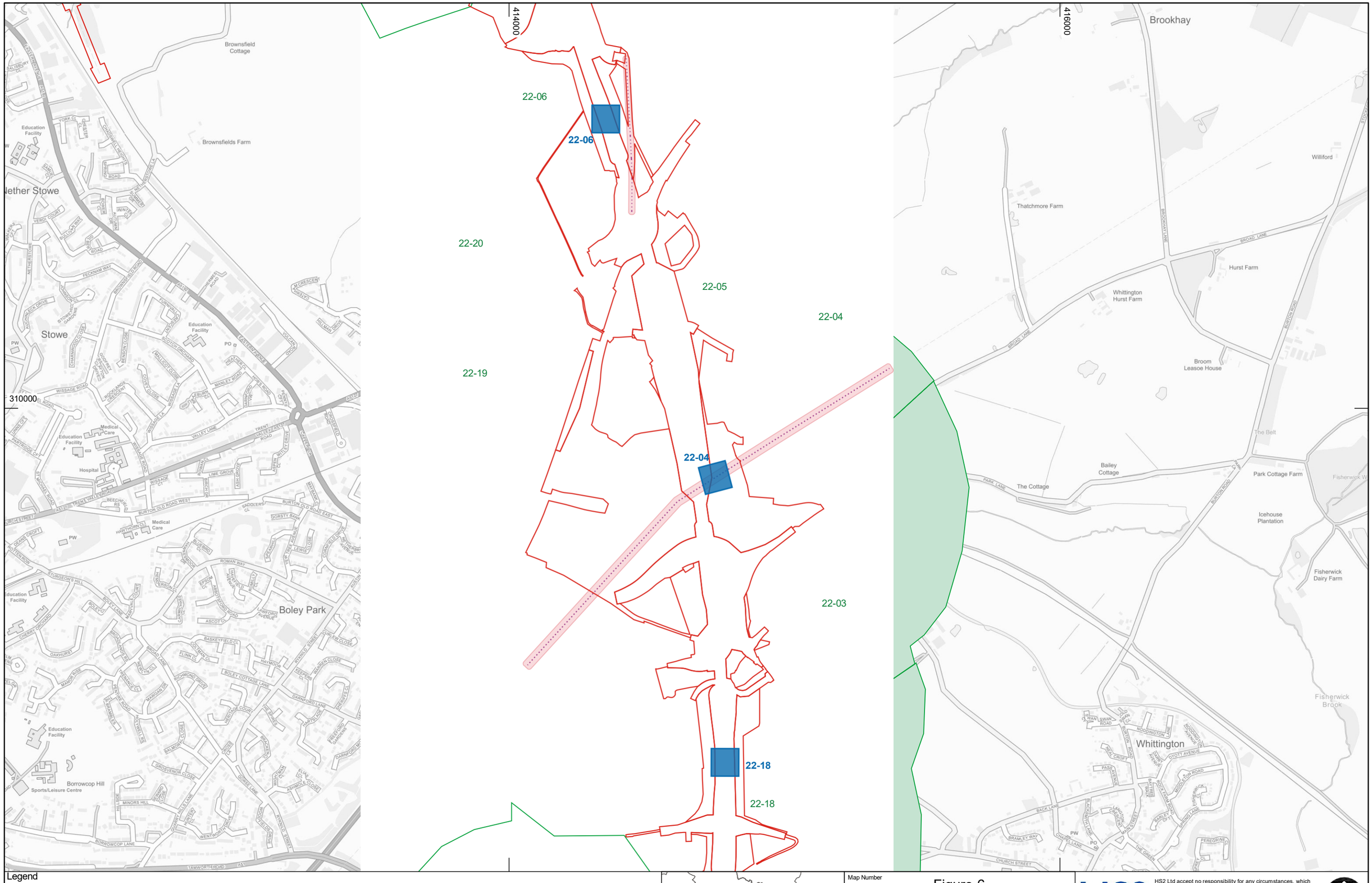
Doc Number: 1EW04-LMJ_WEX-EV-MST-N000-029002

Date: 03/09/21



Legend

- Test pitting area
- Land potentially required during construction
- Archaeological character sub-zone
- Utilities buffer
- Overhead line

Map Number

Figure 6

Map Name

Topsoil Sampling (Test Pitting) Location Plan

Community Forum Area :
Community Forum Area CFA22

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Birmingham B4 6GA.

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Doc Number: 1EW04-LMJ_WEX-EV-MST-N000-029002

Date: 03/09/21

410000

412000

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22-13

22-11

22-10

22-22

22-09

22-09

22-08

22-12

22-08

22-21

22-07

22-07

Legend

- Test pitting area
- Land potentially required during construction
- Archaeological character sub-zone
- Utilities buffer
- Overhead line
- Underground line
- Sewer
- Telecom

Lichfield

Map Number

Figure 7

Map Name

Topsoil Sampling (Test Pitting) Location Plan

Community Forum Area :
Community Forum Area CFA22

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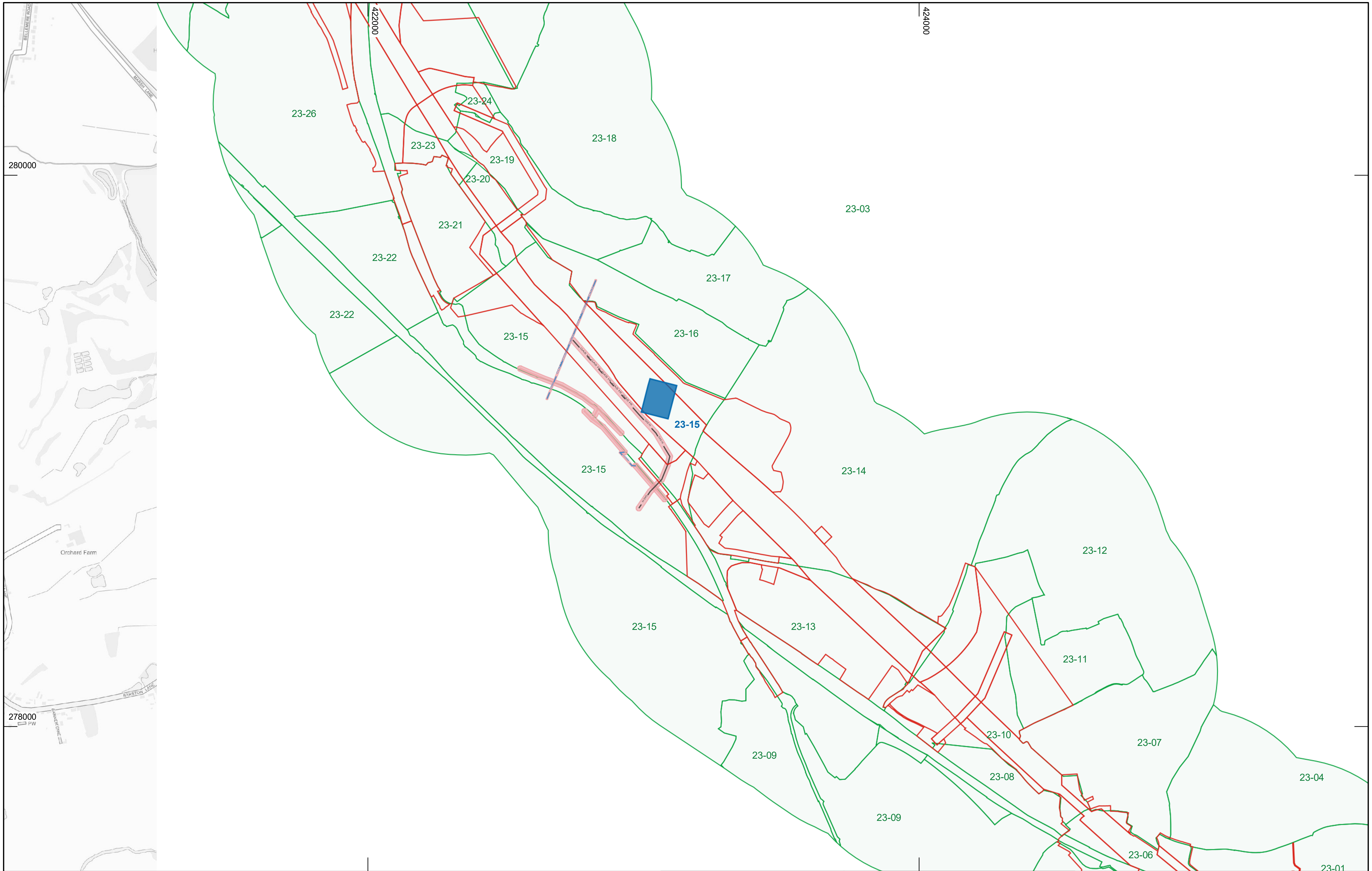
Date: 03/09/21



Legend

- Test pitting area
- Land potentially required during construction
- Archaeological character sub-zone
- Utilities - buffer
- Gas service
- Telecom

Solihull
Coventry
Warwick

Map Number: Figure 8

Map Name: Topsoil Sampling (Test Pitting) Location Plan

Community Forum Area : Community Forum Area CFA23

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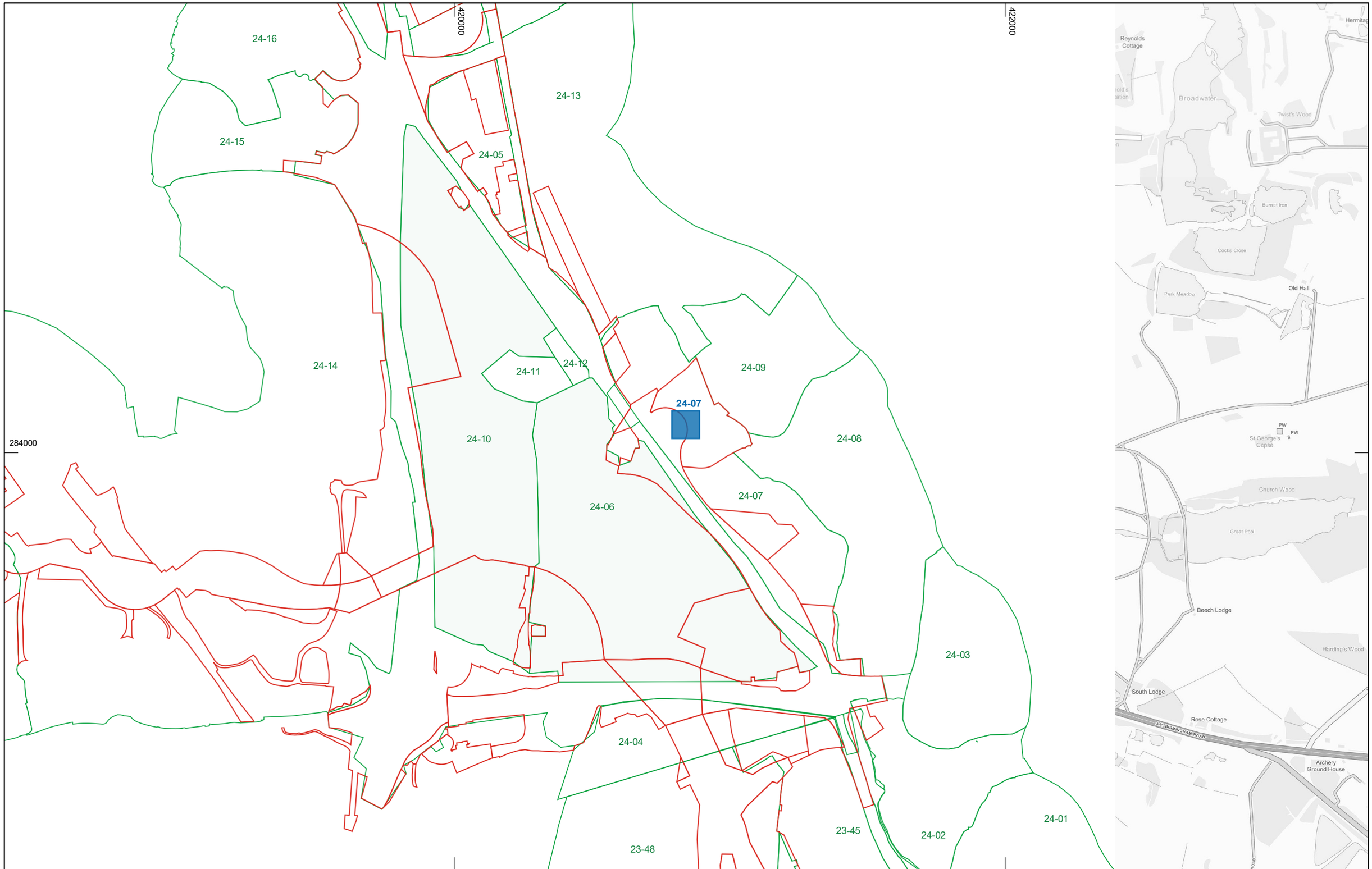
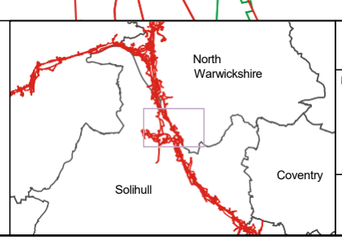
Date: 03/09/21



Legend

- Test pitting area
- Land potentially required during construction
- Archaeological character sub-zone



Map Number

Figure 9

Map Name

Topsoil Sampling (Test Pitting) Location Plan

Community Forum Area :
Community Forum Area CFA24

Scale at A3: 1:12,500

0 500 m

Doc Number: 1EW04-LMJ_WEX-EV-MST-N000-029002

Date: 03/09/21

Appendix 3: Risk Assessment and Method Statement – North Area Test Pitting

HS2 Phase 1 Enabling Works North - Topsoil Sampling (Test Pitting)

Risk Assessment and Method Statement

Document Ref.: 228930.02
February 2021

wessexarchaeology

Report Information

Project name	HS2 Phase 1 Enabling Works North - Topsoil Sampling (Test Pitting)
Type of report	Risk Assessment and Method Statement
Document reference	228930.02
WA project code	228930
Date of fieldwork	18/01/2021–TBC
Project management by	John Winfer

Quality Assurance

Issue and date		Author	Approved by
1	08/01/2021	ECC	
2	19/02/2021	ECC	

RAMS approved by Client/ Principal Contractor

Name	Position	Signed	Date

HS2 Phase 1 Enabling Works North - Topsoil Sampling (Test Pitting)

Risk Assessment and Method Statement

1 SITE ADDRESS

Test Pitting area	Test Pitting Area	Site Address	What 3 words
19-13A	Chattel Hill	B46 1LF Acess via Gilson Road)	pack.sheet.melt
19-13B	Chattel Hill	B46 1LR Access via BBV haul road off Gilson Road)	finger.dawn.pocket
19-21	Coleshill	B46 3HN	levels.saint.decent
22-04	Ryknield Street	WS13 8PU (Access via Park Lane, travel west along norther side of railway line	distilled.bucks.leotard
22-06	Ryknield Street	WS13 8RJ (Access via private track to Rough Stockings)	disposing.melon.model
22-18	Ryknield Street	WS14 9LD (only access via vehicle passing point)	retail.goes.according
22-07	Streethay to Handsacre	Ws13 8ET (Access via Go-Kart track off Wood End Lane	animated.stability.intruders
22-08	Streethay to Handsacre	WS13 8ET (Access off Wood End Lane)	custom.harmonica.clash
22-09	Streethay to Handsacre	WS13 8ET (Access via Wood End Lane	discouraged.requires.shameless
23-02	Kenilworth to Balsall Common	CV7 7BW (Access via LM bellmouth off Truggist lane, over NWR bridge)	supply.hook.spice
23-15	Balsall Common to Stonebridge	B92 0LN	keep.dull.snap
22-11	Kings Bromley	WS13 8HL	accordion.sampled.moves
21-12	Whittington Barracks	WS14 9PU	respect.career.skirting
21-04-B	Hints	B78 3DN	listening.rummage.slept
21-04-A	Hints	B78 3DN	grab.dome.trudges
21-03-B	Bangley	B78 3DZ	sparrows.complain.uptake
21-03-A	Bangley	B78 3EF	///brain.report.tops
20-28	Park Lane, Middleton	B78 2BA	jugs.strict.ooze
19-17	Water Orton	B46 1QD	online.palms.shady
19-06	Coleshill	B46 1DL	notice.trucks.bunks
24-09	Packington Lane	CV7 7TL	worm.commander.ramming

2 SCOPE OF WORKS

2.1.1 The topsoil sampling strategy comprises 59 1ha test pitting areas located at intervals along the Area North route (Figures 1 to 15 of the LSWSI). The topsoil sampling will comprise test pits dug at 20m intervals in 1ha test pitting areas to a total number of 25 test pits and located to NGR using RTK GNSS. An offset grid pattern (e.g. staggered) will be used. The dimensions of each test pit will be 1m x 1m. Depending on results of the sieving of the uprisings from the test pits additional test pits may be required.

2.1.2 Deposits within the test-pits will be machine-excavated in sequence under archaeological control: ploughsoil, subsoil or other soil horizons (if present) and then the first c.0.1m of the geological substrate. The sequence of deposits will be carefully recorded, with emphasis placed upon the identification of any intermixing of ploughsoil, subsoil/soil horizons and the geological substrate

2.1.3 These RAMS cover priority test pitting areas 19-13A, 19-13B, 19-21, 22-04, 22-06, 22-18, 22-07, 22-08, 22-09 and 23-02, 23-15, 22-11, 21-12, 21-04-B, 21-04-A, 21-03-B, 21-03-A, 20-28, 19-17, 19-06 and 24-09.

2.1.4 Service checks have been carried out for areas 22-04, 22-06, 19-06, 20-28, 22-18 and 19-21 and any services are shown in the LSWSI figures in Section 21. Further service checks are ongoing and this RAMS will be updated once they are complete.

2.1.5 Expected dates of works: 18/01/2020–June 2021

2.1.6 Provisional team composition: Supervisor and team of 6 archaeologists.

2.1.7 Significant risks/ hazards (anything 10 or above before control measures applied)

- COVID 19
- General plant operations
- Off-loading plant and equipment
- Driving
- Unfamiliarity with SSOW, RA and procedures
- Utilities and buried hazards
- Diseases
- Unexploded Ordnance (UXO)
- Deep excavations
- Incorrect PPE

3 SITE CONTACTS

Name	Role	Telephone	Notes
Ian Smart	WA Occupational Health & Safety Specialist		
Si Cleggett	WA Occupational Health and Safety Advisor	07525 818017	
Richard O'Neill	WA Senior Project Manager		
John Winfer	WA Project Manager		
Jamie Porter	WA Supervisor		
Max Higgins	WA Logistics Supervisor		
LM Joint Venture	Principal Contractor	02920 775000	6th Floor, Cornerblock, Two Cornwall Street, Birmingham, B3 2DL
Paul Hunt	LM Project Manager		
Rob Arnold	LM Construction Manager		
Colm McDaid	LM Construction Manager		
Dean Musgrave	LM H&S Manager		
Alex Cottee	Assistant Project Manager		
Alastair Hancock	DJV Technical Lead-Archaeology and Heritage		
Glenn Rose	DJV Senior Consultant		

4 EMERGENCY NUMBERS AND MEDICAL CARE

Name	Role	Telephone	Location
Jamie Porter	First aiders		Site
Heartlands Hospital	Accident and Emergency for Test Pit Areas 19-13A, 19-13B and 19-21	0121 424 2000	Heartlands Hospital Bordesley Green East Bordesley Green Birmingham West Midlands B9 5SS
Good Hope Hospital	Accident and Emergency for Test Pit	0121 424 2000	Good Hope Hospital Rectory Road

	Areas 22-04, 22-06, and 22-18		Sutton Coldfield West Midlands B75 7RR
Queens Hospital	Accident and Emergency for Test Pit Areas 22-07, 22-08, 22-09	01283 566333	Queens Hospital Burton Queen's Hospital Belvedere Road Burton-On-Trent Staffordshire DE13 0RB
Warwick Hospital	Accident and Emergency for Test Pit Area 23-02	01926 495321	Warwick Hospital Lakin Road Warwick Warwickshire CV34 5BW
National Grid	National Gas Emergency Service	0800 111 999	
	Electricity Emergency Service (major overhead lines only)	0800 40 40 90	
Western Power Distribution	Local electricity provider	0800 096 3080	www.westernpower.co.uk/
Cadent	Local gas provider	0800 111 999	https://cadentgas.com/home
Severn Trent Water	Water and Sewage service	0800 783 4444	https://www.stwater.co.uk/
Emergency Response Team	To be contacted in the event of an emergency or major incident if the Project Manager is unavailable.	07809 495395	
Emergency services		999	
Non-emergency medical advice/ support		111, not available in all parts of Wales in this case use 0845 46 47	
Non-emergency police		101	
Employee Assistance Programme		0800 047 4097 (wellbeing and emotional health resources, including counselling service)	
NHS online advice and symptom checker for Covid-19		https://111.nhs.uk/covid-19	

4.1.1 When someone is injured getting medical assistance is a priority. The pandemic is having an effect on NHS services. An ambulance should still be called when needed but you might have a longer wait than usual. In most cases colleagues can no longer wait in A&E with an injured person, so make sure they have a charged mobile phone with them. For any circumstance where there is a less critical injury there may be local requirements to call 111 first for advice before taking someone to A&E by car or taxi.

5 COVID-19 STATEMENT

5.1.1 The current guidelines for Covid-19 secure working will be adhered to at all times our staff are in our offices, on site or traveling to site. If it is deemed that the site cannot follow these

procedures then work will cease, and the site will be made safe. The Client will be kept informed of all Covid-19 developments.

5.1.2 Wessex Archaeology's Coronavirus (Covid-19) policy and protocols follow PHE guidelines and BEIS Guidance and are set out in WA Covid-19 procedure document (available on SharePoint) and are summarised below (Full WA document to be held on site):

- No one with a high temperature, new persistent cough, or loss or change to your sense of smell or taste will be allowed into our offices, or on site, if anyone falls ill whilst at work for WA they should return home immediately;
- No one who is isolating following a test or after returning from travel abroad will be allowed to attend site;
- Staff are to travel in separate vehicles, or by other means agreed in advance;
- All tools and equipment (inc tech) will either be personal issue or cleaned between users;
- All finds bags and sample buckets will be wiped down before despatch from site, and on arrival at our offices;
- Clean welfare to be always maintained. Cleaned before and after use by each person;
- Team to stagger breaks where necessary, washing hands (for 20 sec) at the start of each break; and
- After finishing break clean down surfaces using wipes and bin used materials, then wash hands (for 20 sec) before return to work.

5.1.3 During the current coronavirus outbreak staff will increase hygiene measures in line with advice from Public Health England (PHE) - (see detailed control measures in the risk assessment below).

5.1.4 We aim to ensure that all our activity can be carried out observing social distancing measures of at least 2m. Our staff know to discuss with the site director/ line manager if this is proving challenging.

5.1.5 The situation regarding Covid-19 and advice from PHE will be routinely monitored and these procedures reviewed. The dynamic risk assessment will be updated as required.

6 WELFARE

6.1.1 An ECO 7 welfare unit or similar and welfare vans will be provided.

6.1.2 Warm water/ hot running water and washing facilities will be available in the welfare facilities. Hand sanitiser/gels may be carried and used where the hands are visibly (i.e. physically) clean and as a supplement to washing with soap and water.

6.1.3 Drinking water and hot drink making facilities will be provided in the messing areas. Staff should also ensure they have an adequate supply of drinking water on site. Messing areas must be kept clean and tidy, all litter is to be bagged each day and removed from site. All common surfaces and touch points should be sanitised before and after use.

6.1.4 A designated smoking area will be established. No smoking is permitted in work vehicles or site accommodation.

6.1.5 During the current coronavirus outbreak staff will increase hygiene measures in line with advice from PHE (see detailed control measures in the risk assessment below).

7 CONTROL MEASURES AND SAFE SYSTEMS OF WORK

7.1.1 In addition to the measures outlined in the Covid Statement (**Section 5** above) the following key control measures and safe systems of work (SSOW) have been identified.

7.2 Inductions and attendance log

7.2.1 Inductions will be carried out by LM-JV for all personnel prior to being allowed to work on site.

7.2.2 A mandatory site induction will be given by the WA Site Supervisor for all staff and visitors prior to them being allowed on site. A start of shift briefing will be completed daily by WA. This will detail any changes to the working environment and / or specific considerations for the planned daily activities. There will also be an opportunity to review the previous day's activities and obtain feedback.

7.2.3 All staff, contractors and visitors to the site must sign in and out in the attendance log located at the Site office.

7.2.4 All employees will be briefed on the content of this method statement, WA's health and safety policy, and the site-specific risk assessment before commencing work. All employees and sub-contractors will sign-off the project Risk Assessment to confirm such briefing has occurred, and WA will also maintain a record of all safety inductions and tool box talks. Employees will be instructed to co-operate on all matters of health and safety.

7.2.5 WA will only gain access to the Site by means of agreed routes in line with the CPP Traffic Management Plan (TMP).

7.3 Working hours

7.3.1 To minimize disruption to local communities, wherever possible working hours will be restricted to between the hours of 0800 and 1615, Monday to Thursday and 0800 to 1500 Friday only.

7.3.2 If weekend working or extended hours during weekdays are unavoidable (and such will only be considered if there are no alternative arrangements feasible – e.g. to complete the excavation of human remains, items covered under the Treasure Act *etc.*), these will be discussed and agreed in advance with the Client.

7.3.3 Only authorised and competent drivers will be used.

7.4 PPE

7.4.1 The following PPE has been identified following the completion of the Risk Assessment and shall be taken to site and worn as indicated in the table below:

Mandatory	As required
Orange high visibility jacket or vest and high visibility trousers	Warm clothing depending on weather conditions

Appropriate coloured Safety helmet with, where applicable through risk assessment, suitable chin strap	Waterproof clothing depending on weather conditions
Safety footwear (incorporating toe and mid-sole protection and provides support to the ankle)	
Light eye protection.	
Gloves (specific to the work activities)	

7.4.2 In addition, a mobile phone and first aid kit will be easily available to all staff at all times. First aid kits are held in the Site Office and site vehicles.

7.5 Utilities

7.5.1 WA proposes to adopt the following outline methodology which conforms to CIfA (2014a, 2014b) guidelines for archaeological evaluation and the agreed LSWSI.

7.5.2 Service plans provided by LM via the DURS system will be consulted before work commences (see Risk Assessment – Utilities and buried hazards) and areas will be scanned with a Cable Avoidance Tool and Signal Generator (CAT and Genny) to check for any uncharted services. WA has carried out its own search via Linesearch, geophysical survey results and online aerial imagery via Google Earth. Service plans for areas 22-04, 22-06 and 19-21 are shown in the figures of the LSWSI for these works in Section 21 below. No services have been identified in areas 22-06 or 19-21. Overhead electric cables are present in area 22-04. Service plans for the remaining sites will be added before those works commence.

7.5.3 Current and accurate information has been sought regarding the presence of below/above ground services/ and network operators have been contacted in advance of the works to agree mitigation measures

7.5.4 Test pits will be positioned to avoid known services. A 10 m buffer zone will be established either side of all services. These will be marked up prior to the commencement of ground works and vehicle movements across these areas will be restricted.

7.5.5 Before any excavation commences, the areas will be walked over and inspected to visually identify, where possible, the location of above and below ground services.

7.5.6 Any located services will be treated as live and will be marked up, protected and identified as such.

7.5.7 Potential crossing points will be established below overhead cables prior to attending site based on information provided by the asset owners. Where asset owners have not supplied accurate above ground heights of the overhead cables, these will be measured by WA staff using a cable height detection tool (Suparule). Be aware that cables may sag in hot weather. Where adequate crossing points cannot be established, smaller plant or alternate access routes will be used.

7.6 Site setup

7.6.1 A welfare unit and welfare vans will provide sufficient welfare facilities for seven people. It is expected that each test pit area will take a week to complete.

7.6.2 The plant and welfare unit will be secured by means of Heras fencing erected in accordance with the specification provided by LM (**Appendix 1**).

7.6.3 The compound will be further secured by means of a series of security modules (Daleks) controlled from a remote control centre, who will be able to deploy a mobile patrol should any out of working hours security issues arise.

7.6.4 Plant will arrive by low loaders driven by a competent and trained person into the designated delivery zones and will be unloaded under the guidance of a qualified Banksman and machine operator.

7.6.5 Any lifting operations will be carried out in accordance with the Wessex Archaeology/ Notus Heavy Lift Solutions WP29 Lifting Plan and RAMS and any equipment used for lifting (in this instance hiabs and/or mechanical excavators) must have the necessary LOLER certificate.

7.7 Plant operations and vehicle movements

7.7.1 All plant operators are to hold a valid a CPCS (or equivalent) Competent Operator (blue) Card unless a Trained Operator (red) Card holder under the supervision of a Competent Operator. Valid certification/ card must be confirmed by the Site Director and a record kept.

7.7.2 Exclusion zone to be maintained and managed by the banksman/ monitoring archaeologist during all plant movements and mechanical excavation.

7.7.3 All plant to be maintained in good working order at all times and switched off whenever not required.

7.7.4 A fuel bowser for plant refuelling will be located within the compound. The bowser will sit within a plant nappy. All plant will be fuelled within the designated area within the compound and with plant spill trays/ spill kits to hand.

7.7.5 Plant, operators and banksman will be provided by, and be the responsibility of WA (See Risk Assessment - General plant operations). Mechanical excavation will be carried out by 360˚ tracked excavators with toothless ditching buckets provided by AE Faulks Ltd. Daily plant and plant operator checks and records will be the responsibility of AE Faulks but WA will keep a record of assurance checks on plant operators qualifications and daily checks.

7.7.6 All WA vehicles and tools (mattocks, shovels etc) must be in good repair and any defects will be reported to the WA Site Director.

7.8 Deep excavations, excavation collapse

7.8.1 Excavation works will be carried out in conjunction with WA procedures and with the CPP.

7.8.2 Overall site fencing will be the responsibility of WA and in accordance with specifications provided by LM-JV. A separate Method Statement for the erection of fencing is included as an appendix to this document (**Appendix 1**). Individual archaeological interventions will be secured by WA staff with Netlon type plastic fencing and pins and/or pedestrian barriers.

7.8.3 There is no safe minimum depth of excavation. Excavation area sides to be stepped as ground conditions demand, regardless of depth, and in any event, there are to be no unsupported sections greater than 1.2m depth.

7.8.4 Excavation area sides will be stepped or battered as ground conditions demand, regardless of depth.

7.8.5 Spoil will be stored in agreed areas. Spoil from excavated features will be cast a safe distance from the features.

7.8.6 All excavations should be checked prior to the start of each shift and recorded on a weekly basis in line with WA procedures. More frequent checks will be carried out as required (i.e. after heavy rain).

7.8.7 Inspections must be completed by a competent person i.e. WA Site Supervisor. A competent person in respect of excavation inspections is someone with the experience, knowledge and appropriate qualifications necessary to enable them to identify any risks that are present and decide upon the measures required to control those risks.

7.8.8 If the competent person is not satisfied that the work can be carried out safely, he/she will inform the WA Project Manager as soon as is practicable. The WA Project Manager will in turn inform the LM-JV Project Manager. No work will take place in the excavation until the defects have been rectified and agreed as such by the competent person. All such excavations should be clearly identifiable through the use of signage.

7.8.9 Excavated spoil, tools, equipment etc. will be stockpiled/ stored at least 1m beyond the edge of the excavations to minimise trip hazards.

7.8.10 Suitable access to excavations to be provided if required. Where practicable access points will be ramped and battered. Where ladders are used for access these will be of suitable length, secured and at a 75° angle. All ladders must be inspected before use.

7.8.11 All deep excavations to be fenced off and warning signs placed at access points.

7.9 Walking over uneven ground.

7.9.1 Control measures for slips, trips and falls are in Standard Procedures (section 13) of the Risk Assessment below.

7.9.2 Ground inspections will be completed by a competent person. A competent person in respect of ground inspections is someone with the experience, knowledge and appropriate qualifications necessary to enable them to identify any risks that are present and decide upon the measures required to control those risks.

7.9.3 If the competent person is not satisfied that the work can be carried out safely, he/she will inform the site manager as soon as is practicable. No work may take place until the defects have been rectified and agreed as such by the competent person.

7.10 UXO

7.10.1 No known UXO risk was identified in the Project Plan (doc ref: : 1EW04-LMJ_DJV-EV-PLN-N000-029011).

7.10.2 Control measures are provided in the Unexploded Ordnance (UXO) section of the Site Specific Risk Assessment below.

7.11 Asbestos/ Contamination

7.11.1 No known asbestos risk or ground contamination risk was identified in the Project Plan (doc ref: 1EW04-LMJ_DJV-EV-PLN-N000-029011) within the site. Staff should be vigilant to the potential presence of contaminated material at all times.

7.11.2 All WA staff to be UKATA (asbestos awareness) trained. WA staff will not knowingly handle, dispose of, transport or store materials likely to contain asbestos. Control measures are provided in the Specific Risk Assessment below.

7.12 Training and competency

7.12.1 All fieldwork staff are certified through the Construction Skills Certification Scheme (CSCS) or UK equivalent. Key staff also have qualifications in the use of CAT and Genny equipment through the National Plant Operators Recognitions Scheme (NPORS) and asbestos awareness training (UKATA).

7.12.2 All supervising staff have undertaken the IOSH Managing Safely or Site Supervisor Safety Training Scheme (SSSTS) training. Approved banksmen hold the NPORS plant machinery marshal certification.

8 ENVIRONMENTAL PROCEDURES

8.1 General

8.1.1 WA will comply with LM-JV environmental requirements. Control measures are provided in the Environmental Measures (section 17) of the Risk Assessment below.

8.2 Ecology

8.2.1 In advance of Phase 1 works LM-JV and the DJV Ecological Clerk of Works (ECoW) will advise WA of ecological assets that could be potentially impacted upon by the archaeological works and supply an eco site pack for the works. Advice will be taken from the ECoW regarding any updates to the eco site pack prior to works and the location of any areas identified as exclusion zones for ecological reasons in advance of fieldwork commencement. The eco site pack will be attached as an appendix to this RAMS once it is completed.

8.2.2 The ECoW will undertake regular site monitoring and provide the WA staff and subcontractors with tool box talks on relevant subjects throughout the course of the fieldwork.

8.2.3 All vehicles and equipment which may have been potentially contaminated by contact with the ground will be disinfected before leaving site or moving between different areas of the landholding using a disinfectant on the DEFRA approved list.

8.3 Asbestos

8.3.1 Although the presence of ACMs is not known (see 8.12 above), such material can commonly be found. All Wessex Archaeology staff have passed the UKATA Asbestos Awareness E-Learning training module.

8.4 Zoonoses

8.4.1 There are no indications that zoonoses are present. However, mitigation measures to prevent the transfer of animal diseases are included in the Site Specific Risk Assessment (Rural/ farm environment/ rats section) below.

9 EMERGENCY PROCEDURES

9.1 Fire

9.1.1 All WA staff will comply with the emergency procedures contained in the Construction Phase Plan (CPP) – Enabling Works North Contract (doc. ref: 1EW04-LMJ-HS-PLN-N000-000003).

9.1.2 On discovering a fire staff to raise the alarm immediately by raising the air horn in the management office and calling 999.

9.1.3 On hearing the alarm all staff, visitors and sub-contractors to evacuate to the Water Orton Entry sign in point. The attendance log will be collected and used to ascertain whether anyone remains unaccounted for. Where staff or contractors might have difficulty hearing the alarm, for example due to required ear protection, a SSoW will be put in place to ensure that they are alerted (e.g. by designated staff member outside of noisy/ ear protection zone).

9.1.4 Staff to tackle fire only if considered safe and competent to do so.

9.2 Emergency response

11.1.8 In the event of an accident/illness resulting in a person being unable to move to seek medical attention, a metal trackway has been laid between the main compound and the site to enable emergency response vehicles to access the area.

11.1.9 For less severe injuries, the trackway will be used by site vehicles. The local hospital route is displayed in the site director's office and in communal areas such as canteens.

10 REPORTING

10.1.1 All injuries are to be recorded in the Accident Book and reported to the Project Manager and LM-JV. Any accidents resulting in injuries requiring hospital treatment must be reported to the SH&E Manager as soon as possible. All RIDDOR level injuries, disease or dangerous occurrences will be reported to HSE or Local Authority as applicable within 24 hours.

10.1.2 Near miss incidents should be reported directly to the Site Director as soon as possible. These incidents should be recorded on an Incident Report form which shall be forwarded to the Project Manager, SH&E Manager and LM-JV as soon as practical.

10.1.3 Any contractor making a report under RIDDOR must inform LM-JV.

11 COMMUNICATION PLAN AND RESPONSIBILITIES

11.1.1 It is the responsibility of the Project Manager to:

- Brief the Site Director on the context of the works and health and safety requirements prior to commencing work at the site

- Ensure preparation of site safety documentation, Location Specific Written Scheme of Investigation and method statements for undertaking the programme of archaeological work;
- Established and confirm 3rd party contractors and suppliers who will be required for site; and
- Liaise with the Site Director, Consultant/s, Client, LM-JV and curators.

11.1.2 It is the responsibility of the Site Director to:

- Have the day to day responsibility of running the fieldwork on site, coordinating and supervision of the fieldwork staff and 3rd party contractors and equipment;
- Liaise with the Client, LM-JV and Project Manager;
- Ensure and supervise the safe delivery and collection of any equipment on to site;
- Ensure that the machinery to be used has the appropriate test certificates and is properly stored;
- Confirm that all contractors have appropriate qualifications as set out within this RAMS;
- Ensure that the control measures specified within this RAMS are implemented;
- Advise the Project Manager of any change in conditions which may require any control measures to be varied and to implement these measures in the field; and
- Ensure the overall work area is tidy and equipment and that spoil and waste are stored safely.

11.1.3 All staff and subcontractors are responsible for: -

- Only undertaking tasks for which they are competent and/ or trained to do so;
- Ensuring their work area is tidy and equipment and wastes are stored safely;
- Checking the condition of any equipment they are using prior to use and reporting any defects immediately;
- Following the control measures as outlined in this RAMS in relation to their duties; and
- Reporting anything which seems unsafe to the Site Director immediately.

12 SECURITY/ ACCESS/ TRAFFIC.

12.1.1 Access to the site will be by agreed routes and in accordance with the LM-JV Traffic Management Plan and WA Construction Logistics Plan (CLP).

12.1.2 WA will book deliveries in accordance with the LM-JV Logistics Environment, Sustainability and Safety Management Plan (LESSMP) and will communicate any site access issues with LM-JV.

12.1.3 All plant will be locked and secured with anti-vandalism shutters within the designated fenced area outside of working hours.

12.1.4 Outside of working hours, PID security systems will be set.

13 STANDARD PROCEDURES

Hazard/ issue	Consequence	Control measures	Responsibility	Further detailed RA?
General measures	General measures for implementation to maximise any reduction in risk rating.	• A mobile phone will be available at all times for use in emergencies. This should be kept as fully charged as possible. • Anything that is or seems to be unsafe will be reported to the WA Site Director immediately. Unresolved issues to be reported to the Project Manager and where appropriate to the client/ landowner. • A first aid kit will be available to WA staff and others at all times (i.e. in the messing area and/ or vehicles). Where first aid kits are unavailable and there is a likelihood of injury staff should carry a travelling first aid kit. • Directions to the first aid kit, a copy of the WA Health & Safety policy, a HSE guidance poster/ leaflet, a valid insurance certificate and a copy of this Risk Assessment will be clearly accessible and where possible displayed (e.g. in the welfare unit).	Site director All staff	-
Weather conditions	Exposure to wet, cold and/ or storm conditions, risk of lighting strike, hypothermia	• Appropriate waterproof clothing to be carried/ close at hand and worn when necessary. • No fieldwork to be undertaken during electric storms. • Dry clothing to be available, as necessary.	All staff	N
	Dehydration, sun burn and heat stroke during hot/ sunny weather	• Sun cream, min. SPF15 (though SPF30+ recommended) with good UVA and UVB protection to be applied regularly to exposed skin. • Regular breaks to be taken in shade during hot/ sunny weather to limit exposure to sun – use project vehicles if no alternatives available. • Appropriate clothing to be worn (topless working prohibited; long sleeves, trousers and sun hat to be worn wherever feasible).	All staff	N

Hazard/ issue	Consequence	Control measures	Responsibility	Further detailed RA?
		• Drinking water to be available on site and consumed at regular intervals – do not wait until thirsty, thirst is a symptom of dehydration. • If necessary, wear sunglasses/ safety glasses that offer good UV protection, particularly where glare may be a factor (e.g. investigations on chalk, sites on or near large bodies of water etc.).		
PPE (general)	Injury due to site conditions/ hazards	• Suitable footwear to be worn at all times. For any site work this will comprise boots providing appropriate ankle support. For any situation where there is the risk of crush injuries (e.g. a dropped load) or penetrating injuries (e.g. from a sharp object) to the foot, safety boots with insole and toe protection (either steel or composite) are to be worn. • Waterproof clothing to available and close at hand. • All staff and visitors to adhere to any PPE requirements outlined by the client or their principal contractor. • PPE to be appropriately fitted and in good condition. • (Further information on specific PPE requirements are to be found in the Equipment and Site sections of this RA)	All staff	N
Slips, trips and falls	Likely injuries include: 1) Twisted ankles and knees - ligament and muscle damage, 2) Head injuries, cuts and abrasions or broken bones	• In line with general PPE measures WA staff will wear boots with ankle support and, where applicable, toe and insole protection. • Areas and routes used by WA staff on foot (pedestrians) should be understood and established. To reduce the risk of slip and trip these areas will so far as is reasonably practical be kept free from obstruction and trip hazards – good housekeeping. These areas and routes will only be fenced where that is warranted by other relevant hazards/ factors such as work at height, environmental protection or plant operations. Where a planned activity compromises a safe pedestrian area or route then this will be this will be communicated to WA staff and where necessary alternative access arrangements will be	Site director All staff	N

Hazard/ issue	Consequence	Control measures	Responsibility	Further detailed RA?
		made. Where the route or area is compromised unexpectedly WA staff should inform the supervisor as soon as practical. • When manoeuvring loads check route is clear of hazards and if visibility is restricted by the load use an additional person to guide.		
Public engagement	Negative effect on local communities, poor image for the company, possible injury	• All staff to be polite and courteous to members of the public. • Do not get drawn into debates about issues around any proposed development. • All negative contact with the public should be reported to the Project Manager immediately. • If threatened by any members of the public, remove yourself from that situation to a place of safety (e.g. locked vehicle) and phone 101 for advice and support or 999 if in serious immediate danger.	Site director All staff	N
Harassment, discrimination, bullying or intimidation	Unsafe, stressful or uncomfortable working environment	• All staff have the right to work in an environment free from harassment or discrimination. • Wessex Archaeology will not tolerate behaviour from staff, clients or other sub-contractors which makes staff feel distressed, intimidated or offended. • Where appropriate talk to the individual (or ask your supervisor to do this on your behalf) and ask them to amend their behaviour. • For more serious or unresolved issues report the matter to the Site Director, Project Manager and HR. • If you feel physically threatened remove yourself from that situation to a place of safety (e.g. locked vehicle) and phone 101 for advice and support or 999 if in serious immediate danger.	Site director All staff Client Sub-contractors	N
Fire	Injury resulting from burns and smoke inhalation	• No smoking in work vehicles or site accommodation. • Where provided, smoking to only take place in designated areas.	Site director All staff	N

Hazard/ issue	Consequence	Control measures	Responsibility	Further detailed RA?
		• Fuel cans and other flammable chemicals to be clearly labelled and safely stored. Hot or ignited materials to be fully extinguished before disposal. • No smoking within or adjacent to buildings except where there are designated areas. • On discovering a fire staff to raise the alarm immediately. • On hearing the alarm all staff, visitors and sub-contractors to evacuate to safe area or designated muster point. • Staff to tackle fire only if considered safe and competent to do so. • Fire extinguishers to be available on site in the following circumstances: - Water (red) to all sites where WA are in control of works; - In addition, Foam (cream) when WA is responsible for fuel; and - In addition, CO2 (black) when there is an electrical fire risk such as a generator to the welfare.		
Incident reporting	Failure to learn and improve from incidents and near misses	• The Site Director should notify the Project Manager about any injury, incident, damage to equipment, near miss, or environmental incident. A record should be kept of the circumstances, including photographs where appropriate. Wherever possible the forms on the 'The Hub WA SharePoint site should be used to record these occurrences. • This RA should also be updated to reflect any new control measures agreed.	Site director Project Manager	N

14 COVID-19 MEASURES

Hazard/ issue	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
		L[1]	C	R		L	C	R	
General Measures - all business	Sickness and absence from work, risk of serious illness or death to those with underlying health problems	4	5	**20**	• Covid-19 specific briefings will be delivered at team level and repeated where necessary. • Any staff member who consider themselves to be vulnerable to Covid-19 in any way or who lives with such a vulnerable person should discuss with their line managers suitable work arrangements. • Staff should maintain high levels of personal hygiene with regular hand washing with soap for at least 20 seconds (hot/warm running water and soap is more effective than hand sanitizers). • Hand sanitisers are provided at entrances and at key places around our buildings and sites. Sanitizers can be used when soap and water are not available or in addition. • Staff should cover their mouth and nose with a tissue or sleeve when they cough or sneeze and dispose of used tissues straight away. • Staff should make a conscious effort to avoid touching their eyes, noise or mouth. • All staff should remain vigilant and monitor colleagues for symptoms (continuous cough, high temperature, loss of taste smell, etc). Any staff member feeling unwell must advise the Site Director/ line manager at the earliest opportunity. • Covid-19 secure messages will be reinforced with information notices and signage displayed in prominent places.	2	5	**10**	Project manager Site director All staff

[1] L= Likelihood, C=Consequence/ severity, R=Risk (LxC). See matrix inside backcover.

Hazard/ issue	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
		L[1]	C	R		L	C	R	
					• Meetings/ conversations (both internal and external) to be conducted via 'Teams' or other online platforms in preference to 2m+ face to face.				
Additional General Measures - site	Sickness and absence from work, risk of serious illness or death to those with underlying health problems	4	5	**20**	• A Covid-19 specific toolbox talk will be delivered and where necessary reminders of key controls provided to all site staff on a daily basis. • Staff should maintain high levels of personal hygiene with regular hand washing with soap for at least 20 seconds (hot/warm running water and soap is more effective than hand sanitizers). • Where access to soap and water is limited then hand sanitizers can be used. • Meetings, briefings and toolbox talks will be held in open spaces with 2m+ separation maintained.	2	5	**10**	Site director All staff
Emergency procedures	Sickness and absence from work, risk of serious illness or death to those with underlying health problems	4	5	**20**	• If a member of staff becomes unwell on site or in our offices with Covid-19 like symptoms then the Site Director/ line manager must immediately inform the Project Manager who must then seek advice at SMT level who will provide such on a case by case basis. • Fire marshals to remind workers to aim to maintain 2m+ separation so far as is reasonably practicable during any evacuation and at assembly points. This is in addition to wearing face coverings if they are available. • Whilst not reducing level of care, when a person requires first aid we will endeavour to minimise the time and number of persons near the injured person. As appropriate cover the mouth/nose of the injured person and those providing first aid. As in normal circumstances gloves (provided in the first aid box) should be worn. • In a first aid situation do not move the injured party unless necessary as this will require close contact.	2	5	**10**	Site director Fire marshals First aiders

Hazard/ issue	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
		L[1]	C	R		L	C	R	
					• If a driver becomes unwell or is injured on site and this affects site travel then seek advice at SMT level who will provide such on a case by case basis.				
Travel & arrival at site	Sickness and absence from work, risk of serious illness or death to those with underlying health problems	4	5	**20**	• At present without specific prior agreement Wessex Archaeology operatives will travel to site one person per vehicle. This does not apply to our contractors. • Operatives from the same household may share vehicles. • Use of larger company vehicles/ hired vehicles may be practical to carry more people where a degree of social distancing can be achieved. • In all cases operatives should ensure vehicles are well ventilated – windows part way down. • When shared vehicle travel has been agreed then face coverings will be worn. • All company vehicles must be thoroughly wiped down with appropriate cleaning products before and after use; ensuring all touch points are clean – steering wheel, handles, indicators, gear stick, etc. • Travel to site by public transport and other travel arrangements are to be cleared in advance at SMT level. Face coverings must be worn on public transport. • When getting in or out of vehicles on site, staff should be aware of those in other vehicles and ensure social distancing is maintained. • There should also be handwashing facilities at the entrance to site, to ensure good hygiene.	2	5	**10**	All staff
Site welfare and procedures	Sickness and absence from work, risk of serious illness or death to those with underlying health problems	4	5	**20**	• Operatives should observe both social distancing and good hygiene practice when using the on-site welfare facilities, including during breaks. • All welfare facilities to be marked with tape where necessary as a visual aid to assist with social distancing.	2	5	**10**	Site director All staff

Hazard/ issue	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
		L[1]	C	R		L	C	R	
					• Operatives should be bringing their own lunch, flasks and refillable drinking bottles from home. They should avoid leaving site unless necessary, which is to include break and lunch times. • We will avoid using kettles, microwaves and other items with the potential to be touched by a lot of people. • Fresh drinking water will continue to be available but with enhanced cleaning of taps. • Additional cleaning measures will be in place; to include seating and common areas likely to be touched (doors, handles, taps, tables, etc) as well as standard welfare provisions. [before and after break] • Access to WCs to be limited. Operatives should practice social distance queuing if other operatives are washing their hands. [1 per per unit] • Seating within the offices/ cabins will be spaced to assist with social distancing and the windows will be kept open when staff are using the room • Suitable and sufficient rubbish bins for hand towels with regular removal and disposal will be provided. • Hand cleaning facilities or hand sanitiser should be available at the entrance of any room where people eat and should be used by operatives when entering and leaving the area. • The effectiveness of cleaning and adherence to social distancing in the welfare facilities will be monitored by the site director. • Additional facilities may be necessary, and this is kept under regular review by the project manager.				
Office common areas + welfare	Sickness and absence from work, risk of serious illness	4	5	**20**	• Staff should observe both social distancing and good hygiene practice when using any common area including the welfare facilities.	2	5	**10**	H&S team All staff

Hazard/ issue	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
		L[1]	C	R		L	C	R	
	or death to those with underlying health problems				• All welfare facilities to be marked with tape where necessary as a visual aid to assist with social distancing. • Staff should wherever possible be bringing their own lunch, flasks and refillable drinking bottles from home. • Staff are encouraged to avoid using kettles, microwaves and other items with the potential to be touched by a lot of people. • Fresh drinking water will continue to be available but with enhanced cleaning of taps. • Additional cleaning measures will be in place; to include seating and common areas likely to be touched (doors, handles, taps, tables, etc) as well as standard welfare provisions. [before and after break • Access to WCs to be controlled. Staff should practice social distance queuing if other staff are washing their hands. [1 person per unit] • Suitable and sufficient rubbish bins for hand towels with regular removal and disposal will be provided. • In corridors please pass to the left and on stairs allow those coming down to have priority. • The effectiveness of cleaning and adherence to social distancing in the common areas and welfare facilities will be monitored.				Office support staff
Approach to avoidance of close working	Sickness and absence from work, risk of serious illness or death to those with underlying health problems	4	5	**20**	• Work will be planned/ re-assessed to minimise interaction between workers. • Movement around site/ buildings will be planned to minimise contact between workers. A one-way system for pedestrian traffic will be considered. • Separation of 2m+ should be achieved in most circumstances. Markers tape or barriers will be used where appropriate to aid workers in achieving this.	2	5	**10**	Project manager Site director All staff

Hazard/ issue	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
		L[1]	C	R		L	C	R	
					• Where the 2m+ separation is not achievable workers should discuss this immediately with the site director/ line manager. The site director/ line manager will modify the task and where necessary amending risk assessments. • Work requiring skin to skin contact or where this may inadvertently happen will not be carried out. • Sharing of tools is to be avoided. Hand tools should be labelled with the operative's name and not shared. • Other equipment (eg IT, phones, cameras, total station etc) should be thoroughly cleaned using appropriate cleaning materials by the operative after use and before anyone else handles it. • The inside of company vehicles will be regularly cleaned. A record will be kept. • Re-usable PPE should be thoroughly cleaned after use and not shared between workers. • Single use PPE should be disposed of so that it cannot be reused. • We do not anticipate that general wearing of face coverings will be necessary as a Covid-19 control measure. The anticipated exceptions are shared use of vehicles, providing first aid and at emergency evacuations of our offices. • The effectiveness of cleaning and adherence to social distancing on site will be monitored.				
Non WA workers	Sickness and absence from work, risk of serious illness or death to those with underlying health problems	4	5	**20**	• Whether or not a direct risk to WA staff is posed we consider it our social responsibility in the current crisis to report in some form the following situations. The site director should determine who the situation is reported to and how.	2	5	**10**	Site director All staff

Hazard/ issue	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
		L[1]	C	R		L	C	R	
					• A non WA worker on site appears to be unwell with relevant symptoms and no steps appear to be taken to ensure they leave site. • One or more non WA workers is tasked to work in close proximity to WA staff without prior agreement. • A non WA worker is repeatedly less than 2m away from any others in common areas such as welfare or site entrances • Aggressive or negative attitude from a non WA worker when a social distancing concern has been raised informally.				
Overnight Accommodation	Sickness and absence from work, risk of serious illness or death to those with underlying health problems	4	5	**20**	• At present Wessex Archaeology operatives will only be using overnight accommodation on essential projects. The default is single occupancy accommodation. This does not apply to our contractors. - Operatives from the same household may share accommodation. • At the point of booking, the accommodation provider will be asked to explain how their premises is being made covid secure. The response will be recorded and communicated to the project manager to share with the project team. • Measures we expect will depend on the type of accommodation but might include.. • - How the room is to be cleaned/ serviced during the stay • - Provision of hand sanitiser & surface wipes. • - Availability of food refreshment. • - Access arrangements & parking. • We do not expect our staff to use overnight accommodation that is not safe. Our staff using overnight accommodation are advised as follows • - Comply at all times with social distancing expectation and requests to use face coverings, not just at the work site.	2	5	**10**	Project manager Site director All staff

Hazard/ issue	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
		L[1]	C	R		L	C	R	
					• - Regularly wash your hands for 20 sec plus during your stay, especially before and after eating and sleeping. • - In addition, during every day of your stay have as few interactions as possible with anyone including WA staff. You could be fined for not socially distancing when not at work. • - On arrival check the accommodation is as expected and report any concerns immediately to the project manager, who will if necessary, arrange alternative accommodation. • - Plan food buying to minimise number of shops visited: for example using click & collect, deliveries, etc. • - Ensure you have prepared for evenings – books, IT devices, kit for in/outdoor exercises, etc.				

15 EQUIPMENT RISK ASSESSMENT

	Hazard	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
			L[2]	C	R		L	C	R	
1.	General plant operations	Injury to WA staff, visitors, other contractors or other plant during machine excavation, including crushing and entrapment	4	4	**16**	• A permit to dig will be produced and issued by WA prior to excavation. • Hi-vis vests, safety boots, safety helmet, gloves, safety glasses to be worn by all persons in areas where plant is operational at all times. • All plant operators to be CITB/ CPCS certificated. Operators must hold a valid a Competent Operator (blue) Card unless a Trained Operator (red) Card holder under the supervision of a Competent Operator. • All plant operators to be made aware of WA working practices. All plant movement to be monitored. • All staff to be made aware of plant movement in their area. • Exclusion zone to be maintained and managed by the banksman during all plant movements and mechanical excavation. Those monitoring plant should keep their distance from moving parts and maintain in communication with the operator. • No staff, visitors, vehicles or unused plant to be within the working radius of plant. • Where there is sustained, moderate to high levels of noise (e.g. you need to raise your voice to carry out a conversion with a colleague 2m apart) ear protection to be worn. Any emergency signals required to be agreed in advance of	3	4	**12**	SD, S, Plant operator (PD)

[2] L= Likelihood, C=Consequence/ severity, R=Risk (LxC). See matrix inside back cover.

	Hazard	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
			L[2]	C	R		L	C	R	
						work and the Site Director to ensure a procedure for alerting personnel wearing ear protection in the event of an emergency situation (e.g. fire). When wearing ear protection staff must have visual contact with plant operating in their area at all times. • Plant to be switched off, parked and secured when not in use.				
2.	General plant operations	Fire	3	3	**9**	• Refuelling should take place in a suitable area with a spill kit at hand. • No smoking while refuelling. • All fuel spills should be dealt with using a spill kit. In the event of a fire follow measures as outlined in this RA.	2	3	**6**	SD, PD
3.	Off-loading plant and equipment	Injury to WA staff, visitors or other contractors or offloading including crushing and entrapment	3	4	**12**	• Vehicles will be parked on level, firm ground. • Loading and unloading will only be undertaken once all personnel are clear of the vehicle and pick up/ drop off area. Any loose equipment will be removed/ secured prior to transporting. • Lifting activities to follow the WA/ Notus Heavy Lifting Solutions WP29 Lifting Plans • Any mechanical lifting should only be undertaken where the equipment and any accessories can safely accommodate the weight. Any loads lifted should be properly secured. • Any manual handling of equipment should be done safely taking into account the size, weight and shape of the load, the route to take and any environmental factors (e.g. wet ground) and the capacity and limitations of the individuals involved. Where appropriate loads should be divided or mechanical aids used (e.g. wheelbarrow, hoist). • Specialist lifting equipment should only be used by a trained and competent person.	2	4	**8**	SD, PD, S

	Hazard	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
			L[2]	C	R		L	C	R	
4.	Manual handling	Injury to WA staff due to manual handling	3	3	**9**	• Any manual handling of equipment should be done safely taking into account the size, weight and shape of the load, the route to take and any environmental factors (e.g. wet ground) and the capacity and limitations of the individuals involved. Where appropriate loads should be divided or mechanical aids used (e.g. wheelbarrow, hoist). • Heavy lifting to be avoided where possible. If unavoidable then staff to receive appropriate training or use suitable mechanical lifting aids.	2	3	**6**	SD, S
5.	Fuel handling	Fire or explosion	2	4	**8**	• Clean up any fuel spills as soon as they occur. Ensure spill kit is available. • Do not refuel a petrol powered tool whilst it is running. Always have a suitable fire extinguisher to hand. • Fuel should be stored in secure approved containers in a well-ventilated area away from possible ignition sources.	1	4	**4**	SD, S

16 SITE SPECIFIC RISK ASSESSMENT

	Hazard	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
			L[3]	C	R		L	C	R	
6.	Driving	Injury to WA staff, contractors and members of the public resulting from traffic incidents.	4	5	**20**	• Access to the site will be by agreed routes and in accordance with the LM-JV Traffic Management Plan and WA Construction Logistics Plan (CLP). • Where feasible, projects will have two nominated drivers. All WA drivers are assessed as competent to drive for work. • Nominated drivers must familiarise themselves in advance with routes to site, local A&E services and any other destinations considered likely/ necessary as part of project work. Routes from site to A&E services to be appended to this RA. • Don't drive tired, drivers to take a break when tired and as a minimum every 2 hours. • All equipment will be securely stowed during transit, with a fixed bulkhead separating equipment and passengers. • Where necessary appropriately located 'banksmen' will assist with vehicle manoeuvring e.g. parking or turning in restricted spaces or where pedestrians or other vehicles need to be made aware or checked. • Tyres, water, oil and fuel will be checked daily. • Extreme caution will be exercised when entering or leaving public highways. • Vehicles to be parked where staff can safely disembark. If immediately adjacent to a public highway then hi-vis clothing to be worn. • With the exception of devices used for navigation in a correctly located mount, mobile phones will be turned off before	2	5	**10**	PM, S

[3] L= Likelihood, C=Consequence/ severity, R=Risk (LxC). See matrix inside back cover.

	Hazard	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
			L[3]	C	R		L	C	R	
						commencing any journey, and calls will not be taken by the driver whilst driving. • All drivers are to be fully aware of the restrictions imposed by the Gross Vehicle Weight (GVW) of the vehicle. If in any doubt a public weighbridge is to be used to confirm weight of the vehicle.				
7.	Unfamiliarly with SSoW, RA and procedures	Non-communication of risks, hazards and safe working methodologies	4	3	**12**	• All staff and visitors to read, understand and sign this RA upon arrival to site. • All staff and visitors to be given short induction concerning the risks, hazards and safe working methodologies applicable to the site. • All WA staff are CSCS card-holders, visitors to be accompanied by CSCS card holders at all times.	3	3	**9**	SD, S, visitors and sub-contractors
8.	High levels of noise due to construction activities and equipment	Temporary or permanent hearing damage, difficulties in communication	2	2	4	• Where there is sustained, moderate to high levels of noise (e.g. you need to raise your voice to carry out a conversion with a colleague 2m apart) ear protection to be worn. • Consideration to be taken about communication while staff are wearing ear protection, any emergency signals required to be agreed in advance of work. • Staff to have visual contact with plant operating in their area or be physically demarcated from any operational plant or vehicles. • Site Director to ensure a procedure for alerting personnel wearing ear protection in the event of an emergency situation (e.g. fire). • WA standard working hours are 0800 – 1615 hrs Monday to Thursday and 0800 – 1500 Friday. Weekend working or extended hours to be avoided.	1	2	2	SD, S, LM-JV
9.	Utilities and buried hazards	Injury to WA staff, other contractors and plant (including	2	5	**10**	• LM-JV has provided WA with the full results of utility searches prior to the commencement of fieldwork. This will be made available to WA staff on site. WA has carried out its own	1	5	**5**	SD,S, LM-JV

	Hazard	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
			L[3]	C	R		L	C	R	
		utilities) due to rupturing of or contact with utilities (buried or overhead).				search via DURS and Linesearch, geophysical survey results and online aerial imagery via Google Earth • If work involves travelling under overhead lines goalposts are available on site and will be erected in accordance with GS6 for plant travelling beneath overhead power lines lower than 10m. • Site and surrounding areas will be visually inspected for any clues to indicate buried services in the area. • Excavation areas will be scanned by trained personnel using a CAT and genny. • All machine excavation to be carried out in discrete 0.1-3 m spits under constant supervision. The area will periodically be rechecked during excavation using a CAT. • Any cable or pipe encountered will be considered live at all times and will be protected from any subsequent damage. • No plant to operate under overhead utilities or within the established buffer zone. The buffer zone is to be visually marked up and demarcated on site, as indicted on the site plan. Buffers will be as follows and apply from the outermost cable: Low Voltage- 2m; 11kV and 33kV- 4m; 132kV- 7m; 275kV and 400kV- 8m. • Passage beneath overhead cables by plant should be kept at a minimum and with boom, tipper body etc. lowered. Where plant must pass beneath overhead wires this must be supervised, in accordance with GS6, and at goalpost controlled crossing points, placed at a point where safe clearance distances will not be breached. Safe clearance distances to prevent contact and arcing will depend on the voltage of the line, and standard distances will apply unless otherwise specified by the asset owner: Low Voltage- 1m; 11kV and 33kV- 3m; 132kV- 6m; 275kV and 400kV- 7m (be aware clearance is both horizontal and vertical). Be aware that				

	Hazard	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
			L[3]	C	R		L	C	R	
						electricity can arc across gaps and that cables may sag in hot weather."				
10.	Working at height	Injury due to falling from height, including into holes	2	4	**8**	• 'Work at height' means work in any place where, if there were no precautions in place, a person could fall a distance liable to cause personal injury. • Where possible avoid walking or working next to significant falls. Avoid working on or near fragile surfaces/ excavated edges. • Ensure a safe means of access. • Hard hats are mandatory on site. • Where necessary report, highlight or fence off specific hazards. • Obey any warning signage.	1	4	**4**	SD, S
11.	Asbestos	Disease resulting from asbestos exposure (Asbestosis, Lung Cancer, Mesothelioma, non-cancerous Pleural diseases)	1	5	**5**	• There is no known asbestos risk. • All WA staff to be UKATA (asbestos awareness) trained. All information pertaining to possible asbestos sources to be provided by the client. • If asbestos is encountered or indicated work should stop and staff cleared out of the immediate area. The Project Manager, LM-JV, Client should be informed and an Asbestos Management Plan produced. • If dust or debris is present on staff, put on any available respiratory protective equipment, wipe down with damp rags/ wash and dispose of any contaminated material as asbestos waste. • WA staff will not handle, dispose of, transport or store materials likely to contain asbestos. • All WA staff will maintain appropriate personal hygiene standards (regular hand-washing etc.).	1	5	**5**	SD, S, LM-JV, C
12.	Contamination	Injury, ill-health and disease resulting	3	3	**9**	• There are no indications of any contamination present within the site that will be disturbed by the scope of works. Should a	1	3	**3**	SD, S, LM-JV, C

	Hazard	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
			L[3]	C	R		L	C	R	
		from contaminated ground or water				contamination threat be identified, such as hydrocarbons, sewage, pesticides etc., work should cease in this area immediately and the Project Manager, LM-JV and Client informed. The specific risk from this contamination should then be assessed in line with COSHH and all appropriate measures taken. • As a basic precaution hands should be washed at the end of the day and prior to eating. Hands should be washed after changing footwear/ external clothing. • Cuts and grazes should be cleaned out thoroughly and covered over. • Gloves and barrier cream should be used to protect hands where potential skin irritants are identified.				
13.	Lone working/ isolated working	Any injury that may be exacerbated by inability to summon aid promptly	3	3	**9**	• Lone working is to be avoided if at all possible. • A mobile phone must be carried at all times. If employees will be carrying a second mobile phone (i.e. a personal phone), then this numbers should also be made available to Head Office, colleagues, line manager etc. • Lone workers must arrange checking-in times with Manager or other appointed contact. As a minimum to include arrival and departure from site. Workers isolated or out of contact with other site personnel for protracted periods must periodically check-in with other site staff. • Where feasible carry a 1st aid kit. • Remain vigilant, do not place yourself in any position that may become hazardous.	1	3	**3**	PM, SD, S
14.	Diseases	Human to human infections (e.g. AIDS, Hepatitis)	2	5	**10**	• Staff should be aware that derelict sites and structures may have been used for squatting or drug taking and may consequently contain contaminated (with blood) sharps (typically needles but other sharp objects may also be infected) or human faeces.	1	5	**5**	PM, SD, S

	Hazard	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
			L[3]	C	R		L	C	R	
						• Staff should avoid entering such areas unless absolutely necessary and if unavoidable always wear gloves and boots with toe and insole protection. • Cuts and broken skin to be covered with waterproof plasters or dressing. • Staff to wash hands after handling any contaminated clothing or other materials and always before eating, drinking or smoking. • All staff should be immunised against Tetanus, Hepatitis A and Polio. • If staff are injured by any potentially contaminated object they should seek medical help immediately. • First aiders should put on non-latex gloves before treating any injury and dispose of these and any contaminated first aid materials as hazardous waste."				
15.	Rural/ farm environment/ rats	Zoonoses (transfer of animal diseases to humans), e.g. Bovine tuberculosis (cattle/ badgers), Leptospirosis/ Weils (rodents/ cattle), Hantavirus Disease (rodents), Lyme Disease (ticks)	3	3	**9**	• Staff to wear gloves in high risk areas. No eating, smoking or cigarette preparation in proximity to high risk areas. Cuts and broken skin to be covered with waterproof plasters or dressing. • Staff to wash hands after handling any animal, or any contaminated clothing or other materials and always before eating, drinking or smoking. • No foodstuffs or beverages to be consumed in high risk areas. Staff to avoid contact with livestock and their water troughs. • Avoid standing water. • Do not work where crops are being sprayed or have recently been treated. • Work in the vicinity of animals should be reviewed for certain staff: if suspected or known to be pregnant, recovering from respiratory illness, undergoing chemo-therapy or similar forms	1	3	**3**	PM, SD, S

	Hazard	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
			L[3]	C	R		L	C	R	
						or medication, or have other health concerns that may be exacerbated by exposure to farm animals. • Staff to advise Project Manager immediately should staff become ill and seek medical help. • Staff should be aware of the risk of contracting Lyme Disease or other tick borne infections through an infected tick bite. In areas of long grass/ vegetation long trousers should be worn, tucked into socks and regular tick checks undertaken. Ticks should be removed using fine-tipped tweezers or a tick remover. If symptoms present (such as a target shaped rash or flu-like symptoms) medical help should be sought. • Staff should inform medical staff that they are at risk of Leptospirosis (Leptospirosis - flu-like illness with a persistent and severe headache, which can lead to vomiting and muscle pains). • N.B. Staff vaccinated with the BCG immunisation should have protection against bovine TB. • Potentially contaminated tools and other equipment should be washed or disinfected before use on other sites.				
16.	Farm environment	Physical injury from livestock and electric fences	2	4	**8**	• WA expect that livestock will be securely excluded from any areas of intrusive groundworks for the safety of staff and animals. If livestock are found to be present in areas of intrusive groundworks, work should stop, the Project Manager should be informed and staff should vacate the area. Follow any instructions given in respect of behaviour near or adjacent to animals. Do not attempt to touch animals. Do not get between animals and feed stuffs at feeding time, or between mothers and young animals at any time. Leave all gates as found. Be aware of any electrified fences, avoid contact with such	1	4	**4**	SD, S

	Hazard	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
			L[3]	C	R		L	C	R	
						(both persons and equipment) and if entry is required use designated access points. Follow precautions as outlined in this RA against zoonosis.				
17.	Rural environment	Physical injury from rural sports such as shooting and off-road vehicles	2	4	**8**	• If gunshots are heard close-by, cease work until you are sure it is safe. If necessary remove yourself from the area or check the situation with your Project Manager or the landowner. If shooting considered likely to occur Project Manager should check with landowner or client contact prior to work. Be aware that byways and private land may be used for off road driving, including use of ATVs and trail bikes. As such vehicles are often loud drivers may be unaware of other people in their vicinity. Where such activities are likely to occur suitable hi-vis clothing should be worn. If you hear a vehicle approach staff should move to a safe location to let it pass.	1	3	**3**	PM, SD, S
18.	Unexploded Ordnance (UXO)	Injury resulting from detonation of unexploded ordnance (including flares and thunderflashes etc.)	2	5	**10**	• There is no known risk. Staff should be aware that airfields, crashed aircraft and training areas are likely to carry a specific risk of encountering unexploded ordnance (UXO). However UXO may be encountered anywhere. • Where a high risk is identified staff should receive a full UXO briefing from LM-JV before undertaking any intrusive work. • If a suspect item is found staff should evacuate the immediate area (at least 300 m if possible) and inform the Project Manager immediately (if the Project Manager is not available then the team leader or ERT should be informed). • Do not attempt to handle or move the object. Do not stop to mark its position or collect tools or equipment. • The Project Manager should immediately inform LM-JV and the Client and ensure that the relevant disposal experts are called in. • Further information can be found in the Annex A - Field Guide Unexploded Ordnance HS041 (WA 2017). A copy of this	1	5	**5**	SD, S, LM-JV

	Hazard	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
			L[3]	C	R		L	C	R	
						should be available and consulted on any sites where a moderate or high risk of UXO is identified. "				
19.	Deep excavation	Injury to WA staff, visitors or other contractors due to trench/ excavation edge collapse	4	5	**20**	• No unsupported sections greater than 1.2m depth. Where ground is loose or wet the safe depth will be considerably less than this; there is no safe minimum depth of excavation. Excavation area sides to be stepped as ground conditions demand, regardless of depth. • Access points will be ramped and battered in order to facilitate safe access into the excavation area. • No persons other than WA, Client/ contractors or curatorial staff to enter deep excavations at any time. • Groundwater seepage to be removed either using a water pump, or if flow is insufficient, by using plant to bail water onto ground surface downslope from the trench. • Excavations are to be inspected at the start of each day, after any event likely to have affected strength or stability (for example, torrential rain that floods the excavation) and after any material falls. • Deep excavated features will be demarcated by fencing/ hazard tape and appropriate hazard signs (i.e. "Danger Deep Excavation") to be erected at all reasonable access points to the site. • Excavated spoil, tools, equipment etc. to be stockpiled/stored at least 1 m beyond the edge of the excavations to minimise trip hazards and reduce load on trench sides. • All vehicles and plant to maintain a safe distance from deep excavations. • All visitors to the site to be made aware of the location of any deep excavations.	2	5	10	SD, S

	Hazard	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
			L[3]	C	R		L	C	R	
20.	Incorrect PPE	Injury which could be avoided if correct PPE had been worn.	4	3	12	• Mandatory PPE as follows: - Orange high visibility jacket or vest and high visibility trousers - Appropriate coloured Safety helmet with, where applicable through risk assessment, suitable chin strap - Safety footwear (incorporating toe and mid-sole protection and provides support to the ankle) - Light eye protection, incorporating prescription lenses where necessary. - Gloves (specific to the work activities) • Ear plugs or ear defenders should be used in areas or during tasks with a moderate and sustained level of noise (e.g. you must raise your voice to carry out a conversation when about 2 m apart), where this cannot be otherwise avoided. The Site Director should be aware of any staff using personal hearing protection and this should be taken into consideration if any verbal or audible warnings need to be given (e.g. in the event of a fire). Staff should not use personal hearing protection around mobile operating plant unless they have direct line of site with the machine or there is a physical barrier separating them. • The use of respiratory protective equipment (RPE) is not anticipated as you should only use RPE after you have taken all other reasonably practicable measures to prevent or control exposure. If RPE is required or needed a more detailed Risk Assessment should be undertaken.	2	3	6	SD, S

17 ENVIRONMENTAL MEASURES

Issue	Consequence	Control measures	Responsibility
Farm environment	Transfer of animal to animal infections (FMD, SVD, anthrax, fowl pest, etc.).	• Wash off all animal faeces or other forms of contamination from boots, equipment, plant and vehicles before leaving site and/or moving between different areas of landholding. Disinfectant spray should be used. • If a specific risk has been identified to livestock use a suitable disinfectant (e.g. Fam30, Virkon-S - N.B. gloves and safety glasses to be used when preparing disinfectant) • Report any sick or dead livestock to LM-JV.	SD, S, LM-JV
General plant operations	Noise pollution, risk of contamination	• Site working hours to be restricted to 0800 – 1615 hrs Monday to Thursday and 0800 – 1500 hours Friday. Weekend working or extended hours to be avoided. All plant to be maintained in good working order at all times, and switched off whenever not required. • All plant will be fuelled in the compound designated area and with a spill kit to hand.	SD, S
Fuel spill	Pollution and damage to ecosystem	• Refuelling should take place in a suitable designated area with a spill kit at hand. • The bowser should sit within a plant nappy. • All fuel spills should be dealt with using a spill kit. • After any fuel spill is contained, the waste should be sent to a specialist contractor for disposal. The Project Manger should be contacted as soon as possible to confirm who this will be and arrangements made.	SD, PM
Waste	Pollution, damage to ecosystem, negative effect on local communities	• All waste to be collected and sorted as required. • Where provided waste to be disposed of at facilities provided on site. If there are no on-site waste facilities waste should be taken to refuse and recycling facilities, either at the office or provided locally. • All empty containers and materials classified as hazardous waste to be separated from general waste and correctly disposed of. • WA are registered as a lower tier waste carrier.	SD, S

Issue	Consequence	Control measures	Responsibility
Open excavations	Wild animals/ livestock becoming trapped in excavations	• Where excavations are to be left open in areas near badger setts, or where deer or livestock are present ramped access/ egress should be provided to prevent animals becoming trapped.	SD, S
Reptiles and amphibians (General)	Disturbance of reptiles and amphibians	• All UK native reptile species are protected by law under The Wildlife and Countryside Act 1981 (as amended) making it illegal to deliberate or recklessly kill or injure them. The great crested newt, natter jack toad, sand lizard and smooth snake and their places of shelter also have further legal protection under Schedule 2 of the Conservation of Habitats and Species Regulations. • If any reptiles are identified on site staff should report them to the PM, ECoW & LM-JV and other contractors and avoid disturbing them. • If any of the four species of reptile and amphibian with a higher level of legal protection are identified on site staff should inform the PM, ECoW & LM-JV immediately. These species should generally not be handled or disturbed by non-specialised staff. • Where reptile and amphibian species are known to be present all excavations to be inspected at the start of the working day and prior to backfilling to allow any individuals to be safely removed.	SD, S, ECoW LM-JV, C
Barn Owls	Disturbance of nesting birds	• Barn Owl *Tyto alba* are protected from killing, injury and disturbance and their nests protected from damage or destruction under the Conservation of Species and Habitats Regulations 2017 (as amended). Protection is also afforded under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) with respect to disturbance of individuals occupying places of rest or shelter and obstruction to access to these, particularly whilst it is building a nest or is in, on or near a nest containing eggs or young. Activities that would otherwise constitute an offence under this legislation may be licenced by Natural England for these purposes. • **The ECoW will update the site team on the current status of potential habitats and precautionary measures required).** If barn owls nests are present the following precautionary measures are likely to be adhered to and monitored by the on-site ECoW: - A toolbox talk on barn owls shall be given prior to commencement of works to make contractors aware of the potential for these species to be on site; - All archaeological mitigation works are to be located at least 20m from any active or potential barn owl nest; this will be marked on the ground with a suitable visual cue such as canes and hazard marking tape.	SD, S, ECoW LM-JV, C

Issue	Consequence	Control measures	Responsibility
		- Works within 20m of the nest or potential nest shall be relocated to beyond a 20m buffer; - Vehicles and plant are to remain outside of the buffer zones, unless otherwise directed by the on-site ECoW.	
Bats	Disturbance of bat roosts	• All species of bats recorded within the UK are protected from killing, injury and disturbance and their roosts protected from damage or destruction under the Conservation of Species and Habitats Regulations 2017 (as amended). Protection is also afforded under the Wildlife and Countryside Act 1981 (as amended) with respect to disturbance of individuals occupying places of rest or shelter and obstruction of access to these. Activities that would otherwise constitute an offence under this legislation may be licensed by Natural England for certain purposes. • **The ECoW will update the site team on the current status of potential habitats and precautionary measures required.** If any bat roosts are present at the site precautionary measures will likely be: - A toolbox talk on bats will be given by the ECoW prior to commencement of works to make staff aware of the potential for these species being on site. - All archaeological mitigation work will be located at least 20m from any trees with unconfirmed bat roosts. - All archaeological mitigation works will be located at least 30m from any trees with confirmed bat roosts. - Vehicles and plant are also to remain outside of these buffer zones, unless otherwise agreed with the on-site ECoW.	SD, S, ECoW LM-JV, C

Issue	Consequence	Control measures	Responsibility
Watercourse	Pollution of watercourse due to addition of spoil/ silt	• Discharge of silt into a watercourse can kill aquatic life and cause flooding. Any pollution of a watercourse is an offence under the Water Resources Act 1991. • No excavation or spoil stock piling to be undertaken with 5 m of a watercourse. Spoil stored adjacent to watercourse or water bodies should be monitored after rain to ensure excessive surface run-off is not occurring. If this is a problem spoil should be moved further away or other preventive measures taken. • Any water discharge from onsite pumping should be either diverted away from the watercourse and allowed to infiltrate into the ground gradually or collected in a settlement lagoon or sump to allow sediments to settle out of the water column before it runs into the watercourse. Geotextile membranes may also be used to trap and filter silt out of surface run-off.	SD, S, LM-JV

18 DYNAMIC RISK ASSESSMENT

Hazard	Consequence	Initial Risk			Control measures	Residual risk			Responsibility
		L[4]	C	R		L	C	R	

[4] L= Likelihood, C=Consequence/ severity, R=Risk (LxC). See matrix inside backcover.

19 RISK ASSESSMENT BRIEFING LOG

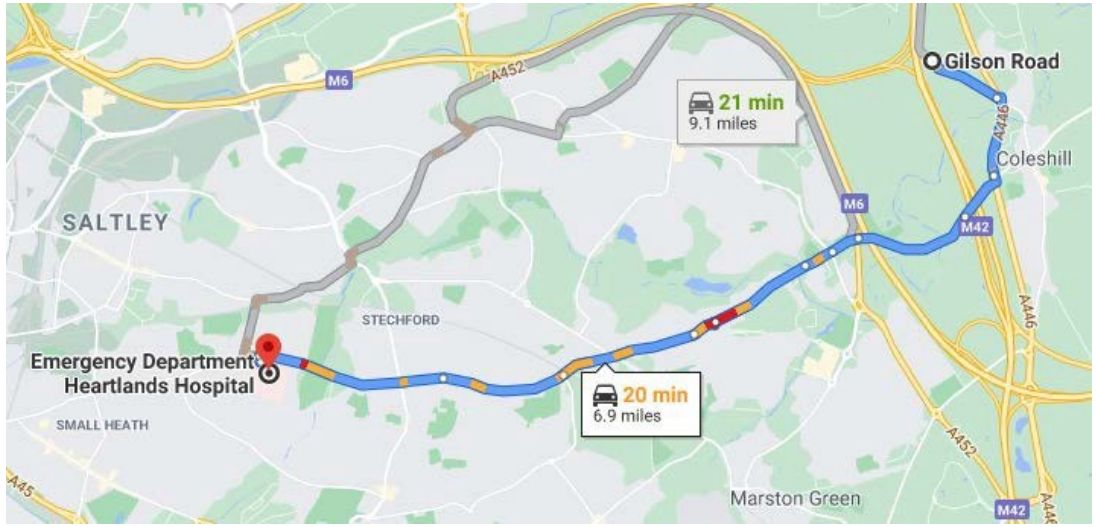
I confirm that I have read and understood the site risks and procedures as outlined in this document and have received an induction[5] outlining the scope of work, main hazards and control measures.

Name	Signature	Date	Company	Comments[6]

[5] This may be conducted by the Project Manager via a briefing prior to arrival on site.
[6] If you have concerns or queries about any of the risks and control measures outlined in this RAMS indicate this here and then communicate this to the Site Director or Project Manager asap. As a result of issues raised further controls may be needed, these should be recorded in the dynamic RA in the first instance and (if necessary) a revised RAMS issued.

20 MAPS TO LOCAL A&E HOSPITAL

19-13A Chattel Hill Hospital Route



20 min (6.9 miles)

via Bordesley Green E

Best route, despite the usual traffic

Gilson Rd
Birmingham

Drive from Birmingham Rd/B4114, Cooks Ln, E Meadway and Bordesley Green E to Birmingham

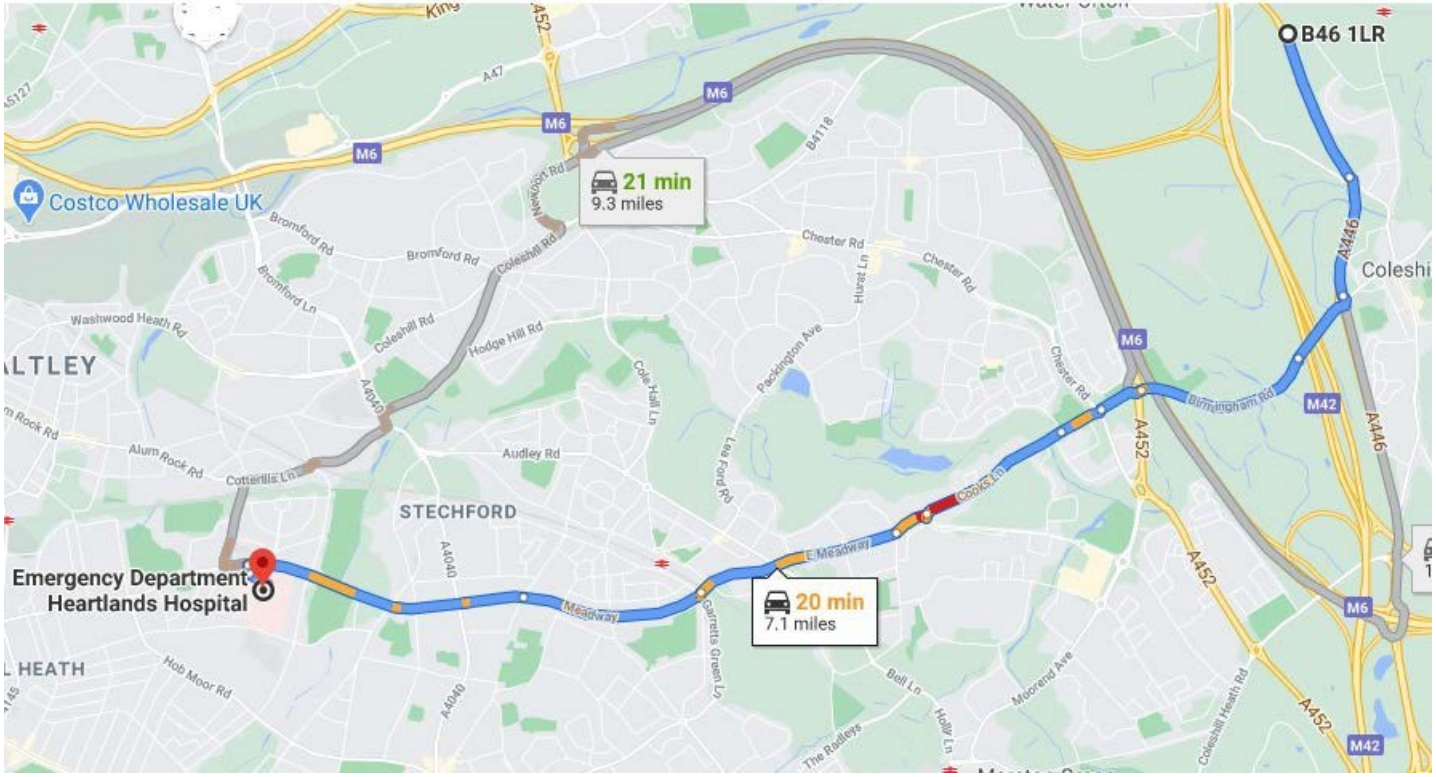
17 min (6.7 mi)

Drive to your destination

1 min (0.2 mi)

Emergency Department Heartlands Hospital
Bordesley Green E, Birmingham B9 5SS

19-13B Chattel Hill Hospital Route



20 min (7.1 miles)

via Bordesley Green E

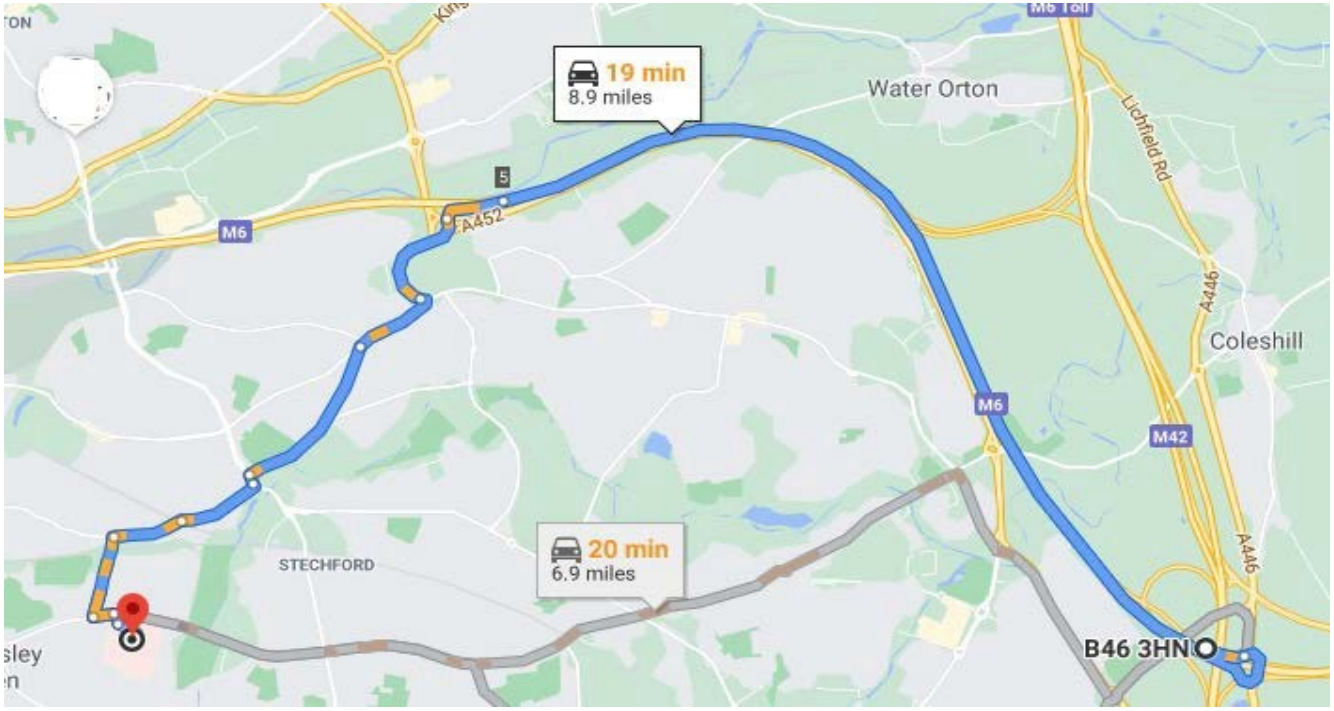
Fastest route, despite the usual traffic

B46 1LR
Gorsey Way, Coleshill, Birmingham

1. Head south-west towards Lichfield Rd/A446
   2 s (52 ft)
2. Continue on A446. Drive from Birmingham Rd/B4114, Cooks Ln, E Meadway and Bordesley Green E to Birmingham
   17 min (6.9 mi)
3. Drive to your destination
   1 min (0.2 mi)

Emergency Department Heartlands Hospital
Bordesley Green E, Birmingham B9 5SS

19-21 Coleshill Hospital Route



17 min (9.0 miles)

via M6

Fastest route, lighter traffic than usual

B46 3HN
Birmingham

Take M6 to Newport Rd in Birmingham. Take exit 5 from M6

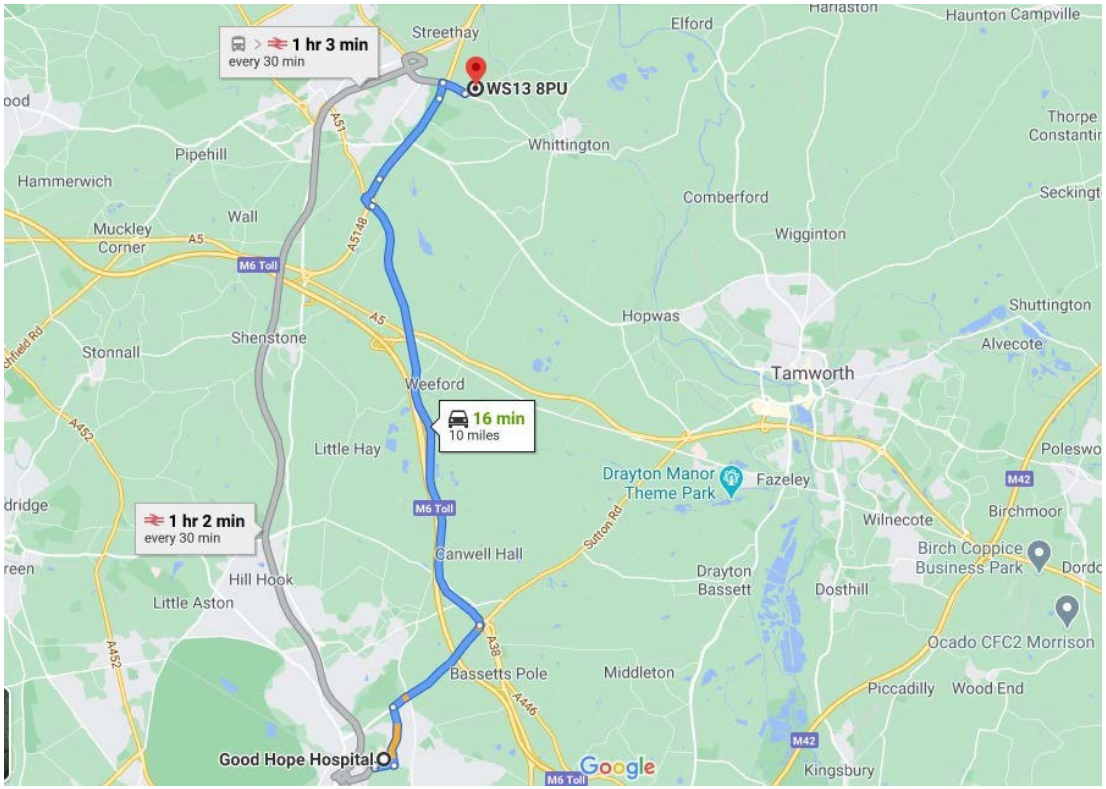
6 min (5.6 mi)

Continue on Newport Rd. Take Stechford Rd/B4147, Cotterills Ln and Belchers Ln to Yardley Green Rd

10 min (3.4 mi)

Heartlands Hospital
Birmingham B9 5XS

22-04 Ryknield Street Hospital Route



15 min (9.9 miles)

via London Rd/A38

Fastest route, the usual traffic

WS13 8PU
Huddlesford, Lichfield

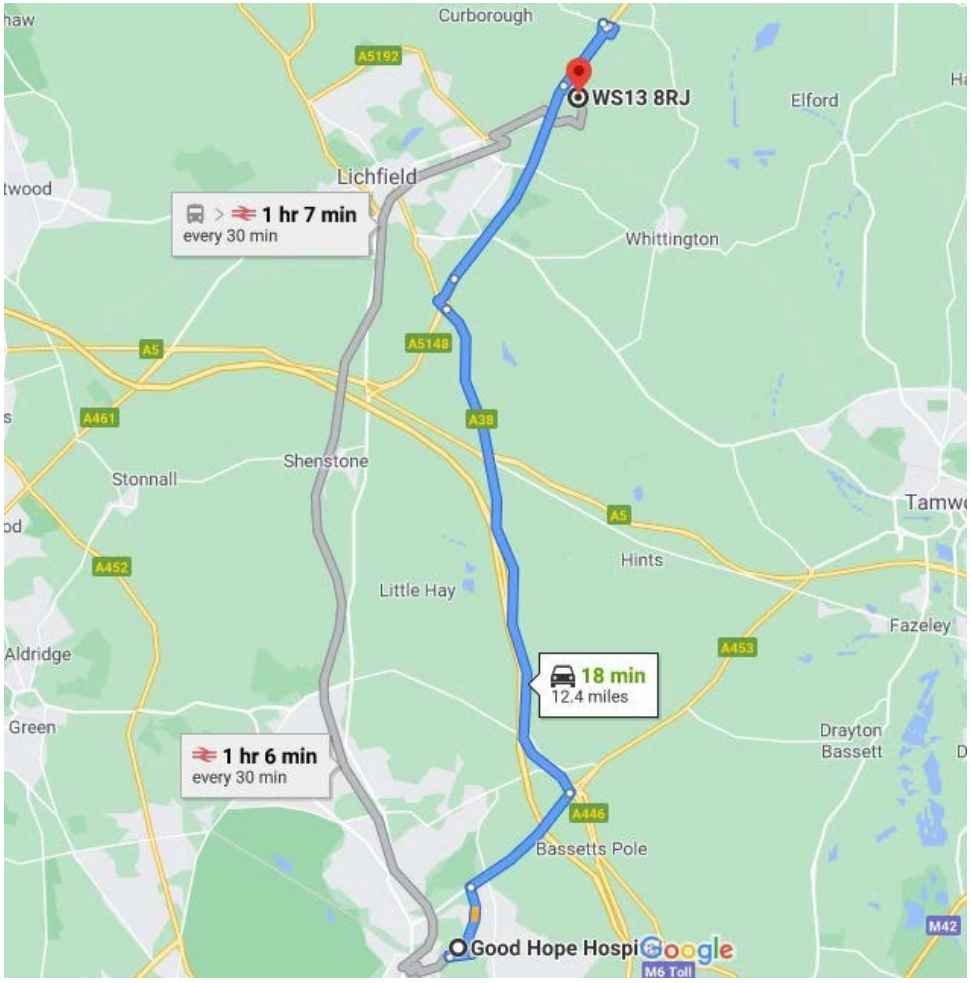
Get on A38 in Lichfield from Cappers Ln
1 min (0.6 mi)

Continue on London Rd/A38 to The Royal Town of Sutton Coldfield
8 min (6.7 mi)

Continue on A453 to your destination in West Midlands
7 min (2.6 mi)

Good Hope Hospital
Rectory Rd, Sutton Coldfield B75 7RR

22-06 Ryknield Street Hospital Route



18 min (11.2 miles)

via London Rd/A38

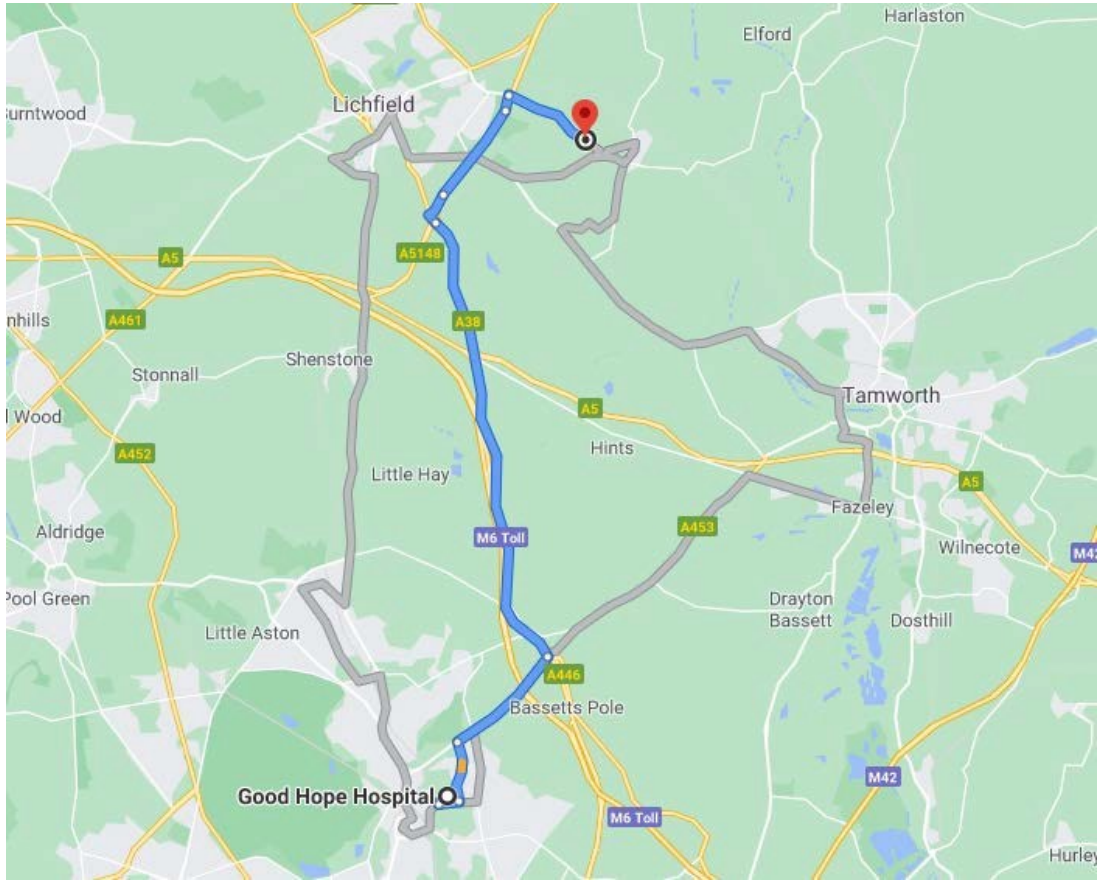
Fastest route, the usual traffic

WS13 8RJ
Lichfield

- Take A5127 to Cappers Ln/A5192 in Lichfield
  2 min (1.0 mi)
- Get on A38
  2 min (1.0 mi)
- Continue on London Rd/A38 to The Royal Town of Sutton Coldfield
  8 min (6.7 mi)
- Continue on A453 to your destination in West Midlands
  7 min (2.6 mi)

Good Hope Hospital
Rectory Rd, Sutton Coldfield B75 7RR

22-18 Ryknield Street Hospital Route



16 min (10.6 miles)

via London Rd/A38

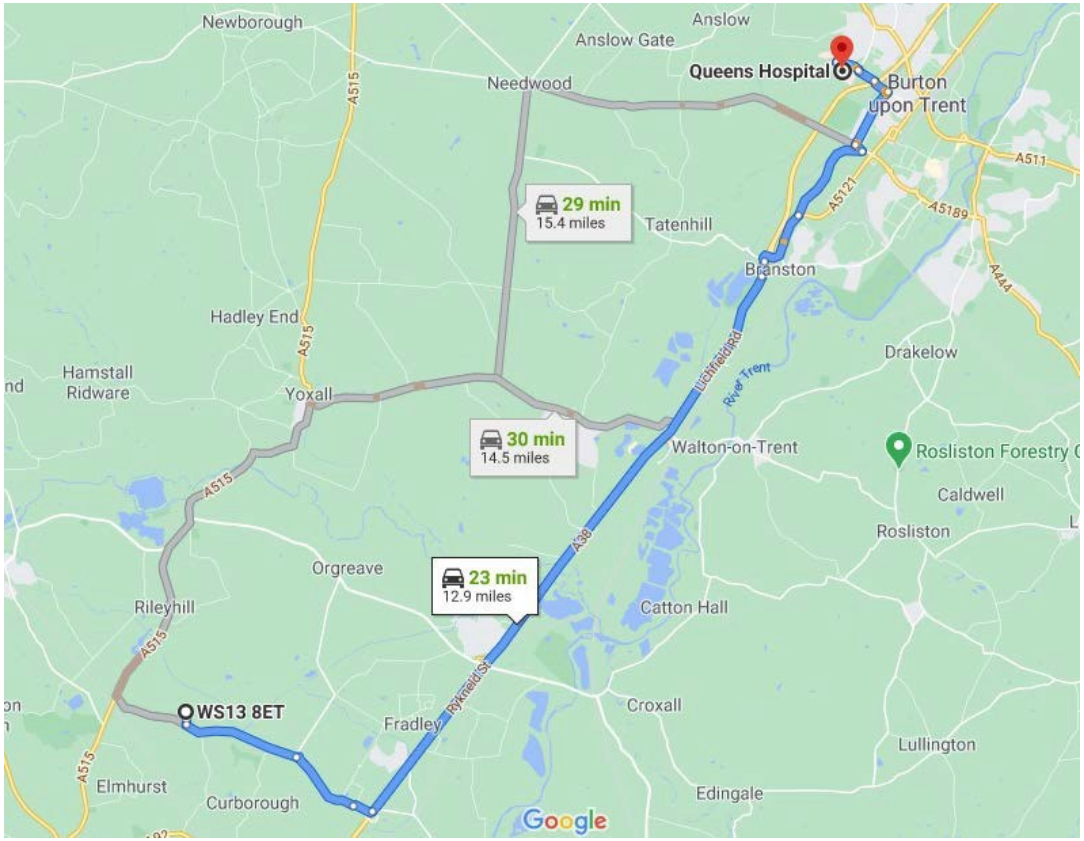
Fastest route, the usual traffic

WS14 9LD
Whittington, Lichfield

- Get on A38 in Lichfield from Cappers Ln
  2 min (1.2 mi)
- Continue on London Rd/A38 to The Royal Town of Sutton Coldfield
  8 min (6.7 mi)
- Continue on A453 to your destination in West Midlands
  7 min (2.6 mi)

Good Hope Hospital
Rectory Rd, Sutton Coldfield B75 7RR

22-07, 22-08, 22-09 Streethay to Handsacre Hospital Route



23 min (12.9 miles)

via A38

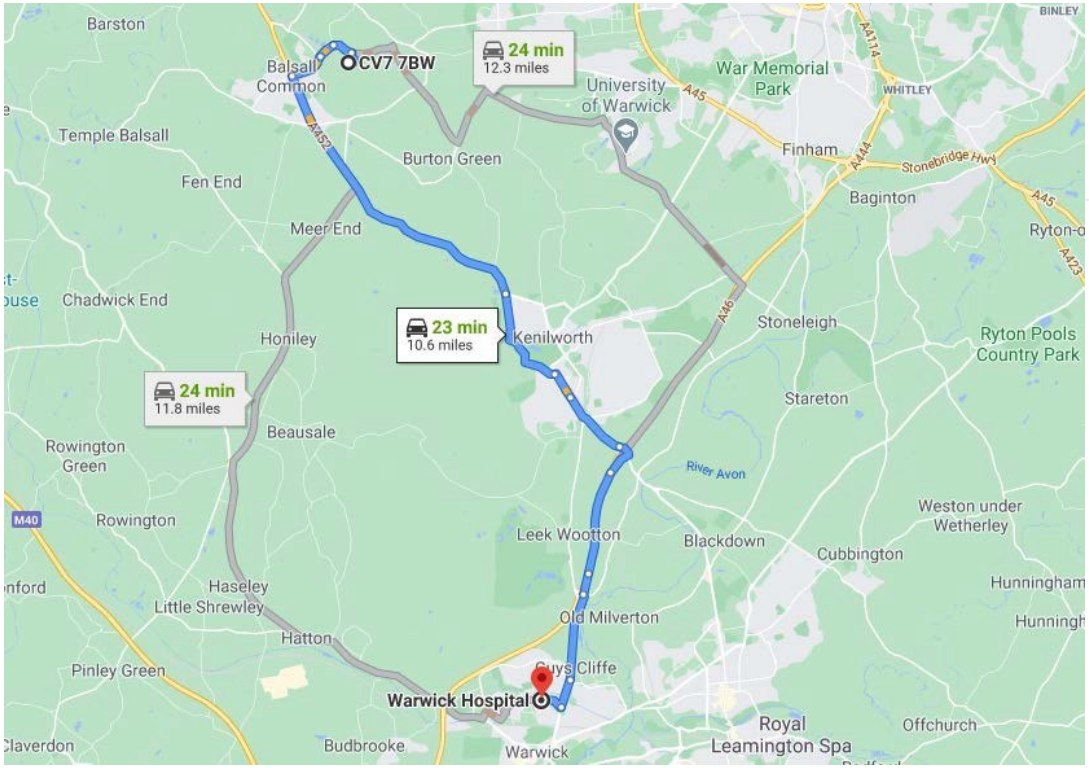
Fastest route, lighter traffic than usual

WS13 8ET
Curborough, Lichfield

- Follow Wood End Ln to A38
  6 min (2.4 mi)
- Continue on A38 to Burton upon Trent
  9 min (7.9 mi)
- Continue on Parkway to your destination
  8 min (2.6 mi)

Queens Hospital
Belvedere Rd, Burton-on-Trent DE13 0RB

23-02 Kenilworth to Balsall Common Hospital Route



23 min (10.6 miles)

via A452

Fastest route now due to traffic conditions

⚠ This route has restricted usage or includes private roads.

CV7 7BW
Berkswell, Coventry

Head north towards Truggist Ln
⚠ Partial restricted-usage road
48 s (0.1 mi)

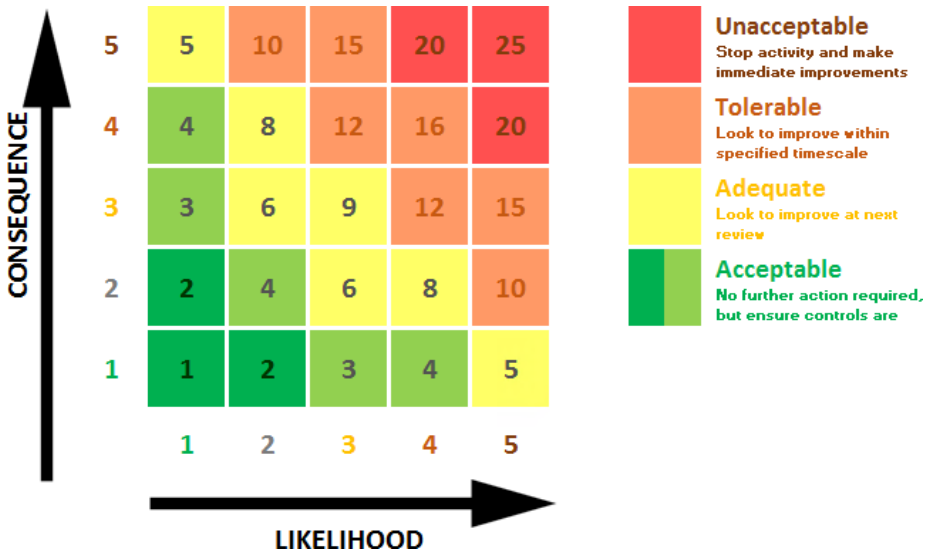
Take A452, B4103, Warwick Bypass/A46 and Coventry Rd/A429 to Guys Cross Park Rd in Warwick
21 min (10.0 mi)

Continue on Guys Cross Park Rd to your destination
2 min (0.4 mi)

Warwick Hospital
Lakin Rd, Warwick CV34 5BW

21 LSWSI FIGURES

Risk matrix



Consequence (severity)		
1	None	No injury
2	Negligible	Trivial injury (First Aid only)
3	Minor	Minor injury/ short term absence (less than 7 days)
4	Major	Major injury/ absence for 7 days or more
5	Fatality	Multiple/ single fatalities

Likelihood		
1	Improbable	Very unlikely, 1:1000,000
2	Remote	Unlikely, though conceivable, 1: 100,000
3	Possible	Could occur sometimes, 1: 10,000
4	Probable	Expected, occurs repeatedly, 1: 1000
5	Certainty	Not surprised, will occur several times, 1:100

APPENDICES

Appendix 1: Heras Fence Installation MS

THE INSTALLATION PROCESS

Place the first rubber block at the proposed startingpoint of the fence line.

Place the second rubber block the required distance from the first block. Continue this process along the entire length of your intended fence line

Insert the first andsecond fence panels into the first three blocks (centre holesI and connect with twocouplers and tighten to 7NM or Sib/ft. Repeat until installation is complete

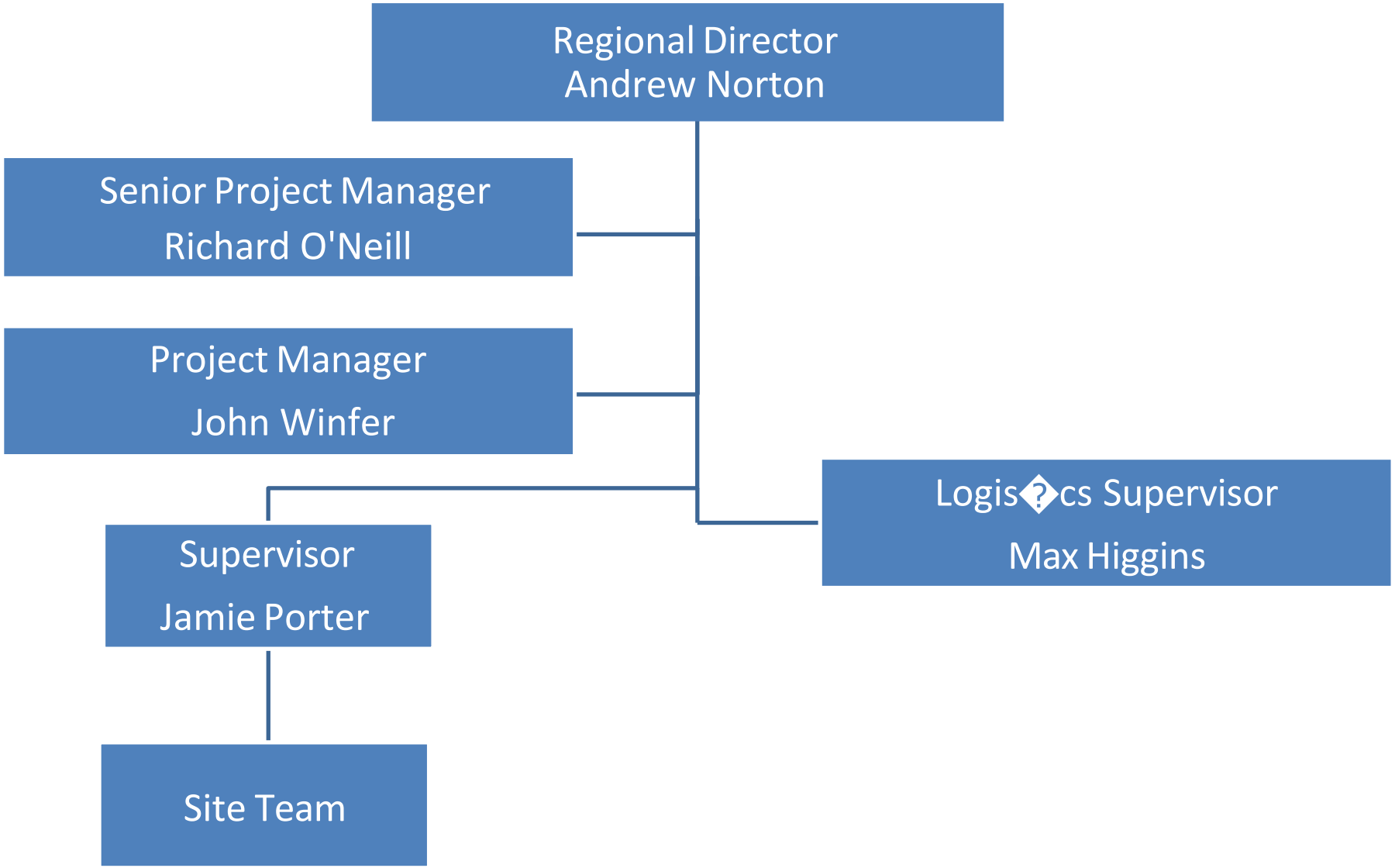
When installing the vehicle gate,measure the required distance from the first block to the next and ensure the couplers are attached to the sleeves as shown.

When installing the pedestrian gate, measure the required distance from the first block to the next and ensure the couplers are attached to the -;leeves as shown.

The latch pole should beplaced in thenext block and connected to the next panel in the fence line. ensuring the catch 1s lined up with the latch of the gate.

Wessex Archaeology Ltd registered office Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB
Tel: 01722 326867 Fax: 01722 337562 info@wessexarch.co.uk www.wessexarch.co.uk

Appendix 4: Key Staff Organogram


Regional Director
Andrew Norton
Senior Project Manager
Richard O'Neill
Project Manager
John Winfer
Logis?cs Supervisor
Max Higgins
Supervisor
Jamie Porter
Site Team