

# WP 029(B) - Historic Environment Works – Weeford to Whittington - Enabling Works North Contract

## Location Specific Written Scheme of Investigation for Trial Trenching

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# 1 Executive Summary

- 1.1.1 This Location Specific Written Scheme of Investigation (LSWSI) sets out the methodology, deliverables, programme, health, safety and environmental requirements, resources and interfaces necessary to deliver an archaeological evaluation as defined in the Project Plan for Trial Trenching at Weeford to Whittington (Doc No: 1EW04-LMJ-EV-PLN-NS06\_NL16-029003). The project plan established the scope, aims, contribution to the Generic Written Scheme of Investigation Historic Environment Research and Delivery strategy (GWSI HERDS) objectives, techniques, deliverable and reporting mechanism for trial trenching investigation.
- 1.1.2 Production of this LS-WSI follows the Guidance as outlined in Technical Standard – Specification for Historic Environment Project Plans and Location Specific Written Schemes of Investigation (Doc No: HS2-HS2-EV-STD-000-000036) and Technical Standard – Specification for Historic Environment Investigations (Doc No: HS2-HS2-EV-STD-000-000035). Reference is also made to other guidance as specified in the GWSI HERDS (Doc No: HS2-HS2-EV-STR-000-000015). The structure of this LS-WSI follows the Technical Standard – Specification for Historic Environment Project Plans and Location Specific Written Schemes of Investigation (Doc No: HS2-HS2-EV-STD-000-000036, Section 3). Other relevant guidance is noted throughout the remainder of this document.
- 1.1.3 The trial trench investigation site ('the Site') is 2.9km long and is located just to the north of Watling Street in the south (HS2 Chainage 178500) and Whittington Heath in the north (HS2 Chainage 181430), in Staffordshire. The Site covers approximately 62ha and is required as part of the construction land requirements for the enabling works and subsequent main works for HS2 Phase One.
- 1.1.4 The trial trenching is required to help identify the presence, nature, date, extent, survival and significance of below ground heritage assets which may be affected by the enabling works and subsequent main works. The objective of the investigation is to gain information about the archaeological potential of the Site to contribute to Specific Objectives set out in the Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (Doc No: HS2-HS2-EV-STR-000-000015) (see below). The outcome of the investigation may be used to inform future decision-making on the requirement for further archaeological investigation at the Site, or where appropriate, inform the development of mitigation by design.
- 1.1.5 Specifically, and as outlined in the Project Plan for Trial Trenching at Weeford to Whittington (Doc No: 1EW04-LMJ-EV-PLN-NS06\_NL16-029003), the trial trenching programme aims to

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identify the location, extent, survival and significance of known and potential heritage assets within the Site. The trial trenching programme aims to contribute to the following specific HERDS Knowledge Creation objectives, as outlined in Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (Doc No: HS2-HS2-EV-STR-000-000015), section 6.7:

- 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;
- KC15: Can we identify regional patterns in the form and location of Late Bronze Age and Iron Age settlements across the route, and are there associated differences in landscape organisation and enclosure?;
- KC16: Investigate the degree of continuity that existed between Late Bronze Age and Iron Age communities in terms of population, mobility and subsistence strategies; Middle and Late Bronze Age;
- KC18: Explore the evidence for increasing social complexity in the archaeological record in the Late Bronze Age and Iron Age, and identify patterns of intra-regional and regional variation;
- KC19: The Romano-British period saw the beginning of a more established infrastructure network. Can we investigate the development of these routes, trackways and roads and the influence they had on landscape change?;
- KC21: Assess the evidence for regional and cultural distinctiveness along the length of the route in the Romano-British period, with particular regard to the different types encountered along the route;
- KC23: Identify evidence for late Roman occupation and attempt to identify any continuity in settlement patterns between the end of the Romano-British period and the early medieval period;
- KC30: Identify the location and form of Early and Middle Saxon settlement and investigate evidence for land use in the period;
- KC31: Identify the location of Middle to Late Saxon settlement, explore processes of settlement nucleation and understand the development of associated field types and agricultural regimes;

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- 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; and
- KC40: Identify patterns of change within medieval rural settlement from the 11th to mid-14th century.

1.1.6 The way the trial trenching aims to contribute to the aforementioned KC's is outlined in the Project Plan for Trial Trenching at Weeford to Whittington (Doc No: 1EW04-LMJ-EV-PLN-NS06\_NL16-029003, Section 3.1.6, Table 2).

## 2 Site Location, Extent and Condition

2.1.1 The evaluation area is located in the Lichfield District of Staffordshire and runs for c. 2.9km just to the north of Watling Street in the south (HS2 Chainage 178500) and Whittington Heath in the north (HS2 Chainage 181450). It is centred on National Grid Reference (NGR) 414746, 306134 and covers an area of approximately 62ha, mostly comprising agricultural fields subdivided by hedgerows.

2.1.2 The Site includes the following Construction Land Requirement (CLR) parcels; CR02254, CR02257, CR02543, CR02570, CR02625, CR02713, CR02712, CR02756, CR02789, and CR02979.

2.1.3 The evaluation area lies within Community Forum Area (CFA) 21: Drayton Bassett, Hints and Weeford, within Archaeological Character Area CFA21 – ACA6.3: River Terrace North of the A5. The ACAs were split further within the ES; and the evaluation area crosses the following Archaeological Character Sub-Zones:

- CFA21-10 Arable area with large post-war fields: Gently undulating land with cropmarks of possible prehistoric sites recorded within the sub-zone, including enclosures, a pit alignment, linear features and a possible ring ditch;
- CFA21-11 Arable area with sinuous field boundaries: Largely on terrace, relatively flat with cropmark sites including a rectilinear enclosure and pits and ditches known within the sub-zone;
- CFA21-12 Arable fieldscape characterised by 18th and 19th century farms, flat area with slight rise towards the north.

- 2.1.4 The evaluation area is primarily flat agricultural land at c.97m OD. The land gradually ascends to c.111m OD slightly to the north of Packington Moor Farm, then descends gradually to c. 103m OD at the Tamworth Road.
- 2.1.5 The British Geological Survey (BGS) online mapping data shows the underlying bedrock geology as Helby Formation Sandstone, with a small area of Chester Formation Sandstone and Conglomerate in the north. There are no superficial deposits mapped within the evaluation area.
- 2.1.6 The current conditions of the Site were confirmed during a walkover survey undertaken in January 2019. The walkover confirmed the Site to be relatively flat agricultural land with a mixture of crop fields and pasture.

### 3 Overview of Project Plan

- 3.1.1 This LS-WSI has been prepared to provide the necessary specification and site-specific information to enable the delivery of the trial trenching investigation defined in the Project Plan for Trial Trenching at Weeford to Whittington (Doc No: 1EW04-LMJ-EV-PLN-NS06\_NL16-029003). As outlined in Section 4 the Project Plan defines the scope of the trial trenching, outlines the aims of the survey and how they will contribute to the specific objectives laid out in the GWSI: HERDS, sets out in detail the methodology for the trial trenching, and describes the proposed deliverables and reporting mechanisms. It should be referred to for detailed information on these matters (see Appendix 15.1).
- 3.1.2 The GWSI: HERDS Specific Objectives guiding the trial trenching have been refined following the work undertaken to date and are paraphrased below:
- 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;
  - KC15: Can we identify regional patterns in the form and location of Late Bronze Age and Iron Age settlements across the route, and are there associated differences in landscape organisation and enclosure?;
  - KC16: Investigate the degree of continuity that existed between Late Bronze Age and Iron Age communities in terms of population, mobility and subsistence strategies; Middle and Late Bronze Age;
  - KC18: Explore the evidence for increasing social complexity in the archaeological

record in the Late Bronze Age and Iron Age, and identify patterns of intra-regional and regional variation;

- KC19: The Romano-British period saw the beginning of a more established infrastructure network. Can we investigate the development of these routes, trackways and roads and the influence they had on landscape change?;
- KC21: Assess the evidence for regional and cultural distinctiveness along the length of the route in the Romano-British period, with particular regard to the different types encountered along the route;
- KC23: Identify evidence for late Roman occupation and attempt to identify any continuity in settlement patterns between the end of the Romano-British period and the early medieval period;
- KC30: Identify the location and form of Early and Middle Saxon settlement and investigate evidence for land use in the period;
- KC31: Identify the location of Middle to Late Saxon settlement, explore processes of settlement nucleation and understand the development of associated field types and agricultural regimes;
- 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; and
- KC40: Identify patterns of change within medieval rural settlement from the 11th to mid-14th century.

## 4 Scheme Design Elements

- 4.1.1 The trial trenching will be undertaken in accordance with specific guidance produced by HS2, namely the Technical Standard Specification for Historic Environment Investigations (HS2- HS2-EV-STD-000-000035) and the Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS; HS2-HS2-EV-STR-000-000015).
- 4.1.2 The Trench plan layout; and numbering of the trenches has been specified by the Project Plan for Trial Trenching at Weeford to Whittington (Doc No: 1EW04-LMJ-EV-PLN-NS06\_NL16-029003).

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- 4.1.3 There will be 158 trenches opened during the evaluation, with their locations evidenced on Figures 1 to 4 (Section 14). A 4% contingency by area is also allowed and will enable, if necessary, further investigation of targeted archaeology, characterisation of discoveries of previously unknown archaeology and, with the agreement of HS2, mitigation of archaeology which contributes to HERDS Specific Objectives where initial investigation has shown that it is of limited complexity and extent. All trenching will be assigned a unique ID in accordance with the Employer’s Asset Information Management Systems (AIMS).
- 4.1.4 Trenches are positioned to provide coverage across the entirety of the Site, with any areas left blank being due to logistical issues of access, space, presence of utilities and appropriate ground conditions for excavation (see RAMS Figures 1 to 4; Appendix 15.2). The locations of all trenches are provisional and subject to confirmation of the locations of any utilities and services present on the Site as well as buffers established around ecological constraints.
- 4.1.5 The following table outlines the general locations of the trenches to be excavated within the Site:

Table 1 Trench Locations

Trenches	Location
1 – 84	Multiple fields south-west of Tamworth Road (A51)
85 – 112; 115	Multiple fields north-west of Jerry’s Lane
113 - 114	Field east of Jerry’s Lane and north of Knox’s Grave Lane
115 - 158	Multiple fields south-east of Flats Lane and south of Knox’s Grave Lane

- 4.1.6 The on-site works associated with the trial trenching evaluation will be as follows:
- Walkover survey (completed January 2019);
  - Setting Out (including welfare, compound and required fencing);
  - Mechanical excavation to remove topsoil, in order to expose potential archaeological horizons;
  - Hand Excavation and Fieldwork Recording; and

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- Environmental Sampling (as relevant).

4.1.7 The off-site works associated with the trial trenching will be as follows:

- Environmental Sample Processing and Assessment;
- Artefact Processing and Assessment; and
- Reporting and Archiving.

4.1.8 The applicable methodologies and standards for these activities will be as follows:

- Project Plan for Trial Trenching at Weeford to Whittington (Doc No: 1EW04-LMJ-EV-PLN-NS06\_NL16-029003, Section 4 – see Appendix 15.1);
- Technical Standard: Specification for historic environment investigations (HS2-HS2-EV-STD-000-000035, Section 3); and
- All other Technical Standards as outlined in Technical Standard: Specification for historic environment investigations (HS2-HS2-EV-STD-000-000035, Section 1.2).

4.1.9 Where relevant, the trial trenching will also reflect other best practice guidance e.g.:

- Archaeology Data Service/Digital Antiquity guides to good practice;
- Chartered Institute for Archaeologists (2014) Code of Conduct;
- Chartered Institute for Archaeologists (2014) Standard and guidance: archaeological field evaluation;
- Chartered Institute for Archaeologists (2014) Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives; and
- Historic England (2006) Management of research projects in the historic environment.

## 5 Programme

5.1.1 The proposed programme of works is given in the table below:

Table 2 Programme

Activity	Start date
Site Walkover Survey	January 2019

Submission of LS-WSI	April 2019
Approval / Finalisation of LS-WSI	April 2019
Commencement of Evaluation	22nd April 2019
Completion of Evaluation	June 2019
Reporting	July 2019
Archiving	August 2019

## 6 Methodology

- 6.1.1 The trial trenching will be conducted according to the detailed methodology laid out in the Project Plan for Trial Trenching at Weeford to Whittington (Doc No: 1EW04-LMJ-EV-PLN-NS06\_NL16-029003) (Appendix 15.1). This covers the methodology for all parts of the investigation, including setting out (Section 4.3.13-4.3.16), mechanical excavation (Section 4.3.17-4.3.21), fieldwork recording (Section 4.3.22-4.3.32), human remains (4.3.33-4.3.39), environmental sampling (Section 4.3.40-4.3.52), preservation in situ (Section 4.3.53), backfilling (Section 4.3.54-4.3.55), and post-investigation reporting and archiving (Section 5.1.1-5.1.4). The work will also adhere to Technical Standard: Archaeology and Built Heritage Approach to Ground Investigation (Doc No: HS2-HS2-EV-STD-000-000038).
- 6.1.2 The following sections address wider issues of methodology and project delivery.

### 6.2 Site set-up process

- 6.2.1 A walkover survey has been undertaken to highlight any site-specific logistical issues prior to the commencement of the trial trenching. The results of the survey are incorporated in the following sections.
- 6.2.2 The Employer has full consent to undertake the trial trenching within the Site (as defined by the red line boundary), although ownership of the land remains with the landowners. The Employer will manage landowner liaison and will notify the landowners in advance that the archaeological works are taking place. The Employer will also fully compensate the landowners for any damage caused to crops and fences during the trial trenching. It is therefore assumed that interaction between the landowners and the Archaeological Contractor will not take place or be minimal, although should negotiation and interaction with landowners be required it will be undertaken by

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senior and experienced members of the Archaeological Contractor’s field team, supported by senior management. Communication and engagement with third parties will use the Employer’s communication protocols set out in the Community Relations Strategy.

- 6.2.3 It is proposed to set up a series of three small-scale, temporary site compounds on the periphery of the fields within the Site. The locations of the site compounds are illustrated on Figures 1 – 4 of the RAMS (Appendix 15.2).

### 6.3 Details of site access

- 6.3.1 Staff and plant will access areas of the Site via the closest compound access as illustrated on RAMS Figures 1 – 4 (Appendix 15.2) depending on the area of trenching taking place.
- 6.3.2 Welfare facilities will be delivered and collected from a suitable location and placed within one of the small-scale site compounds.
- 6.3.3 Plant Access will be as follows:

Table 3 Compound Locations

Compound	Location
Compound 1	Off farm track to the south of Unnamed Road (west of Tamworth Road), Lichfield, WS14 9PT
Compound 2	Field west of Jerry’s Lane, Lichfield, WS14 9QE
Compound 3	Field east of Flats Lane, Lichfield, WS14 9QG

- 6.3.4 The trenching will therefore require a minimum of three plant movements; some fields will be accessed by JCB which will have direct access from the nearest road. Additional plant movements may be required if access between fields is unavailable or to accommodate backfilling.

### 6.4 Details of plant and methodology for its use

- 6.4.1 It is proposed to use a minimum of one 360 tracked excavator of between 14 and 22 tonnes. It will be fitted with a broad toothless ditching bucket and delivered to site on a low loader. A three-

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inch diaphragm water pump may also be required. A JCB will be used to excavate trenches in areas where access is restricted.

- 6.4.2 All machine excavation will be carried out under the constant supervision of a suitably qualified and experienced archaeologist. Deposits will be removed in spits, the depths of which will be determined by the supervising archaeologist. Each spit will be examined carefully in order to assist in the retrieval of archaeologically significant artefacts. Machine excavation will cease at the top of the first significant archaeological horizon, and the Archaeological Contractor will ensure that a 'clean' machined surface is exposed. Spoil will be stored along the edges of excavated trenches, topsoil being kept separate from subsoil. The storage of excavated material will be in accordance with the Contractor's environmental protection requirements, as set out in their Environmental Management Plan.
- 6.4.3 Prior to backfilling the trenches will be pumped dry and any necessary protection measures for archaeological remains, below ground infrastructure, services and/or utilities will be implemented. Generally, all backfill material will consist of non-toxic, uncontaminated, non-putrescible, natural and inert material which will be compacted and (if necessary) tested (dynamic compaction test or other). Original surface conditions will be reinstated to the required standard. The excavations and backfilling will comply with Technical Standard – Agriculture, Forestry and Soils Route-wide Soil Resource Plan (HS2-HS2-EV-STD-000-000008). A photographic condition survey will be carried out at each trench location prior to excavation and after backfilling of the trench.
- 6.4.4 All plant movements across the Site (see above) will be supervised by an archaeologist acting as banksman, who will be present at all times during the movements. If it is necessary for plant to cross a road, two archaeologists acting as banksmen will supervise the crossing (as outlined in the project Risk Assessment and Method Statement (RAMS); Appendix 15.2).

## 6.5 Main Work Packages

- 6.5.1 The work will be carried out between April and May 2019.

## 6.6 Provision for unexpected remains

- 6.6.1 As outlined in Project Plan for Trial Trenching at Trial Trenching at Weeford to Whittington (Doc No: 1EW04-LMJ-EV-PLN-NS06\_NL16-029003) a number of earlier investigations indicate the character of the archaeological remains that many be expected to be found on site. The summary of archaeological potential and significance (Section 2.2.4 onwards) within the Project Plan suggests that features such as field boundaries and enclosures might be encountered during

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the evaluation, and these may be associated with occupation activity in places, perhaps in the form of pits, posthole structures or ditches; these could date to any period, but specifically the potential for prehistoric and Roman activity is high.

- 6.6.2 There is known activity potentially relating to the Bronze Age and the Iron Age within the evaluation area as pit alignments are recorded in the north and south of the evaluation area (DHW141 and DHW404). In the surrounding area, there are significant levels of activity from these periods, with a pit alignment c. 380m to the south-east (DHW127), and ditches, postholes and pits interpreted as probable field systems and possible outbuildings or fences 180m to the south (HER ref. MST11440 to 11444). In addition, a multi-period site has been uncovered at Hints Quarry, to the south east, including a Bronze Age cremation and possible Iron Age pottery. Cropmarks visible on aerial photography indicate the location of an Iron Age ring ditch, enclosure and two parallel linear features (DHW142), directly west of the Site at Hints Quarry. The ES, however, suggests that there is higher potential for these periods in the vicinity of Bourne brook which runs in a west to east alignment 800m south of the evaluation area, due to the presence of burnt mounds recorded along other parts of the brook.
- 6.6.3 The route of the Watling Street Roman road (DWH138) is located 350m to the south of the evaluation and the south and centre of the Site lies in a possible Roman field system with linear features and potential boundaries (DWH125) and linear features and pits (DWH143) having been identified. A fragment of a Romano-British brooch (HER ref. MST16276) and a copper-alloy knife end stop in the form of a rounded female bust/head (HER ref. MST16294) have also been discovered in the centre of the evaluation area. A rectangular enclosure with a possible entrance on the western side (DWH146) is visible on aerial photographs c. 120m west of the Site with a possible Romano-British double ditched enclosure and pit alignment visible 350m to the south-west (DWH139).
- 6.6.4 However, the following classes of remains may be considered 'unexpected' for this location:
- Extensive human burials;
  - Significant and extensive structural remains;
  - Significant and extensive waterlogged remains (leather, timber etc.).
- 6.6.5 In all three instances, disturbance of these remains, if encountered, will be kept to a minimum during the evaluation.

- 6.6.6 For human remains, the provisions outlined in the Project Plan for Trial Trenching at Weeford to Whittington (Doc No: 1EW04-LMJ-EV-PLN-NS06\_NL16-029003) (Section 4.3.33-4.3.39; Appendix 15.1) and in Burial Grounds, Human Remains and Monuments Procedures (HS2-HS2-EV-PRO-0000-000008) will be followed. Should human remains be encountered the Archaeological Contractor will inform DJV immediately. DJV will inform the Employer so that these procedures can be implemented. Visible grave goods would be recorded and lifted before the end of the working day. Where this is not achievable, the Archaeological Contractor should liaise with the Contractor to ensure that adequate security is provided at the Site.
- 6.6.7 Other best practice guidance would also be utilised, such as Guidance for the Best Practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England (Church of England/Historic England, 2005), and Human Bones from Archaeological Sites: Guidelines for producing assessment documents and analytical reports (Historic England, 2004).
- 6.6.8 Any in situ structural remains would be fully recorded for the extent that they are exposed; brick and stone samples may be taken if potentially diagnostic of date or function. The presence of extensive structural remains and their significance will be discussed and agreed with DJV and HS2.
- 6.6.9 Waterlogged organic materials would be dealt with in line with Historic England's guidance documents, Waterlogged Organic Artefacts: Guidelines on their Recovery, Analysis and Conservation (2012), Waterlogged Wood: Guidelines on the recording, sampling, conservation and curation of waterlogged wood (2010), and Environmental Archaeology: A guide to the theory and practice of methods from sampling and recovery to post-excavation (2011).
- 6.6.10 Should geoarchaeological investigations be required, any supplementary works will be discussed and agreed by DJV, with the Employer and with Historic England's Senior Science Advisor. These works will be supplemented by additional guidance contained in Historic England's guidance note Geoarchaeology: using earth sciences to understand the archaeological record (2007).

## 6.7 Treasure

- 6.7.1 In the event of the discovery of 'treasure' as defined below, the Treasure Act 1996 will apply to works for Phase One of HS2 and the Archaeological Contractor shall comply with it. The Treasure Act defines 'Treasure' as:
- any object at least 300 years old when found which is not a coin but has metallic content of which at least 10 per cent by weight is precious metal;

- When found, is one of at least two coins in the same find which are at least 300 years old at that time and have that percentage of precious metal; or
- When found, is one of at least ten coins in the same find which are at least 300 years old at that time.
- Any object at least 200 years old designated as treasure by the Secretary of State under section 2(1) of the Treasure Act 1996.
- Any object that would have been 'Treasure Trove'.
- Any object found with any of the above.

6.7.2 The Treasure (Designation) Order 2002 extends the definition of treasure to include:

- Finds of least two base metal objects (other than coins) of prehistoric date; and
- Any object (other than a coin) of prehistoric date with any precious metal content.

6.7.3 All finds falling within the definitions of treasure shall be reported immediately to DJV who will inform the Employer. All subsequent works must be undertaken in accordance with the relevant legislative requirements of the Treasure Act and all necessary measures taken to comply with those requirements and any project specific requirements will be implemented.

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

6.7.5 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.

## 6.8 Provision of sampling facilities to support requirements established by Project Plans

6.8.1 The on-site sampling methodologies will follow the recommendations as set out in the Project Plan for Trial Trenching Weeford to Whittington (Doc No: 1EW04-LMJ-EV-PLN-NS06\_NL16-029003) sections 4.3.40 to 4.3.52.

6.8.2 The off-site sampling will be conducted at Connect Archaeology's in-house sampling facilities.

## 7 Delivery Interfaces

- 7.1.1 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 Project Director.
- 7.1.2 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.
- 7.1.3 All communications regarding archaeological results, and any proposed alteration to scope and method will be communicated to DJV who will review this information and will liaise with the Employer on behalf of the Contractor.
- 7.1.4 The trial trenching will be supervised by a suitably qualified and experienced Project Officer appointed by the Archaeological Contractor. All parties will follow the Employer's protocols for Intra- and Inter-project communication.
- 7.1.5 Details of the Contractor's design, programme and Health and Safety policy are awaited.
- 7.1.6 Connect Archaeology have ISO 9001:2015 accreditation and the interface, consultation and communication will be undertaken in accordance with these protocols.

## 8 Health, Safety and Environment

- 8.1.1 The Archaeological Contractor will undertake the works in accordance with the Employer's route wide health and safety requirements (Safe at Heart) and, if applicable, the Contractor's health and safety requirements for specific locations.
- 8.1.2 The Archaeological Contractor, overseen by the Contractor, will be responsible for Health and Safety during the trial trenching, and a Risk Assessment and Method Statement (RAMS) for the evaluation has been produced (see Appendix 15.2). All work will also be undertaken in accordance with the Archaeological Contractor's Health and Safety Policy (Connect Archaeology 2017).
- 8.1.3 All site staff will be fully inducted and will read and sign the RAMS before commencing work on site.

## 8.2 Site access and construction traffic

8.2.1 Prior to any works commencing on Site, a Health and Safety check will be carried out which will assess the following:

- Risk of fire and appropriate mitigation;
- Appropriate location of Site parking; and
- Location of Site compound and appropriate security.

8.2.2 The above will be incorporated into a Site layout plan made available to all Site staff and visitors.

8.2.3 There will be a one-week allowance prior to works commencing on site to allow for the following:

- Health and Safety check
- Set up of Site compound and security
- Set up of Site parking
- Set up of traffic management plan including plant routes and pedestrian walkways
- Installation of appropriate signage for all aspects of Health and Safety.

8.2.4 Specific risks have been identified regarding delivery of plant and plant movements between different parts of the Site (see the RAMS, Appendix 15.2). All loading / unloading of plant and all plant movements will be supervised by a minimum of one archaeologist acting as banksman.

8.2.5 Although multiple plant movements are envisaged, these should only involve a single low loader and the impact of construction traffic on the local infrastructure will be minimal.

## 8.3 Agriculture and ecology

8.3.1 Current crop regimes and land use have been assessed during a walkover survey. Within crop fields, it was unclear whether crops were planted; however, should crops be present at the time of trenching, all attempts will be made to limit damage. This is only likely to affect the fields containing Trenches 82-84, 95-96 and 115 as all other areas appear to be used for pasture. Plant will be tracked around the edges of fields and along existing trackways and 'tramlines' within crops, where this is practicable. However, it is acknowledged that the trenching will inevitably cause damage to any crops present within the red line boundary of the Site. The Employer will fully compensate the landowners for any such loss.

- 8.3.2 No areas outside the red line boundary of the Site will be tracked over by plant unless this has been specifically authorised by the Employer.
- 8.3.3 No boundaries or entrances, including hedgerows, fences or gates, will be damaged to facilitate site access unless this has been specifically authorised by the Employer.
- 8.3.4 An ecological assessment has been undertaken; however, the report (1EW04-LMJ-EV-PKG-NSo6\_NL16-029001) is still awaited. As such, ecological constraints have been taken into consideration within the trench plan (Figures 1 to 4) but the buffers have not been established. Therefore, trench locations are subject to change once ecological buffer zones are in place. Any ecological mitigation in place for these constraints will be adhered to throughout the duration of the fieldwork.

## 8.4 Plant noise

- 8.4.1 It is anticipated that plant noise will be minimal, and the main part of site lies some distance from any residential area. It is not anticipated that a mechanical breaker will be used on any part of the site.
- 8.4.2 The Archaeological Contractor will ensure that all staff working in the vicinity of plant are provided with ear defenders.

## 8.5 Utilities

- 8.5.1 The utility drawings have been taken into account when designing the trench plan; however, all trenches will be scanned with a Cable Avoidance Tool prior to excavation.
- 8.5.2 No overhead utilities have been identified within the Site or in areas where plant will be required to track. If changes to access require plant movements in the vicinity of overhead cables or lines, all plant movements will be planned in advance and supervised on site and will follow best practice as outlined in the Health and Safety Executive's publication Avoidance of danger from overhead electricity lines (GS6, 4th edition). If there is a risk of accidental contact with overhead cables, or if the safe clearance distance will be breached by the plant used for the trial trenching, the route of the passageway beneath the overhead cables will be defined with goalposts which include a cross-bar. The Archaeological Contractor will establish exclusion zones around the cable lines where appropriate (illustrated within RAMS Figures 1-4; Appendix 15.2). The number of passageways beneath the overhead cables will be kept to a minimum.

- 8.5.3 Buried high-voltage cables run through the Site in various areas of trenching. Buffer zones on either side of each of the buried cables are in place which the trench plan has taken into consideration. Crossing the buried cables will be necessary and hence instruction from the owner of the electrical utilities in the area is awaited. This will inform the Archaeological Contractor as to how crossing of buried cables will be undertaken.
- 8.5.4 A potential underground utility has been identified running north to south through the field containing Trenches 82, 83 and 84. Further information will be sought from the owner of the potential utility. The area should also be carefully scanned with a Cable Avoidance Tool prior to any excavation.
- 8.5.5 The RAMS outlines the emergency procedures that will be followed by the Archaeological Contractor (Appendix 15.2).

## 8.6 Unexploded ordnance

- 8.6.1 The evaluation area is recorded as a low UXO hazard. No WWII bomb impacts are recorded within the evaluation area.

## 8.7 Contaminated Land

- 8.7.1 Areas of contaminated land have been identified within the evaluation area in proximity to Trenches 5, 7, and 9, west of Tamworth Road (A51), as well as Trenches 94 – 97, north of Jerrys Lane. Appropriate buffers have been accounted for regarding the trench plan (Figure 1-4).

## 8.8 Undertakings and Assurances

- 8.8.1 Undertakings and Assurances (U&A) are present within the evaluation area in an area to the north of Jerry's Lane, adjacent to Trenches 82-84 (U&A\_2219). The conditions of this U&A prohibit all staff and machinery from crossing the redline boundary.

## 8.9 Site safety and security

- 8.9.1 The majority of the trenches are on agricultural land that lies some distance from residential areas, and no public footpaths cross the Site. The RAMS outlines the procedures to be followed if members of the public enter the site, which include standing down plant until any unauthorised people have left the Site (Appendix 15.2).
- 8.7.2 Security will be present at all active compounds outside of working hours.



## 8.10 Local community, general public, neighbouring properties and businesses

- 8.10.1 It is not anticipated that the trial trenching will cause significant disruption to the local community or neighbouring properties and business, as most of the works will be on agricultural land that lies some distance from residential areas and public footpaths.
- 8.10.2 Given the distances between most of the trenches and residential areas, it is not anticipated that plant noise will be problematic for the local community.
- 8.10.3 All plant movements will be undertaken with a mind to minimising disruption to local traffic and infrastructure.
- 8.10.4 Health and Safety procedures will be in place to minimise the risk to any member of the public who enters the Site during the trial trenching (see the RAMS, Appendix 15.2)

## 9 Information Management

- 9.1.1 GIS deliverables will be provided in accordance with the Employer’s Cultural Heritage GIS Specification (Doc No: HS2-HS2-GI-SPE-000-000004). CAD files will be GIS compatible and follow standards set out in the same Specification. Figures may be produced using CAD but final deliverables will be supplied in GIS format.
- 9.1.2 Mapping and spatial data deliverables will conform to the Employer’s Cultural Heritage GIS Standard (Doc No: HS2-HS2-GI-STD-000-000010) and other associated referenced documents.
- 9.1.3 The Employer’s standard template for reporting as set out in Technical Standard: Specification for historic environment investigations (HS2-HS2-EV-STD-000-000035, Section 4.4) will be followed.

## 10 Site Monitoring and Engagement

- 10.1.1 DJV will arrange, convene and attend monitoring site visits. HS2 Historic Environment Team may convene monitoring visits with limited notice.
- 10.1.2 The Archaeological Contractor will provide weekly written progress reports to DJV for dissemination to the Contractor and the Employer.

- 10.1.3 DJV will inform the Staffordshire County Archaeologist that the trial trenching will take place at least one week in advance of the commencement of fieldwork.
- 10.1.4 DJV will arrange and convene monitoring site visits by external consultees, as appropriate. These may include:
- Historic England;
  - Staffordshire County Archaeologist;
  - Relevant local interest groups; and
  - Relevant and acknowledged specialists in such fields as geophysical survey and archaeological science.
- 10.1.5 Communication and engagement with third parties will use the Employer’s communication protocols set out in the Employer’s Community Relations Strategy.

## 11 Quality Assurance Processes

- 11.1.1 Connect Archaeology are ISO 9001:2015 Quality Assured and all of their work practices will adhere to these independently qualified standards.
- 11.1.2 All project staff employed by the Archaeological Contractor will be suitably qualified, experienced and trained to undertake the work in hand.
- 11.1.3 Fieldwork will be monitored by the Archaeological Contractor’s Project Manager responsible for the project, under the general supervision of the Archaeological Contractor’s senior management.
- 11.1.4 The trial trenching assessment report will be checked and reviewed by a suitably qualified and experienced Project Manager or a member of the Senior Management Team before it is issued to DJV. On receipt of comments, the final report will be checked and reviewed again prior to its reissue.
- 11.1.5 All of the Archaeological Contractors work will be assured by DJV on behalf of the Contractor.

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## 12 Fieldwork Sign-off Sheet

Historic Environment Fieldwork Sign-off Sheet			
Work Package Reference	WP 029(B)		
Historic Environment	Trial Trenching		
Investigation Type			
Contractor			
Fieldwork conducted by (site director)		Dates	
Summary of results			
<p>Document References</p> <p>Project Plan: 1EW04-LMJ-EV-PLN-NS06_NL16-029003</p> <p>LS-WSI (this document): 1EW04-LMJ-EV-MST-NS06_NL16-029002</p>			

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Document no.: 1EW04-LMJ-EV-MST-NS06\_NL16-029002

Revision: C02

Compiled by	Name	Date	Signature
Checked by	Name	Date	Signature
Approved by	Name	Date	Signature

## 13 References and Glossary of Terms

13.1.1 The following terms have been used in this report:

- **Archaeological Contractor** – Connect Archaeology: the organisation undertaking the evaluation on behalf of the Contractor
- **Contractor** - LM JV: the body responsible for the terms and conditions, policies, procedures and payments.
- **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 combined historic environment investigation programme of assessment, evaluation and further investigation.
- **Project Manager** - acts as administrator of the contract, handling certification, compensation events etc., with an obligation to act fairly and impartially as an agent

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of the Employer. An office-based manager who is the client’s principal point of contact and who has overall responsibility for the project budget and delivery

- **Project Plans** – specification document for each specific package of activity (e.g. a survey, desk-based assessment, excavation, recording project). The plans would respond to the Specific Objectives set out in the GWSI: HERDS and be delivered within an agreed budget and timeframe.
- **Works** – the specific historic environment assessment, evaluation or further investigation works at each location.

### 13.1.2 The following documents are referred to:

Title	Reference
HS2 CFA21 ES Reports: Drayton Bassett, Hints and Weeford	Volume 5 appendix: CH-001-021, ES 3.5.2.21.4 CH-002-021, ES 3.5.2.21.5 CH-003-021, ES 3.5.2.21.6 CH-004-021, ES 3.5.2.21.7
HS2 CFA22 ES Reports: Whittington to Handsacre	Volume 5 appendix: CH-001-022, ES 3.5.2.22.4 CH-002-022, ES 3.5.2.22.5 CH-003-022, ES 3.5.2.22.6 CH-004-022, ES 3.5.2.22.7
Report: Detailed Desk-Based Assessment: Historic Settlement Landscape	1EW04-LMJ-EV-PLN-N000-029008
HS2 W029(B) Historic Environment Works - Weeford to Whittington – Enabling Works North Contract – Project Plan for Trial Trenching	1EW04-LMJ-EV-PLN-NS06_NL16-029003
Cultural Heritage GIS Specification	HS2-HS2-GI-SPE-000-000004
Cultural Heritage GIS Standard	HS2-HS2-GI-STD-000-000010
Technical Standard – Temporary Works	HS2-HS2-CV-STD-000-000005
Burial Grounds, Human Remains and Monuments Procedures	HS2-HS2-EV-PRO-000-000008
Technical Standard – Agriculture, Forestry and Soils Route-wide Soil Resource Plan	HS2-HS2-EV-STD-000-000008

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Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy	HS2-HS2-EV-STR-000-000015
Technical Standard - Specification for historic environment investigations	HS2-HS2-EV-STD-000-000035
HS2 Technical Standard: Specification for Project Plans and Location Specific Written Scheme of Investigations	HS2-HS2-EV-STD-000-000036
Technical Standard: Historic Environment Physical Archive Procedure	HS2-HS2-EV-STD-000-000039
Technical Standard: Archaeology and Built Heritage Approach to Ground Investigation	HS2-HS2-EV-STD-000-000038
Technical Standard: Historic Environment Digital Data Management and Archiving Procedure	HS2-HS2-EV-STD-000-000040
Contractors' Environmental Management Plan	1EW04-LMJ-EV-PLN-N000-000022
Employers Community Relations Strategy	IMS 11.1.1
Employer's protocols for Intra- and Inter-project Communication	IMS 12.1.1
Safe at heart: Supply chain health and safety standard	
Connect Archaeology 2017 – Health and Safety Policy	
British Geological Survey, Geology of Britain viewer, <a href="http://mapapps.bgs.ac.uk/geologyofbritain/home.html">http://mapapps.bgs.ac.uk/geologyofbritain/home.html</a>	
Church of England/ Historic England 2005 – Best Practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England	
Health and Safety Executive 2013 – Avoidance of Danger from Overhead Electricity Lines (GS6, 4 <sup>th</sup> edition)	

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Historic England 2004 – Human Bones from Archaeological Sites: Guidelines for Producing Assessment Documents and Analytical Reports	
Historic England 2007 – Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record	
Historic England 2010 – Waterlogged Wood: Guidelines on the Recording, Sampling, Conservation and Curation of Waterlogged Wood	
Historic England 2011 – Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation	
Historic England 2012 – Waterlogged Organic Artefacts: Guidelines on their Recovery, Analysis and Conservation	

## 14 Figures

Table 4 Figures

Figure title	Map Title
Figure 1 Trench Plan 1/4	Weeford to Whittington Trench Plan 1/4
Figure 2 Trench Plan 2/4	Weeford to Whittington Trench Plan 2/4
Figure 3 Trench Plan 3/4	Weeford to Whittington Trench Plan 3/4
Figure 4 Trench Plan 4/4	Weeford to Whittington Trench Plan 4/4

Table 5 Figures within Project Plan

Figure title	Drawing No.
Figure 1 Site Location	See p.35 of Project Plan (1EW04-LMJ-EV-PLN-NS06_NL16-029003)
Figure 2 Heritage assets 1/2	See p.35 of Project Plan (1EW04-LMJ-EV-PLN-NS06_NL16-029003)

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Revision: C02

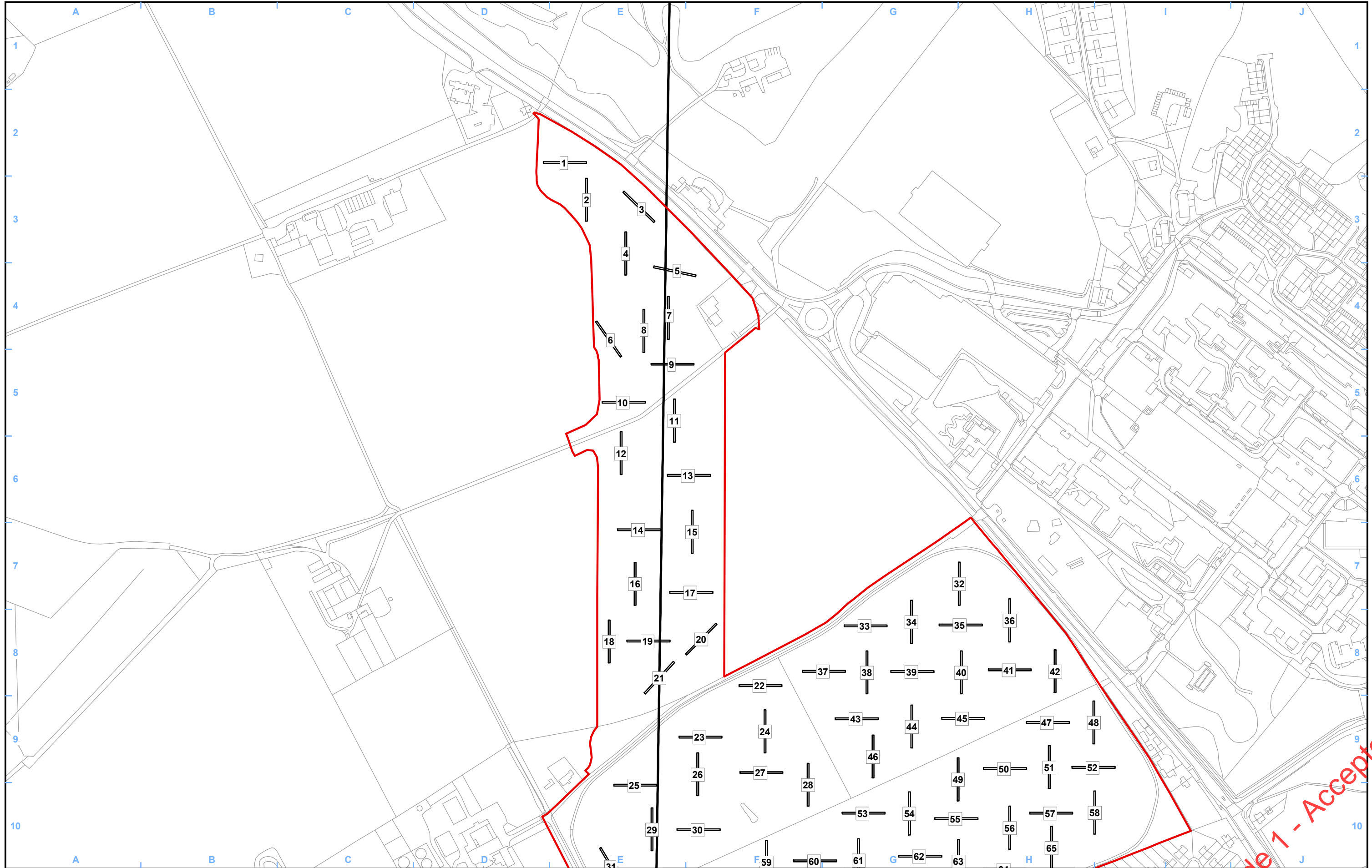
Figure 3 Heritage assets 2/2	See p.35 of Project Plan (1EW04-LMJ-EV-PLN-NS06_NL16-029003)
Figure 4 Previous Investigations	See p.35 of Project Plan (1EW04-LMJ-EV-PLN-NS06_NL16-029003)
Figure 5 Trench Plan 1/4	See p.35 of Project Plan (1EW04-LMJ-EV-PLN-NS06_NL16-029003)
Figure 6 Trench Plan 2/4	See p.35 of Project Plan (1EW04-LMJ-EV-PLN-NS06_NL16-029003)
Figure 7 Trench Plan 3/4	See p.35 of Project Plan (1EW04-LMJ-EV-PLN-NS06_NL16-029003)
Figure 8 Trench Plan 4/4	See p.35 of Project Plan (1EW04-LMJ-EV-PLN-NS06_NL16-029003)

Table 6 Figures within RAMS

Figure title	Drawing No.
Figure 1 Trench Plan 1/4	See p.24 of Risk Assessment Method Statement (Appendix 15.2)
Figure 2 Trench Plan 2/4	See p.24 of Risk Assessment Method Statement (Appendix 15.2)
Figure 3 Trench Plan 3/4	See p.24 of Risk Assessment Method Statement (Appendix 15.2)
Figure 4 Trench Plan 4/4	See p.24 of Risk Assessment Method Statement (Appendix 15.2)

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**Legend**

- Route on surface
- Site boundary
- Trench Location

Lichfield District  
Tamworth District (B)

Map Number: **Figure 1**

Map Name: **Weeford to Whittington Trench Plan 1/4**

Community Forum Area CFA21 & CFA22

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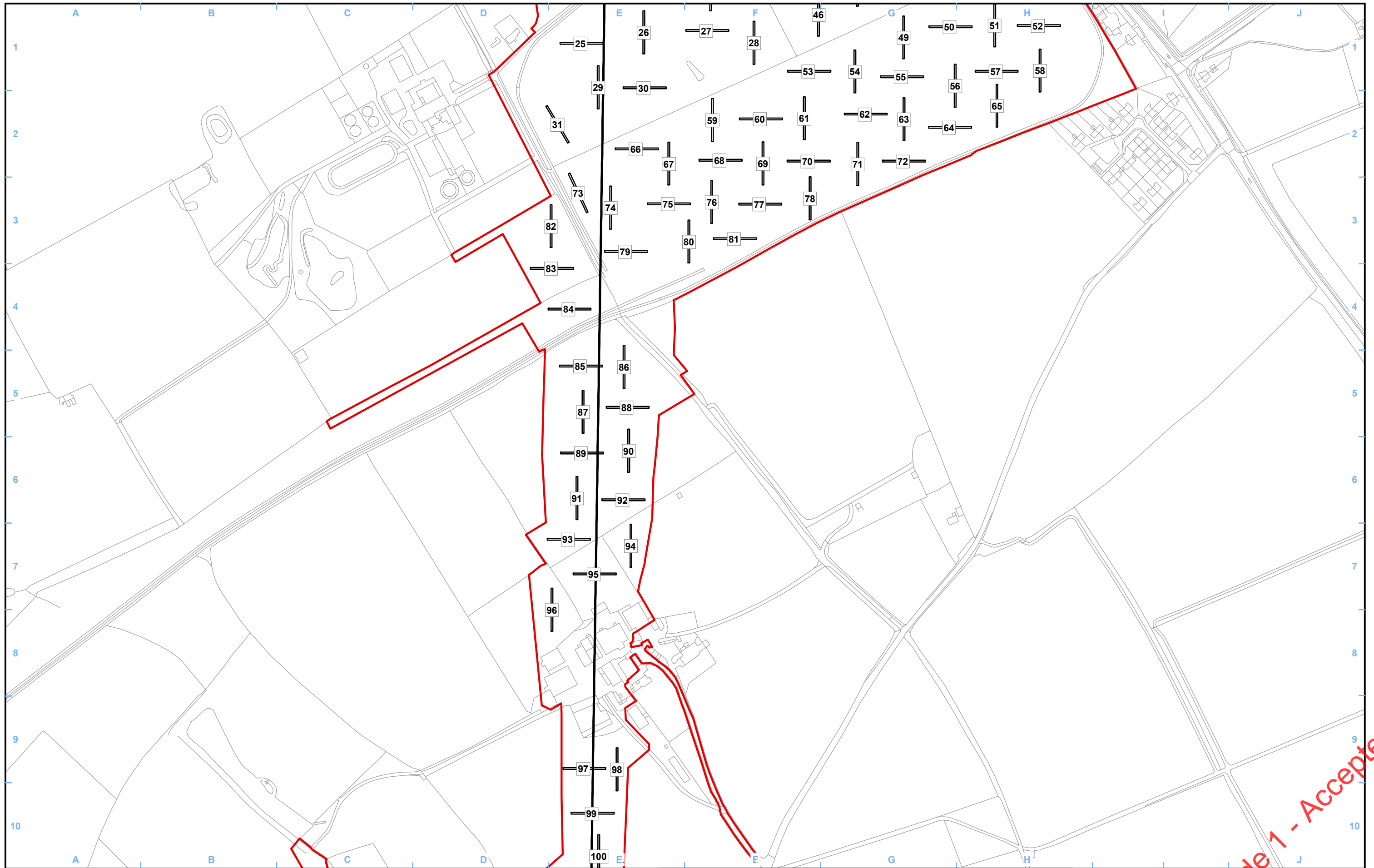
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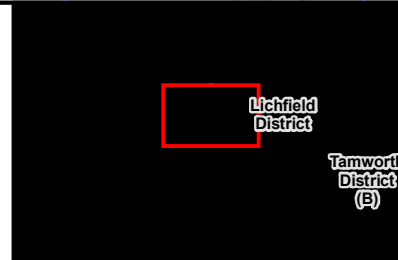
Doc Number: - **Date: 12/04/19**

Code 1 - Accepted



**Legend**

- Route on surface
- Site boundary
- Trench Location



Map Number: **Figure 2**

Map Name: **Weeford to Whittington Trench Plan 2/4**

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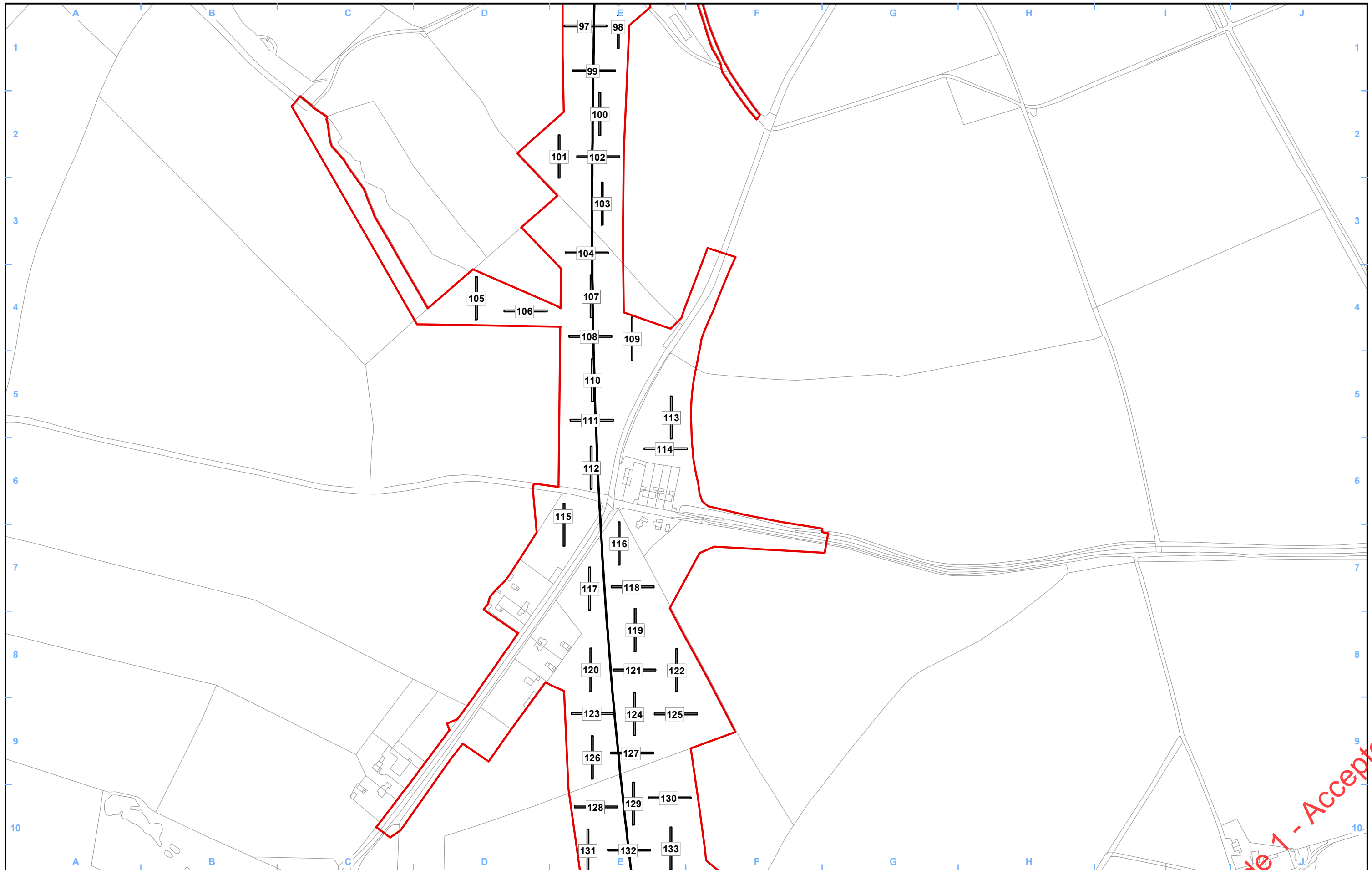
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**Legend**

- Route on surface
- Site boundary
- Trench Location

Lichfield District  
 Tamworth District (B)

Map Number: **Figure 3**

Map Name: **Weeford to Whittington Trench Plan 3/4**

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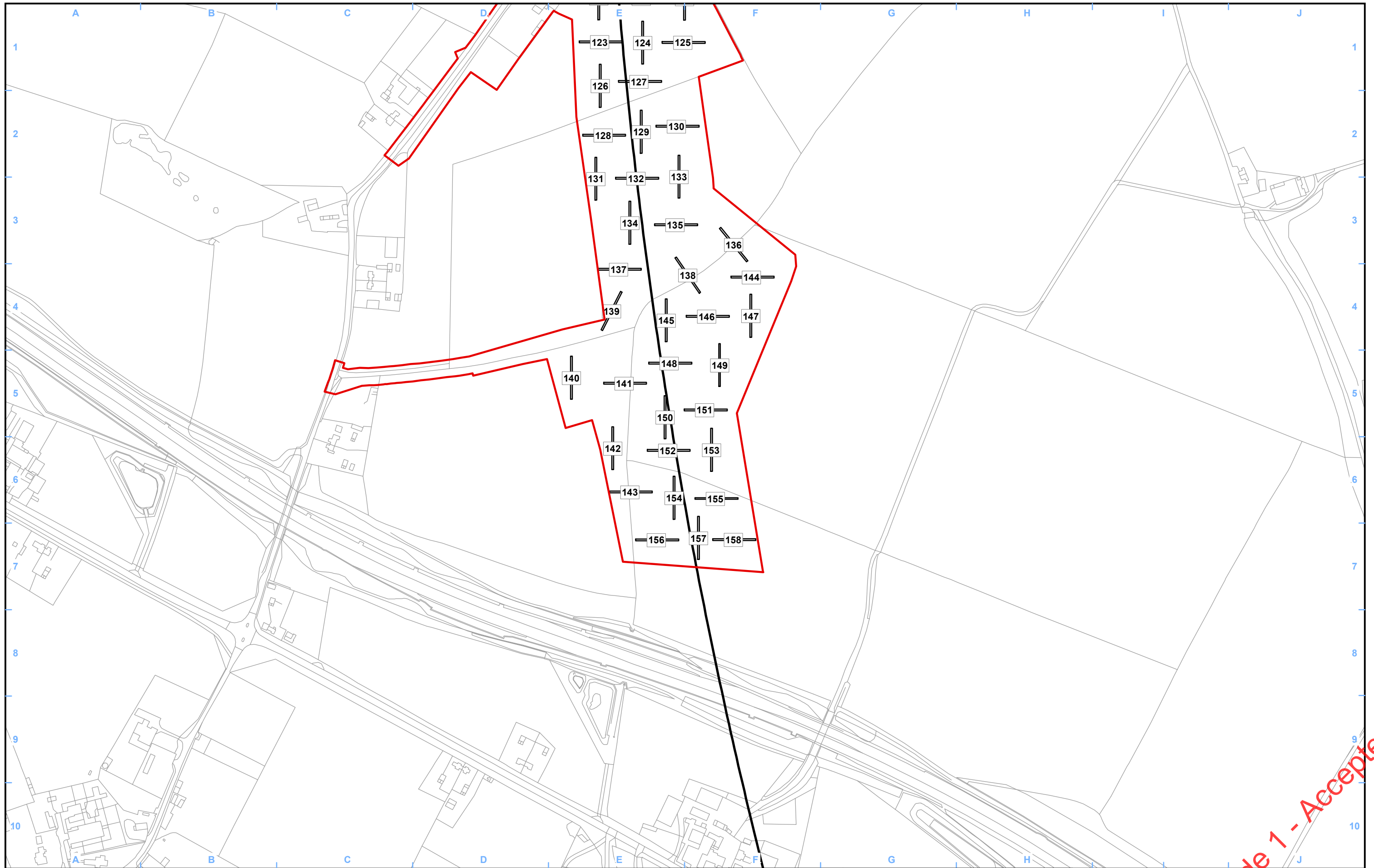
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Date: 12/04/19

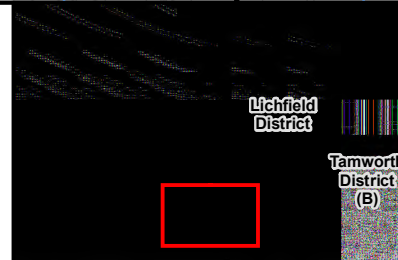
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**Legend**

- Route on surface
- Site boundary
- Trench Location



Map Number: **Figure 4**

Map Name: **Weeford to Whittington Trench Plan 4/4**

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# 15 Appendices

## 15.1 Project Plan

# WP 029(B) Historic Environment Works – Weeford to Whittington – Enabling Works North Contract

## Project Plan for Trial Trenching

Document Number: 1EWo4-LMJ-EV-PLN-NSo6\_NL16-029003

Revision	Author	Checked by	Approved by	Date	Reason for revision
Co1	Molly Clyne DJV	Klara Spandl and Mary Ruddy, DJV	Alastair Hancock DJV	18/12/2018	Issued for acceptance
Co2	Molly Clyne DJV	Debbie Taylor DJV	Alastair Hancock DJV 	06/03/2019	Issued for acceptance

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- Table 2: Contribution to Specific Objectives
- Table 3: Record of stakeholder engagement in preparation of the Project Plan

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# 1 Executive Summary

- 1.1.1 This High Speed 2 (HS2) North Section Phase One 'Project Plan' (PP) details the proposed methodology and approach for a programme of evaluation trial trenching between Weeford and Whittington Heath in Staffordshire. The trenched area, or "evaluation area", is located just to the north of Watling Street (HS2 Chainage 178500) in the south and Whittington Heath (HS2 Chainage 181430) in the north. The evaluation area is c 2.9km long, covers approximately 62ha, and is required as part of the construction land requirements for the enabling works and subsequent main works for HS2 Phase One. The enabling and main works will entail ground disturbance which may have an impact on the historic environment (i.e. known or possible buried heritage assets/archaeological remains and above ground heritage assets/structures of historic interest).
- 1.1.2 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 the historic environment (including heritage assets and their setting) will be addressed during the design and construction of HS2 Phase One.
- 1.1.3 Trial trenching is required to identify the presence, nature, date, extent, survival and significance of below ground heritage assets which may be affected by the enabling and main works. The evaluation will inform, if required, mitigation strategies aimed at reducing or removing adverse effects of the scheme.
- 1.1.4 The Project Plan uses results of previous investigations to define the trial trenching strategy and, where appropriate, the targeting of trial trenches. The previous investigations include research carried out as part of the 2013 Phase One Environmental Statement (ES), including hyperspectral and LiDAR survey and subsequent widespread geophysical survey. The Historic Settlement Landscape Study (1EW04-LMJ-EV-REP-N000-029001) and Geoarchaeological Desk Based Assessment (GDBA) were also consulted.
- 1.1.5 The ES concluded that there was high potential for Bronze Age to Romano-British settlement and agricultural activity within the evaluation area. There are very few features which can be dated to the medieval period, with significant changes to the landscape occurring in the post-medieval period such as the enclosure of the landscape and the introduction of recreational and military activity in the north of the evaluation area.
- 1.1.6 The purpose of this Project Plan is to:
- outline the scope and aims of archaeological field evaluation and how this will contribute to specific research objectives, in accordance with the Generic Written Scheme of Investigation Historic Environment Research and Delivery Strategy (GWSI: HERDS);

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- outline the approach and methodology to be employed during the evaluation. A detailed methodology will be covered in the Location Specific Written Scheme of Investigation (LS-WSI); and
- set out the proposed deliverables and reporting mechanisms.

1.1.7 The baseline information shows that the trial trenching will contribute to GWSI: HERDS Specific Objectives addressing Prehistoric to post-medieval activity, settlement and landscape. The trenching also has the potential to reveal unknown archaeological features and may therefore contribute to other GWSI: HERDS Specific Objectives. The GWSI: HERDS Specific Objectives guiding the project plan are listed below:

- 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;
- KC15: Can we identify regional patterns in the form and location of Late Bronze Age and Iron Age settlements across the route, and are there associated differences in landscape organisation and enclosure?;
- KC16: Investigate the degree of continuity that existed between Late Bronze Age and Iron Age communities in terms of population, mobility and subsistence strategies;
- KC18: Explore the evidence for increasing social complexity in the archaeological record in the Late Bronze Age and Iron Age, and identify patterns of intra-regional and regional variation;
- KC19: The Romano-British period saw the beginning of a more established infrastructure network. Can we investigate the development of these routes, trackways and roads and the influence they had on landscape change?
- KC21: Assess the evidence for regional and cultural distinctiveness along the length of the route in the Romano-British period, with particular regard to the different settlement types encountered along the route;
- KC23: Identify evidence for late Roman occupation and attempt to identify any continuity in settlement patterns between the end of the Romano-British period and the early medieval period;
- KC30: Identify the location and form of Early and Middle Saxon settlement and investigate evidence for land use in the period;
- KC31: Identify the location of Middle to Late Saxon settlement, explore processes of settlement nucleation and understand the development of associated field types and agricultural regimes;

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- 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; and
- KC40: Identify patterns of change within medieval rural settlement from the 11th to mid-14th century.

## 2 Location / Site Background

### 2.1 Baseline

- 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 evaluation area is located in the Lichfield District of Staffordshire. It runs for c 2.9km just to the north of Watling Street (HS2 Chainage 178500) in the south and Whittington Heath (HS2 Chainage 181450) in the north. The closest conurbation is the city of Lichfield, which is situated c. 2km to the north-west. The evaluation area is approximately centred on National Grid Reference (NGR) 414746, 306134 and includes approximately 62ha of land which mostly comprises agricultural fields subdivided by hedgerows.
- 2.1.3 The evaluation area will be subject to enabling works and subsequent main works as part of Phase One of HS2, and includes the following Construction Land Requirement (CLR) parcels; CR02254, CR02257, CR02543, CR02570, CR02625, CR02713, CR02712, CR02756, CR02789 and CR02979. The work will entail ground disturbance which would potentially have an impact on archaeological remains that may be present.
- 2.1.4 The evaluation area lies within the Community Forum Area (CFA) 21: Drayton Bassett, Hints and Weeford, and within Archaeological Character Area CFA21 – ACA6.3: River Terrace North of the A5. The ACAs were split further within the ES; and the evaluation area crosses the following Archaeological Character Sub-Zones:
- ASZ21-10 Arable area with large post-war fields: Gently undulating land with cropmarks of possible prehistoric sites recorded within the sub-zone, including enclosures, a pit alignment, linear features and a possible ring ditch;
  - ASZ21-11 Arable area with sinuous field boundaries: Largely on terrace, relatively flat with cropmark sites including a rectilinear enclosure and pits and ditches known within the sub-zone;
  - ASZ21-12 Arable fieldscape characterised by 18th and 19th century farms, flat area with slight rise towards the north;

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- 2.1.5 The archaeological works detailed in this Project Plan comprise ‘Trial Trenching’, which is intended to identify, investigate and record known archaeological remains, and where present, unknown archaeological remains in order to clarify their nature, date, significance and the contribution they can make to HERDS Specific Objectives.
- 2.1.6 A project plan (1EW04-LMJ-EV-PLN-N000-029015) for route wide test pitting is currently being prepared to enhance the work detailed in this project plan. The test pitting will examine select areas located within the Archaeological Character Sub-Zones for the presence of prehistoric and early medieval evidence within the plough zone, which may derive from unenclosed sites, or sites with few cut features, which are consequently difficult to identify and define with trial trenching.
- 2.1.7 Table 1 lists the archaeological investigations that have been carried out within the evaluation area to date, with the key outcomes.

Table 1: Previous investigations at the evaluation area

Description	Summary of results
LiDAR and Hyperspectral data carried out as part of the ES (CH-004-021 and 022).	<p>The LiDAR survey which was carried out as part of the ES across the entire evaluation area revealed limited results. The area of highest potential activity was immediately to the north of the evaluation area at the Whittington Heath Golf Course. The potential features comprise the remains of linear ridges and furrows (WA22.1), a small circular earthwork defined by a curving ditch with a possible causeway to the south-east and a low external bank (WA22.2), and a broad flat-bottomed ditch or trench of uncertain function on a north-west to south-east alignment (WA22.5).</p> <p>Approximately 500m south of Whittington Heath Gold Course, a low linear earthwork is visible extending within the western side of the evaluation area (WA21.34), possibly representing the line of a former hedge line or field boundary. In the centre of the evaluation area, directly north-west of Packington Moor Farm, a series of small regular rectangular earthworks have been identified (WA21.33), although they probably represent modern paddocks or small fields.</p>
Geophysical Survey carried out as part of the ES (CH-004-021)	<p>The geophysical survey was carried out in May 2013 across a site in the north of the evaluation area (WSI-CFA21-009), directly to the south of Whittington Heath Golf Course. The survey revealed a spread of possible archaeological anomalies in the south-west of the site, most of which have an irregular shape interspersed with some L-shaped anomalies; these features have been interpreted as possible pits and ditches. A sub-oval anomaly is visible in the north of the survey site and has been interpreted as possibly representing a cut feature such as a small pit. It is noted that due to the distribution of such features across the site, they may represent natural features such as tree throws. Several linear and curvilinear features identified in the south of the survey site have been interpreted as possible archaeology.</p> <p>Modern services have been identified in the west of the survey site in a north-east to south-west alignment.</p>
Geophysical Survey carried after the publication of the ES	<p>The geophysical survey was carried out between the 29th-30th September, 11th-18th November 2014 and 23th-25th February 2015 across the south of the evaluation area (WSI-CFA21-007). The survey identified limited potential archaeological activity within the</p>

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Description	Summary of results
(C253-ATK-EV-REP-030-000580)	evaluation area comprising several small sub-oval and elongated oval positive anomalies towards the south of the survey site interpreted as possible pits or ditches. Several linear anomalies were also identified, predominantly within the south, of uncertain origin although they may represent modern ploughing.
Geophysical Survey carried out as part of WP 29 Area 8: Middleton Pool Cutting to Swinfen Cutting (1EW04-LMJ-EV-REP-NSo5_NL14-029003)	A geophysical survey was carried out in April 2018 across the majority of the previously unsurveyed part of the evaluation area and identified anomalies probably relating to agricultural activity. In the north of the evaluation area, a number of rectilinear, curvilinear and linear trends have been identified which may be enclosures or former field systems. Two parallel linear trends adjacent to two amorphous anomalies have been identified in the south of the evaluation area which could have archaeological origins.
Trial Trenching carried out as part of the HS2 Phase One Enabling Works. Watling Street - Report: Trial Trenching (1EW04-LMJ-EV-REP-NSo6_NL16-029003)	Trial trenching was undertaken between May and August 2018 on land to adjacent to the south of the evaluation area (Figure 3). 28 trenches were located across the site to maximise the potential for encountering archaeological features, with a number targeting areas of geophysical anomalies. No archaeological features contributing to the HERDS objectives were encountered in any of the trenches.
Historic Settlement Landscape Study carried out as part of the HS2 Phase One Enabling Works based upon the Detailed Desk Based Assessment for Historic Settlement Landscape Study (1EW04-LMJ-EV-REP-N000-029001)	A route-wide historic settlement study was undertaken to examine later Medieval and post-Medieval settlement and landscape.  Features associated with Whittington racecourse are identified on the 1837 tithe map of the area and include the site of a betting chair (id 1116), grandstand and winning chair (id 491). The racecourse was first seen on mapping of 1800 and is shown in detail on the tithe map. Also identified was Little Packington Farm first seen on Yates map of 1775 (id 454); and small extant buildings at a crossroads seen on OS mapping of 1894 (id 455).

## 2.2 Site Conditions

### Topography and Geology

- 2.2.1 The south of the evaluation area is relatively flat at c.97m OD, the land ascends to c.111m OD slightly to the north of Packington Moor Farm, then descends gradually to c.103m OD at the Tamworth Road.
- 2.2.2 According to British Geological Survey (BGS) online mapping the underlying solid geology largely comprises Helby Formation Sandstone with a small area of Chester Formation Sandstone and Conglomerate in the north. There are no superficial deposits mapped within the evaluation area.

### Summary of Archaeological Potential and Significance

- 2.2.3 The evaluation area does not contain any nationally designated (protected) heritage assets, such as World Heritage Sites, Scheduled Monuments, Listed Buildings, Registered Battlefields or Registered Parks and Gardens.

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- 2.2.4 The closest nationally designated heritage asset lies 60m to the west of the northern half of the evaluation area; this is a group of Grade II listed buildings comprising Hackney Stable and Smith (National Heritage List/NHL Ref: 1188312), Horsley Brook Farmhouse (NHL Ref: 1038834); Granary and cart shed (NHL Ref: 1038835); and a barn (NHL Ref: 1188309). The closest Conservation Area included in the Lichfield District Local Plan is situated c. 1.5km to the north-east of the evaluation area at Whittington.
- 2.2.5 The ES and HER identified 47 non-designated heritage assets within 500m of the evaluation area, (the possible extent of these assets as mapped by the ES and HER is shown on Figures 2 and 3). The assets are listed in Appendix B. Features identified in the Historic Settlement Landscape DDBA are also plotted in Figure 2 and on Figures 4-7. Features of particular significance comprise, from south to north:
- ES ref. DHW125: Roman field system. Linear features, potential field boundaries associated with nearby Roman remains adjacent to new A5.
  - ES ref. DHW141: Pit alignment and enclosure. Pit alignment evident as cropmarks. Suggested to be of probable Bronze Age to Romano-British date.
  - ES ref. DHW143: Linear features and pits seen on aerial photographs. Possibly prehistoric or Romano-British in date.
  - ES ref. DHW400: Parliamentary Enclosure at Botany Bay. A coherent and legible example of a relatively rare landscape type for the county. The landscape type is planned enclosure, and the area is a good example of late enclosure by Parliamentary Act. The Act to enclose this part of Staffordshire was passed in 1879. The field patterns represent a classic Parliamentary-type enclosure, with large fields divided by ruler-straight lines at right angles.
  - ES ref: DHW153, DHW154 and WHA330: historic hedges along parish boundaries.
- 2.2.6 Archaeological investigations not associated with HS2, and within 500m of the evaluation area, are shown on Figure 3 and are listed in Appendix C. The most significant of the previous HER investigations within 500m of the evaluation area comprise:
- A5 Weeford to Fazeley as part of the Road Improvement Scheme (EST1756, EST2187, EST729) adjacent to the south-west, which uncovered significant activity dating between the Bronze Age and Romano-British periods;
  - EST1893 and EST1947: Historic building recording survey at Whittington Barracks, Lichfield, Staffordshire in December 2008, 20m north east, that unveiled the changing nature of the buildings and associated development of the landscape in the north of the evaluation area;

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- 2.2.7 The following sections summarise the archaeological and heritage potential of the evaluation area by period.

### *Palaeolithic (500,000 – 10,000BC)*

- 2.2.8 The Lower and Middle Palaeolithic of the West Midlands is poorly understood, but the West Midlands is identified (Garwood 2011) as being of particular importance for research into the earlier Palaeolithic, as it is geographically positioned at the northern extreme of global Lower Palaeolithic occupation. Staffordshire has produced relatively little evidence for Palaeolithic activity and occupation in comparison to areas in southern and eastern England, with discoveries mostly derived from limestone cave sites at the north of the County.
- 2.2.9 There is currently no definitive evidence that the landscape of the study area was occupied during the majority of this period. However, c. 8km north of the evaluation area along the course of the River Tame, recent excavations at Tucklesholme Quarry have identified an in-situ scatter of Late Upper Palaeolithic flints (Richmond 2017).
- 2.2.10 Due to the lack of mapped superficial deposits within the evaluation area, the GDBA (1D037-EDP-EV-REP-000-000031) has categorised it as an area of limited geoarchaeological potential (Geoarchaeological Character Zone: GCZ 48), for this and subsequent prehistoric periods. However, HS2 Historic Environment Team review of logs of GI completed for HS2 at, and near, the evaluation area suggest that deposits of sand and gravel are present; dependent upon the age of these deposits, and their stratigraphic position relative to other superficial deposits, the sands and gravels may seal other sediments with earlier Palaeolithic potential, or locate areas which may been a focus for activity of later prehistoric periods.

### *Mesolithic (8,500 – 4,000BC)*

- 2.2.11 Mesolithic finds densities are relatively low in the West Midlands when compared to other parts of Britain. The densest activity appears to be focused on well-drained elevated sites close to water sources, such as in the Shenstone Park area, c.2.8km south-west of the evaluation area, where a scatter of possible Mesolithic flints have been recovered (HER ref. MST4576, MST6122, MST6123 and MST6125). In closer proximity to the evaluation area, a flint scraper and flake, which may date to this period, have been recovered during a watching brief on topsoil stripping at Hints Quarry (MST13066), c.750m east of the evaluation area.
- 2.2.12 Mesolithic flint tools have also been discovered during fieldwalking around Middleton, c.5km to the south of the evaluation area, whilst a programme of fieldwalking located c. 9km to the south around Wishaw Hall Farm recovered large numbers of Mesolithic stone tools from areas with clay soils.
- 2.2.13 Finds are also recorded on clay soils in other parts of Britain, and alluvial deposition may have hidden Mesolithic sites located in river valleys, therefore Mesolithic activity may be far more widespread than previously assumed.

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### *Neolithic (4,000 – 2,400BC)*

- 2.2.14 There is no evidence of Neolithic activity within the evaluation area, however, this may reflect longstanding agricultural use and a consequent lack of recent archaeological investigation rather than an absence of activity.
- 2.2.15 Current evidence from the wider region is limited, with little to suggest settlement foci or sites of repeated activities. Neolithic evidence often comprises pit groups, containing artefactual and faunal assemblages, or stone tool scatters. The ceremonial landscape at Catholme/Whitemore Haye, c.10km northeast of the study area, is the closest example of identified later Neolithic ceremonial activity within the wider landscape.
- 2.2.16 Environmental material from sites in the West Midlands indicate fewer woodland species in pollen samples and an increase in weed species during the 4th millennium BC, suggesting that some land clearance may have occurred, possibly for agricultural purposes.

### *Bronze Age (2,400 – 7,00BC)*

- 2.2.17 Woodland clearance may have been gradual during early part of the Bronze Age and it has been suggested that the major river valleys such as the Trent, did not witness large-scale clearance until the mid-second millennium BC (HERDS Resource Assessment: Section 11.3.9).
- 2.2.18 Settlement evidence of the early part of the period is very rare, suggesting mobile communities, and lithic assemblages are often not closely datable (HERDS Resource Assessment: Section 11.3.12). Settlement evidence of the middle and later parts of the period is also rare, but when found it is often extensive and unenclosed.
- 2.2.19 Burial mounds (barrows) are relatively numerous and around 900 have been identified in the region, if crop mark ring ditches, comprising around half of the identified sites, are included. However, known distribution is clustered around the fringes of the region with concentrations on the Warwickshire Avon; near Wolvey in north-east Warwickshire; and at the Trent-Tame confluence in Staffordshire (HERDS Resource Assessment: Section 11.3.12).
- 2.2.20 Burnt mounds are a relatively common feature of the region (Hurst 2011), and are usually discovered close to watercourses, as has been noted on Cannock Chase c. 14km to the north west, near Uttoxeter c. 24km to the north and in Birmingham (Hodder 2011). Areas in proximity to the watercourses which cross the evaluation area have high potential to reveal similar sites.
- 2.2.21 A cropmark pit alignment (DHW141) identified as later prehistoric, possibly originating in the Bronze Age, intersects with the evaluation area at Chainage 178800. In the surrounding area a Middle Bronze Age cremation and other features have been excavated at Hints Quarry c. 750m to the east, at an area situated on the crest of a hill overlooking the surrounding landscape. Another undated cropmark pit alignment (DHW127), is identified c. 380m to the south-east of the evaluation area.

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2.2.22 Other sites comprise a rectangular enclosure with a possible entrance on the western side (DHW146) located c. 200m to the west, which is of probable late prehistoric or Romano-British date. Late prehistoric activity was identified to the south during works along the M6 (Toll) comprising possible Bronze Age pits and a section of ditch c. 260m to the south east (MST11444) and evidence for a possible Bronze Age-Iron Age field system c. 125m to the south west (MST11440).

2.2.23 The HER identifies two find spots dating to this period; a cast copper alloy socketed and side-looped spearhead (HER ref. MST16366) and an incomplete cast bronze socketed chisel (HER ref. MST16193). Both were recovered during metal detecting within Swinfen and Packington or Weeford parish, but the precise location of the findspots is not recorded in the HER.

### *Iron Age (700BC – AD43)*

2.2.24 The Iron Age landscape of the wider area is characterised by evidence of more intensive farming than in previous periods as well as more visible settlement sites, some identified from aerial photography and some excavated during the construction of the M6 Toll to the south west. The settlement sites vary in topographic location and form, comprising rectilinear enclosed and unenclosed examples, with other excavated features including pit alignments.

2.2.25 Archaeological evidence encountered during the A5 road improvement works include a possible Bronze Age-Iron Age field system c. 125m to the south west (MST11440) and Iron Age and Romano-British rural activity c. 220m to the west (MST11438). The pit alignments notably that which intersects with the evaluation area (DHW141), and the rectangular enclosure (DHW146) discussed in section 2.2.21 may date to this, rather than the preceding, period.

### *Romano-British (AD43 – 410)*

2.2.26 The evaluation area is located within the tribal territory of the Cornovii, north of Watling Street Roman road (DHW138) and in the hinterland of the marching camp and civilian settlement of Wall. Roman activity linked to Wall could be dispersed throughout the landscape.

2.2.27 The evaluation area has been identified by the ES as an area of high potential for Romano-British activity due to the presence of Watling Street Roman road (DHW138), c. 350m to the south. A small number of assets which may date to the period have been identified within the south and centre of the evaluation area, including a potential Roman field system (DHW125), and an area of possible ditches and pits (DHW143).

2.2.28 The HER records the find of a fragment of a Romano-British brooch (HER ref. MST16276) and a copper-alloy knife end stop in the form of a rounded female bust/head (HER ref. MST16294), identified by metal detecting within Swinfen and Packington parish although the precise location of the find spots is not recorded on the HER.

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- 2.2.29 In the surrounding area a possible Romano-British double-ditched enclosure (DHW139), is located on the north side of Watling Street c.450m to the west, whilst the rectangular enclosure with a possible entrance on the western side (DHW146) discussed in section 2.2.21, may date to this period. A small isolated pit containing heat-shattered stone and fragments of Romano-British pottery was encountered at Hints Quarry c. 750m to the east.

### *Early Medieval / Anglo-Saxon (AD410 – 1066)*

- 2.2.30 There are no recorded early medieval heritage assets within the evaluation area and archaeological evidence for the period is extremely limited in the region. The ceramic record is sparse as pottery largely disappears from the archaeological record at the start of the period, only re-appearing in the mid Anglo-Saxon period. What does appear to be the case is that scattered rural settlement characteristic of the later prehistoric and Roman periods continued into the early part of the period, with nucleation into villages occurring during the latter part of the period, possibly under royal or ecclesiastical influence. An example of this change in settlement pattern maybe provided by the mid to late Anglo-Saxon settlement overlooking the River Trent at Catholme, c. 10km northeast of the evaluation area.
- 2.2.31 A number of the villages surrounding the evaluation area, including Hints (DHW360) and Weeford (DHW137) are named in the Domesday Survey, and are likely to have been founded during the latter part of this period. The ES suggests that the early medieval landscape of the area may have been dominated by regenerated woodland interspersed with dispersed settlement utilising a mixed agricultural economy.
- 2.2.32 Watling Street (DHW138) is situated c 350m to the south of the evaluation area. This Roman Road continued in use during the early medieval period and is believed to have formed the boundary of the Danelaw during the latter part of the period.
- 2.2.33 Further afield, Tamworth, c5km east, was an important Mercian royal vill by the 8th century while Lichfield, c2km to the north west, was a diocesan centre by that time.

### *Medieval (AD1066 – 1540)*

- 2.2.34 During the medieval period the evaluation area lay within Royal Cannock Forest. The landscape is likely to have been one of dispersed settlement and hamlets within a wooded landscape, affected by piecemeal assarting with new tracts of land exploited for agricultural purposes. Ridge and furrow cultivation and boundary earthworks (WHA303) have been identified slightly to the north of the evaluation area, and while not definitively dated to the medieval period, may represent the small-scale cultivation associated with dispersed settlements.
- 2.2.35 A small-scale field system seen west of Packington Moor Farm (DHW147) toward the centre of the evaluation area is believed to date to this period and may derive from assarting. A fragment of a possible medieval cast copper-alloy vessel, recovered during metal detecting,

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has also been recorded within the centre of the evaluation area, although the precise find spot is not recorded by the HER.

- 2.2.36 The settlements of Weeford (DHW137) and Hints (DHW360), to the south of the evaluation area, are recorded in the Domesday Survey as very small settlements of 5.5 households in the manor of Lichfield. A moated site (DHW136) at Weeford, c. 750m south-west of the evaluation area, also provides evidence for medieval land management.

### *Post Medieval (AD1540 – 1901) and Modern (1901 – present)*

- 2.2.37 The post medieval period saw dramatic changes in the landscape of the evaluation area, primarily as a result of the late 18<sup>th</sup> and 19<sup>th</sup> century Enclosure Acts and Commons Acts, which enclosed much of the landscape within large farmed estates. The resulting geometric field patterns are particularly characteristic of this landscape. The ES highlights a particular well-preserved late 19<sup>th</sup> century example of planned enclosure at Botany Bay at the northern end of the evaluation area (ES ref. DHW400).
- 2.2.38 LiDAR Survey carried out as part of the ES identified a series of small rectangular boundaries associated with Packington Moor Farm (ES ref. DHW147) and a low linear earthwork (WA21.34), probably the line of a former hedgeline or field boundary. These features may be post-medieval in date, but are more likely to be modern.
- 2.2.39 Several important hedgerows are associated with the late 19<sup>th</sup> century Botany Bay field system; Weeford parish boundary hedgerow (DHW153) in the south, and Knox Lane (DHW154) and Tamworth road hedgerow (WHA330) in the north. These hedgerows potentially pre-date the late 19<sup>th</sup> century given that they follow parish boundaries.
- 2.2.40 The modern period is characterised by improvements to infrastructure and the growth of surrounding villages, towns and cities although the evaluation area has largely remained in agricultural use.

## **Proposals**

- 2.2.41 The proposed works across the route are outlined in the HS2 Design Element Statement (DES). The DES specifies the following works within the evaluation area:
- (177-L3) – Swinfen Cutting;
  - (177-S2) – Flats Lane ATS;
  - (179-S1) – Flats Lane Overbridge;
  - (179-S2) – Flats Lane Drop Inlet Culvert;
  - (180-S1) – Swinfen & Packington Bridleway 8 Accommodation Green Overbridge;

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- (181-S2) – A51 Tamworth Road Overbridge;

2.2.42 The construction elements above will comprise the following specific works:

- Infrastructure Mitigation Works;
- Construction Traffic Routes;
- Satellite Construction Compounds;
- Noise Barriers;
- New Public Right of Ways;
- Ditches (along-side track);
- Landscape Mitigation Planting;
- Grasslands;
- Attenuation Ponds;
- Infiltration Basins;
- Rail Alignment Formation;
- Electricity Sub-Stations; and
- Demolitions.

## Archaeological Implications

2.2.43 Since the evaluation area has not previously been developed, most archaeological remains are likely to lie immediately below the ploughsoil, mostly as negative features cut into the underlying superficial geology. Due to the longstanding agricultural use of the evaluation area, it is probable that any shallow archaeological remains will have been affected by modern ploughing. This generally reworks the upper 0.3m (0.4m for crops such as potatoes). The bases of cut features such as pits and ditches, and structural footings potentially survive intact.

2.2.44 The works listed in sections 2.2.40 and 2.2.41 will damage or remove any potential below ground archaeology. The types of potential impact from construction are summarised below.

### *Soil removal*

2.2.45 It is assumed for the purposes of this report that the soil would be removed across the evaluation area as part of enabling and construction works. This work will occur prior to activities such as ecological mitigation, landscaping and construction, including areas designated for temporary works to establish access routes, compounds and topsoil storage

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areas. This would potentially truncate or destroy any archaeological remains present through machine excavation and movement of plant.

### *Earthworks*

- 2.2.46 Areas of embankment and areas of cut will be constructed. Embankment may lead to damage or destruction of heritage assets through movement of plant, localised excavation and compaction, whilst areas of cut will remove any heritage assets present.

### *Pond Excavation*

- 2.2.47 The assumed excavation depths for attenuation ponds and associated drainage ditches is between 1.5–2.0m below ground level (mbgl). These depths would partially or completely remove any archaeological assets from within their footprint.

### *Planting*

- 2.2.48 The works include Landscape Mitigation Planting, which may include introduction of hedgerows, stands of woodland and areas of woodland edge. Ground intrusion from the proposed tree planting and subsequent root action is assumed to reach a depth of 1.0–1.5mbgl, removing or disturbing significantly any archaeological remains at the location of the planting.

### *Site Fencing*

- 2.2.49 There may be localised impacts resulting from the construction of the foundation posts for the hanging posts of fence gates and end struts. The level of impact is assumed to be around 1.0–1.5m deep, potentially disturbing archaeological assets within their footprint.

## **3 Aims and Specific Objectives**

- 3.1.1 The aim of this Project Plan is to:

- Define the aims and scope of the programme of field evaluation (trial trenches) 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, so that the work has specific aims, rather than an approach of simply mitigating impacts in order to collect information.

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- 3.1.3 The aim of the field evaluation is to determine, as far as reasonably possible, the presence, nature, date, extent, survival and significance of the archaeological resource within the evaluation area, in relation to GWSI: HERDS Specific Objectives, so that, if necessary, a suitable archaeological mitigation strategy can be put in place to avoid, reduce or offset any adverse effects arising from proposed ground disturbance.

### Contribution to GWSI: HERDS Objectives

- 3.1.4 The GWSI: HERDS document provides a comprehensive list of Specific Objectives for the historic environment for the whole HS2 Phase One North Section. This project plan has identified those objectives which are relevant for the field evaluation.
- 3.1.5 The identified Specific Objectives have been selected based on information collated to date (see Section 2). The Specific Objectives may be revised relative to the results of the evaluation. For example, unexpected archaeological remains may be encountered which could contribute to other Specific Objectives. If other Specific Objectives are identified during the evaluation, the scope of works shall be updated to address those Objectives.
- 3.1.6 Table 2 sets out the identified Specific Objectives of the works. Through delivery of these works, and the addressed aims set out in the table, the trial trenching will create knowledge and outputs that will contribute to these Specific Objectives.

Table 2 GWSI: HERDS Specific Objectives and evaluation strategy aims

GWSI: HERDS Specific Objective	Comment	Evaluation strategy aim
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	Known activity potentially relating to the Bronze Age and the Iron Age within the evaluation area comprise a pit alignment in the north (DHW141).  There are significant levels of activity from these periods focussed outside the south and east of the evaluation area, with a pit alignment c 380m to the south-east (DHW127), and ditches, postholes and pits interpreted as probable field systems and possible outbuildings or fences 180m to the south (HER ref. MST11440 to 11444).	Discoveries from previous intrusive investigations along the route of the A5 and at Hints Quarry strongly indicate remains of settlement activity relating to these periods.  Trial trenching has the potential to identify potential <i>in situ</i> remains associated with these periods, particularly within the south of the evaluation area in the vicinity of the probable Bronze Age field systems and possible outbuildings or fences along the A5 and the multi-period site at Hints Quarry.
KC15: Can we identify regional patterns in the form and location of Late Bronze Age and Iron Age settlements across the route, and are there associated differences in landscape organisation and enclosure?	A multi-period site has been uncovered at Hints Quarry, to the south east, including a Bronze Age cremation and possible Iron Age	Due to the presence of possible settlement activity, as well as the potential for burnt mounds along
KC16: Investigate the degree of continuity that existed between Late Bronze Age and Iron Age communities in terms of population, mobility and subsistence strategies		

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GWSI: HERDS Specific Objective	Comment	Evaluation strategy aim
<p>KC18: Explore the evidence for increasing social complexity in the archaeological record in the Late Bronze Age and Iron Age, and identify patterns of intra-regional and regional variation.</p>	<p>pottery. Cropmarks visible on aerial photography indicate the location of an Iron Age ring ditch, enclosure and two parallel linear features (DHW142), directly west of the site at Hints Quarry.</p> <p>The identification of these sites mostly around the south and east of the evaluation area may be a reflection of the lack of intrusive investigation in the north and west, however the ES suggests that there is higher potential for these periods in the vicinity of Bourne brook which runs in a west to east alignment 800m south of the evaluation area, due to the presence of burnt mounds recorded along other parts of the brook.</p>	<p>Bourne Brook to the south, there may be potential to identify monuments dating to these periods. The lack of superficial deposits across the evaluation area indicated that any visibility or lack of visibility of monuments will not be due to variation in geology, therefore contributing towards KC9.</p> <p>The identification of the extent of known activity outside of the evaluation area will provide a basis for investigation into the nature of Bronze Age and Iron Age activity in the region. Any results will contribute to these objectives.</p>
<p>KC19: The Romano-British period saw the beginning of a more established infrastructure network. Can we investigate the development of these routes, trackways and roads and the influence they had on landscape change?</p>	<p>The evaluation area is located 350m to the north of Watling Street Roman road (DHW138). In the south and centre of the evaluation area lies a possible Roman field system comprising linear features and potential field boundaries (DHW125) and linear features and pits identified on aerial photography (DHW143). A fragment of a Romano-British brooch (HER ref. MST16276) and a copper-alloy knife end stop in the form of a rounded female bust/head (HER ref. MST16294) have also been discovered in the centre of the evaluation area.</p>	<p>The influence and impact that the presence of Watling Street Roman road had on the landscape is potentially already visible within the evaluation area in the form of linear features and pits in its south and centre. Trial trenching has the potential to further identify the nature and extent of these features and whether they relate to settlement or military activity.</p>
<p>KC21: Assess the evidence for regional and cultural distinctiveness along the length of the route in the Romano-British period, with particular regard to the different settlement types encountered along the route</p>	<p>In the immediate vicinity, a rectangular enclosure with a possible entrance on the western side (DHW146) is visible on aerial photography c 120m to the west, while a possible Romano-British double ditched enclosure and pit alignment are visible 350m to the south-west (DHW139).</p>	<p>Any results will contribute towards these objectives.</p>
<p>KC23: Identify evidence for late Roman occupation and attempt to identify any continuity in settlement patterns between the end of the Romano-British period and the early Medieval period</p>	<p>In the immediate vicinity, a rectangular enclosure with a possible entrance on the western side (DHW146) is visible on aerial photography c 120m to the west, while a possible Romano-British double ditched enclosure and pit alignment are visible 350m to the south-west (DHW139).</p>	<p>Any results will contribute towards these objectives.</p>

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GWSI: HERDS Specific Objective	Comment	Evaluation strategy aim
KC30: Identify the location and form of Early and Middle Saxon settlement and investigate evidence for land use in the period	The ES notes that the evaluation area was largely woodland throughout the early medieval and medieval periods, with dispersed settlement throughout. However, due to the presence of the known early-medieval settlements of Weeford (DHW137) and Hints (DHW360) in the immediate vicinity, there is potential for further activity to be uncovered within the evaluation area, in particular relating to potential woodland clearance and subsequent landuse and management during these periods.	Trial trenching has the potential to identify the nature, extent, survival, date and significance of possible early medieval and medieval land use and perhaps dispersed settlement associated with the colonisation of the area during these periods. Trenching may provide information on changing land use and farming practices which may in turn have affected or been affected by settlement change. Any evidence will contribute to these HERDS Objectives.
KC31: Identify the location of Middle to Late Saxon settlement, explore processes of settlement nucleation and understand the development of associated field types and agricultural regimes	Further investigation into the field systems (DHW147) at Packington Moor Farm and on Whittington Heath may date these field systems, identify when landuse changed and locate any associated activity.	Dating the 3 parish boundaries may give an opportunity to date when these boundaries were laid out and hence when the landscape was divided politically.
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	Three historic parish boundaries with hedges run through the evaluation area. These may be medieval, post-medieval or possibly even late Saxon in date.	
KC40: Identify patterns of change within Medieval rural settlement from the 11th to mid-14th century		

## 4 Scope and Methodology

### 4.1 Introduction

4.1.1 The investigative fieldwork outlined in this Project Plan comprises Trial Trenching. The work has been designed to meet HS2 GWSI: HERDS Specific Objectives. The Trenches are targeted to features identified by previous surveys, including Geophysical and Lidar Survey and will also investigate 'blank' areas, where features have not previously been identified. It would determine, as far as reasonably possible, the presence, nature, date, extent, survival and significance and contribution to GWSI: HERDS Specific Objectives of archaeological remains discovered within the evaluation area.

### 4.2 Location Specific Written Scheme of Investigation

4.2.1 A Location Specific Written Scheme of Investigation (LS-WSI) will be produced by the Archaeological Contractor. This will provide the detailed method of investigation, including

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survey area, access arrangements, welfare, accommodation, site safety, RAMS, etc. The LS-WSI will be approved by HS2 prior to starting work.

## 4.3 Trial Trench Evaluation

- 4.3.1 The aim of the evaluation will be to examine known archaeology and investigate the presence or absence of unknown archaeological features, structures, deposits, artefacts and/or ecofacts. Where present the investigation will define the character, extent, quality and preservation of archaeological remains in order to determine their contribution to Specific Objectives identified in this Project Plan, and to examine whether other Specific Objectives should be added. The results of the evaluation will inform any subsequent archaeological mitigation strategy, including design adjustment, where possible, to avoid significant remains.
- 4.3.2 There will be 158 trenches excavated during the evaluation, with their locations shown on Figures 4 to 7. A 4% contingency by area will be used, with agreement of HS2 and as appropriate, for further investigation of areas of high potential where results of initial trenching have been negative, to further define and characterise targeted archaeology, characterisation of or discoveries of previously unknown archaeology and for the mitigation of archaeology which contributes to HERDS Specific Objectives where initial investigation has shown that it is of limited complexity and extent. All trenching will be assigned a unique ID in accordance with the Employer's Asset Information Management Systems (AIMS).
- 4.3.3 The evaluation will be carried out by a suitably qualified Archaeological Contractor. The trial trenches will generally be 50.0m long and 2.0m wide, and no more than 1.2m deep.
- 4.3.4 Trenches are positioned to provide coverage across the entirety of the site, with any areas left blank being due to logistical issues of access, space, presence of utilities, or inappropriate ground conditions for excavation. The area that is accessible for trial trenching is shown on Figures 4-7, it is dictated by the construction land requirements.
- 4.3.5 The distribution of the trenches across the evaluation area will contribute to the Specific HERDS Objectives for the trial trenching (see Section 3 above). This is due to the 'Knowledge Creation' aims (KC9, KC10, KC15, KC16, KC18, KC19, KC21, KC23, KC30, KC31, KC35, KC40, and KC52) relating primarily to the development of the wider historic landscape and settlement patterns (between the Bronze Age to post-medieval periods) in the evaluation area. In conjunction with HERDS Objectives, the trial trenching will further determine the nature of non-designated heritage assets identified in the ES and HER data and those identified in the Historic Settlement Landscape DDBA (outlined in Section 2.2.5).
- 4.3.6 Trenches 128 to 137 and 139 examine the south of the evaluation area, where there is high potential for possible Bronze Age and/or Iron Age archaeology. Trenches 97 to 112 will target the linear features and pits identified on aerial photography in the centre of the evaluation

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area (DHW143). These trenches have the potential to clarify the nature, extent, survival, date and significance of remains associated with Bronze-Age and Iron Age activity (and possibly earlier) and consequentially enhance Specific Objectives KC9, KC10, KC15, KC16 and KC18.

- 4.3.7 Trenches 154 to 158 examine the Roman field system comprising linear features and potential field boundaries (DHW125) located toward the south of the evaluation area with surrounding trenches 140-153 also having potential to encounter associated remains. These trenches may reveal further evidence of Romano-British activity which may have been influenced by the presence of Watling Street Roman road to the south. The trenches have the potential to clarify the nature, extent, survival, date and significance of remains associated with Romano-British activity in the south of the evaluation area, and enhance Specific Objectives KC19, KC21 and KC23.
- 4.3.8 Trenches 95 and 96 will examine the field system (DHW147) identified in the ES directly north-west of Packington Moor Farm. These and all other trenches within the evaluation area have the potential to clarify the nature, extent, survival, date and significance of remains associated with possible early medieval and medieval land management, and consequentially may inform Specific Objectives KC30, KC31, KC35, and KC40.
- 4.3.9 Trenches 136, 138, 141 and 143 have been placed across Weeford historic parish boundary (DHW153) to record the nature and potential date of these features. Dating evidence would help understand the development of the landscape and may inform Specific Objectives KC30 and KC31.
- 4.3.10 Trenches at areas of negative geophysics results are randomly positioned to test for the presence or absence of unknown archaeological remains.
- 4.3.11 The locations of all trenches will be subject to confirmation of any utilities and services present in the evaluation area. Trenches may be relocated to avoid existing services and for other reasons, e.g. to avoid ecological or physical constraints.
- 4.3.12 Tasks that will be undertaken comprise:
- Set up (including welfare, compound and required fencing);
  - Mechanical excavation to remove topsoil, in order to expose potential archaeological horizons;
  - Archaeological hand excavation, identification and recording of any archaeological features exposed;
  - Selective environmental sampling, processing and assessment; and
  - Post-investigation reporting and archiving.

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## Setting Out

- 4.3.13 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 for each trench or group of geographically related trenches.
- 4.3.14 Trenches shall be set out and recorded to a minimum horizontal accuracy of +/- 0.05m. The corner points of each trench location shall be set out with Real Time Kinematic (RTK) Global Navigation Satellite System (GNSS) equipment or other suitable automated equipment referenced from the PGMs.
- 4.3.15 Surface heights shall be recorded using RTK GNSS and related to PGMs. Ordnance Survey Bench Marks (OSBM) are not to be used. Levelling accuracy shall be within 0.1m Ök: where 'k' is the total distance levelled in kilometres.
- 4.3.16 The Archaeological Contractor shall ensure that all trench or excavation limits, and significant archaeology detail are surveyed 'as dug' in relation to the project grid before leaving the evaluation area. Ground level height data to Ordnance Datum (OD) shall be recorded for each trench, along with the levels of the top of the superficial drift deposits (where present) and the top of the solid geology. Levels of key archaeological horizons and features will also be recorded.

## Mechanical Excavation

- 4.3.17 Trial trenches shall be excavated to the first archaeological level, the top of the natural geology or usually a maximum depth of 1.2m, if no remains of archaeological interest have been identified. Areas of deeper stratigraphy which may include or cover archaeological remains, such as colluvial or alluvial sequences, may need to be excavated to the base of the stratigraphic sequence and in this instance trenches shall be shored, or stepped and kept free of water, in order to allow appropriate investigation.
- 4.3.18 Excavation will be undertaken using a mechanical excavator with a toothless ditching bucket. Machining shall be carried out under the constant supervision of the Archaeological Contractor to excavate the ground in spits. The Archaeological Contractor shall use their professional judgement to determine the appropriate depth of each spit. The Archaeological Contractor will agree any variations to the excavation methodology with DJV and shall record this in writing for inclusion in the final report. Each spit shall be examined carefully to assist the recovery of any archaeologically significant artefacts and thus to determine when to cease machining. It is the responsibility of the Archaeological Contractor to ensure that the finished surface is machined to a suitably 'clean' state in order to identify, define and investigate any exposed archaeological deposits. If the surface is not sufficiently clean, hand-cleaning of the

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surface will be required. Machine excavation will comply with the Employer's Technical Standard - Route wide soil resources plan (HS2-HS2-EV-STD-000-000008).

- 4.3.19 The Archaeological Contractor shall ensure that water is discharged and excavated materials from archaeological excavations are stored in accordance with the Contractor's environmental protection requirements (as set out in the package Works Information and their Environmental Management Plan) and any relevant consents for the worksite. The Archaeological Contractor shall monitor discharge rates and, if necessary, conductivity of discharge waters to ensure compliance.
- 4.3.20 Deep stratigraphy, such as colluvial or alluvial sequences, may be encountered, where this is revealed, and where feasible, trenches, or sondages, shall be excavated to the base of the stratigraphic sequence, and shall be appropriately shored and kept free of water to allow 'person entry' to the excavations i.e. to allow the Archaeological Contractor to undertake investigation and recording to fulfil the aims of the work. The Archaeological Contractor will ensure that all works undertaken in deep stratigraphy will comply with the Employer's Technical Standard – Temporary Works (HS2-HS2-CV-STD-000-000005).
- 4.3.21 Should any material be excavated that is deemed to be contaminated or potentially contaminated it shall be investigated, controlled (e.g. placed separately from clean material) and removed in accordance with the Contractor's environmental protection requirements (as set out in their Environmental Management Plan).

### Fieldwork Recording

- 4.3.22 Archaeological recording shall be undertaken by the Archaeological Contractor to the general requirements as described in the GWSI: HERDS (section 7.6). 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.
- 4.3.23 Where areas of extensive archaeological stratification are encountered, the horizontal and vertical extent of archaeological stratification shall be assessed by the Archaeological Contractor through implementation of an appropriate strategy including either the excavation of features cut into horizontal stratification, limited test pitting or auguring. The aim shall be to recover suitable stratigraphic, finds and environmental samples from the full, intended depth of the trench, as far as is practicable. The exact methodology may need to be designed by the Archaeological Contractor during the excavation of individual trenches and agreed with DJV and the Contractor.
- 4.3.24 Metal detectors will be used by experienced staff to scan for metallic finds during the excavation of key archaeological features or deposits.

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- 4.3.25 In order to protect any waterlogged remains during the works, the Archaeological Contractor may identify a requirement for trial excavations to be allowed to refill with water overnight. In such cases, the Archaeological Contractor shall ensure that any hazards to staff or 3rd parties are minimised.
- 4.3.26 Archaeological recording is to include, as a minimum:
- At least one representative section at (1:10 or 1:20 scale) of each evaluation trench, from ground level to the base of the excavation;
  - the written record of individual context descriptions on appropriate pro-forma;
  - plans at appropriate scales (1:10, 1:20 or 1:50);
  - single context planning should be used only if appropriate (i.e. where there is a complex sequence);
  - photographs and other appropriate drawn and written records; and
  - other sections, including the half-sections of individual layers of features shall be drawn as appropriate to 1:10 or 1:20 scale.
- 4.3.27 A 'site location plan', indicating site north shall be prepared at 1:1250. Individual 'trench plans' at 1:200 (or 1:100) shall be prepared which show the location of archaeology investigated in relation to the investigation area. The location of site plans will be identified using OSGB co-ordinates.
- 4.3.28 Section drawings shall be located on the relevant plan and OSGB co-ordinates recorded. The locations of the PGM bench markers used and any site Temporary Bench Mark (TBM) used for the evaluation shall also be indicated.
- 4.3.29 A record of the full extent in plan of all archaeological deposits as revealed in the investigation shall be made. These plans will normally be based on digital survey data (digital planning methods shall be agreed in advance with HS2), supplemented where appropriate by hand-drawn records on polyester based drawing film (at a scale of 1:10 or 1:20 unless otherwise agreed with the HS2). 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.
- 4.3.30 A 'Harris matrix' stratification diagram shall be employed to record stratigraphic relationships (Harris *et al.* 1993) where appropriate. This record shall be compiled and fully checked by the Archaeological Contractor during the course of the excavations. Spot-dating shall be incorporated onto this diagram during the course of excavations.

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- 4.3.31 Recording of structural evidence revealed below ground level will vary according to the level of special interest of the structure and its relationship to archaeological remains. Structures of little or no significance shall be noted on a site plan. Detailed drawings of important features revealed in investigations may be required in accordance with the aims and objectives of the investigation as defined in the Project Plan.
- 4.3.32 The photographic record will be in digital format, resulting in high-resolution TIFF (uncompressed) images. Photographs will illustrate both the detail and context of the principal archaeological features discovered. In addition, the Archaeological Contractor shall take appropriate record photographs to illustrate work in progress. All photographic records will include information detailing: site name and number/code, date, context, scale and orientation.

### Human Remains

- 4.3.33 If unexpected human remains are identified, all work must be undertaken in accordance with the *Human remains and monuments procedure* (HS2-HS2-EV-PRO-0000-000008) and the Technical Standard Specification for Historic Environment Investigations (HS2-HS2-EV-STD-000-000035).
- 4.3.34 The Archaeological Contractor shall notify DJV and LM-JV immediately upon discovery of unexpected human remains. DJV shall notify HS2, so that the HS2 human remains procedures can be implemented. DJVs notification to HS2 may initially be made personally or by telephone but shall be confirmed in writing (email will suffice) within 24 hours of discovery.
- 4.3.35 After notification to DJV the Archaeological Contractor will cease all works on unexpected human remains until further instruction is provided by DJV.
- 4.3.36 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) the Archaeological Contractor will inform the Coroner or Police Force, 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, Police and the EHO within two working days of notification.
- 4.3.37 The Archaeological Contractor 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.
- 4.3.38 Human remains, once recognised, will be metal detected immediately to determine whether any metallic grave goods are present. If possible grave goods and other obvious artefacts shall be recorded and lifted on the day of discovery to avoid the risk of vandalism and theft.

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Where this is not feasible or appropriate, the Archaeological Contractor 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'.

- 4.3.39 Human remains will be accorded due dignity, care and respect at all times. The Archaeological Contractor may need to screen the remains, dependent on their location.

### Environmental Sampling

- 4.3.40 In line with the HS2 Technical Standard Specification for Historic Environment Investigations (HS2-HS2-EV-STD-000-000035) an initial sampling strategy is set out below (Section 4.3.45). This strategy is based on the existing information about the evaluation area, gathered from non-intrusive surveys and the HERDS Objectives listed in Table 2.
- 4.3.41 The sampling strategy, along with the HERDS Objectives outlined in Table 2 identify the key elements that should, where present, be sampled during this evaluation. However, the strategy will need to be reviewed throughout the on-site work, and where unexpected features or deposits are identified, revised accordingly to take these into account.
- 4.3.42 The purpose of sampling at the evaluation stage is to identify the range of environmental materials present, their preservation, significance and distribution.
- 4.3.43 The evidence from non-intrusive surveys for the evaluation area indicate a number of potential features which should be targeted through sampling. These include a pits and ditches (DHW141, DHW143, DHW125, and DHW147), and dispersed features, mainly pits identified through geophysical survey (WSI-CFA21-005) in the north-west of the evaluation area.
- 4.3.44 Sampling will therefore target the following, where present, as a minimum:
- Archaeological features (buildings, ditches, pits, gullies, postholes) associated with any prehistoric to Romano-British settlement and agricultural evidence in the south of the evaluation area (to assess the concentration, distribution and survival of prehistoric to Romano-British palaeoenvironmental material);
  - Archaeological features (buildings, ditches, pits, gullies, postholes) associated with any early medieval and/or medieval settlement activity in the evaluation area (to assess the concentration, distribution and survival of medieval palaeoenvironmental material);
  - All samples will be screened for the presence of hammerscale and other indicators of industrial processes, particularly in the south of the evaluation area where there is high potential for Iron Age activity. Where significant concentrations are identified, this information should be fed-back to the field team, so that where necessary,

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further samples can be taken to help to define any areas of metalworking, or other industrial processes;

- Floor surfaces where they survive and have not been truncated;
- Deposits representing the main phases of activity (to assess whether there are changes in rates of deposition, or material survival over time).

- 4.3.45 Sampling will not only just target charcoal-rich or wet deposits, but be undertaken on those features outlined above, taking into account advice from the Archaeological Contractor's environmental archaeologist. This will ensure that samples are recovered from a representative range of contexts, which adequately characterise past activities on site, and allows an assessment to be made of the extent to which they help address palaeoenvironmental and palaeoeconomic questions.
- 4.3.46 It is possible that unexpected deposits or features will be identified during the evaluation within the areas where non-intrusive survey has not revealed any evidence. As these are not covered in the initial sampling strategy above, the need for sampling will be assessed in terms of the Specific Objectives (both those in Table 2 as well as the remaining HERDS Objectives), the sampling strategy updated and the features sampled accordingly.
- 4.3.47 All samples will be taken to address a specific question. The purpose of the sample, and the question it has been taken to address will be recorded on The Archaeological Contractor's sample record sheet.
- 4.3.48 Samples will be taken using 10-litre plastic buckets (with lids and handles), or strong polythene bags (double bagged) secured at the neck, for the recovery of bulk 'disturbed' environmental samples. Labelling will follow guidance set out in the Technical Standard Specification for historic environment investigations (HS2-HS2-EV-STD-000-000035).
- 4.3.49 For non-waterlogged deposits bulk samples will normally be taken in the range of 40-60 litres. Where contexts have a volume of less than that stated above then 100% of the context will be sampled. Each bulk sample will only contain sediment derived from a single context. Where waterlogged deposits are encountered, samples sizes will usually be in the range of 10-20 litres, which is suitable for the recovery of macrofossils from these contexts. Samples shall be protected at all times from temperatures below 5°C and above 25°C and from wetting and drying out due to weather exposure.
- 4.3.50 Where house floors or other buried land-surfaces are encountered and these are sampled, appropriately sized monolith or kubiena boxes will be used for the recovery of 'undisturbed' monolith samples for soil micromorphology and to sub-sample for microfossils (e.g. pollen and spores, diatoms, ostracods). Where longer sequences are sampled, contiguous column samples will be collected for the retrieval of macrofossils (e.g. molluscs, plant remains and insects). Further guidance on specialist samples is provided in the Technical Standard

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Specification for historic environment investigations (HS2-HS2-EV-STD-000-000035 -  
sections 4.21.22-26)

- 4.3.51 Processing of all bulk soil samples collected for biological assessment should be completed within two weeks of collection. Processing samples at the time of fieldwork will allow this sampling strategy to be updated and refined where necessary. The preservation state, density and significance of material retrieved shall be assessed by the Archaeological Contractor's recognised specialist. Special consideration shall be given to any evidence for recent changes in preservation conditions that may have been caused by alterations in the environment.
- 4.3.52 The Archaeological Contractor shall be responsible for the protection of all samples and finds and for their transport (including loading and unloading) to the processing facilities or other location as agreed with the Employer.

### Preservation In-Situ

- 4.3.53 Where preservation *in situ* has been identified as an option for areas, or it becomes clear during the evaluation that certain parts of the evaluation area might be retained *in situ* within the scheme design, The Archaeological Contractor will ensure that suitable samples are taken to assess the state of preservation (as set out in Historic England guidance on Preserving Archaeological Remains).

### Backfilling

- 4.3.54 The trenches shall be pumped dry (by the Archaeological Contractor) and any necessary protection measures for archaeological remains (in addition to those for below ground infrastructure, services or utilities) shall be completed prior to backfilling. 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.
- 4.3.55 The Archaeological Contractor shall ensure, in liaison with DJV that adequate protection is provided for any archaeological remains. Any specific archaeological requirements relating to backfilling including use of materials to mark excavated depth, such as geotextiles, shall be specified by the Archaeological Contractor in the LS-WSI.

## 5 Post-investigation reporting and archiving

- 5.1.1 The Archaeological Contractor will produce an interim report, very briefly summarising findings of the evaluation, within five working days of the completion of fieldwork.

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- 5.1.2 The Archaeological Contractor will produce a fully illustrated final report for the field evaluation, within 25 working days of the completion of fieldwork, with the following structure:
- 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 evaluation area (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:
    - Trial trench evaluation
    - Stratigraphic report
    - Finds report
    - Environmental evidence report
    - Interpretation of results against original expectations and Specific Objectives
    - Review of evaluation strategy (i.e. success and confidence rating)
  - Conclusions:
    - Statement of findings, and summary of significance
    - Assessment of achievement (or not) of the Specific Objectives
  - Recommendations and research aims for further investigation (if required), publication and dissemination proposals, including archive deposition;
  - References to all primary and secondary sources consulted;
  - Appendices should include illustrations, contextual summary by trench, finds reports, environmental reports, site matrices (where appropriate) and full definitions of the interpretation terms used in the report.
- 5.1.3 The following figures will be included in the trial trenching report:
- General plan (mandatory);

- Engineering design (mandatory);
- Site location;
- Survey extents;
- Trial trench locations;
- Survey results to include plans and section of archaeological features, deposits and sequences;
- Selected photographs of representative and/or significant features and finds.

5.1.4 If the Archaeological Contractor foresees a requirement for extension to completion of either stage of reporting they will immediately notify DJV so that extension can be discussed with HS2.

## 6 Dissemination

6.1.1 The project archive and finds will be deposited with the appropriate museums archive, as identified in the LS-WSI.

6.1.2 Digital and hard copies of the report will be submitted in accordance with the requirements of the relevant Historic Environment Record (HER) and the National Record for the Historic Environment (NRHE) in Swindon.

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

6.1.4 In accordance with professional standard practice the Archaeological Contractor will complete an 'Online Access to the Index of archaeological investigationS' ('OASIS') record.

6.1.5 A digital copy of the final report will be submitted to the Archaeological Data Service (ADS).

## 7 Information Management

7.1.1 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.

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

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

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## 8 Quality Assurance Processes

- 8.1.1 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.
- 8.1.2 The Archaeological Contractor 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.
- 8.1.3 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.
- 8.1.4 All parties will follow HS2 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, LM).
- 8.1.5 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;
  - HS2 via DJV;
  - Other contractors working on separate parts of the evaluation area.
- 8.1.6 Following completion of work, parts of the evaluation area will be formally signed off by DJV and HS2. 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 HS2 for final approval.
- 8.1.7 The Archaeological Contractor will submit a draft of all reports to Asite for review. DJV will provide internal feedback and may require that the Archaeological Contractor amends documentation before acceptance. The Archaeological Contractor will upload PDF's of

accepted documents to Asite for issue to HS2. HS2 may provide feedback and require amendment to submitted documents before they are approved.

## 9 Evidence of Engagement

9.1.1 Evidence of stakeholder engagement in preparing this Project Plan, as well as DJV response to stakeholder comments, are set out in Appendix D.

## 10 References

Reference	HS2 document reference no.
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 CFA21 ES Reports: Drayton Bassett, Hints and Weeford	Volume 5 appendix:  CH-001-021, ES 3.5.2.21.4  CH-002-021, ES 3.5.2.21.5  CH-003-021, ES 3.5.2.21.6  CH-004-021, ES 3.5.2.21.7
HS2 CFA22 ES Reports: Whittington to Handsacre	Volume 5 appendix:  CH-001-022, ES 3.5.2.22.4  CH-002-022, ES 3.5.2.22.5  CH-003-022, ES 3.5.2.22.6  CH-004-022, ES 3.5.2.22.7
Detailed Desk-Based Assessment for Historic Settlement Landscape Study	1EW04-LMJ-EV-REP-N00-029001
Geoarchaeological Desk Based Assessment (GDBA)	1D037-EDP-EV-REP-000-000031
Powell, A.B., Booth, P., Fitzpatrick, A.P. and Crockett, A.D. (2008) The Archaeology of the M6 Toll, 2000-2003, Oxford-Wessex Monograph 2. Oxford Wessex Archaeology: Oxford and Salisbury	

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## Figures

10.1.1 The following figures are attached as **Appendix A**:

- Figure 1: Location Plan
- Figure 2: Heritage Assets
- Figure 3: Previous Investigations
- Figure 4: Trench Plan 1/6
- Figure 5: Trench Plan 2/6
- Figure 6: Trench Plan 3/6
- Figure 7: Trench Plan 4/6

10.1.2 The detailed proposals drawings have not been included in this Project Plan but where appropriate to informing the evaluation strategy they have been referred to in the text. Figures 4-7 are subject to change once the final geophysics report has been received and due to any constraints on the site.

## 11 Glossary of Terms

11.1.1 The following terms have been used in this report:

- **Archaeological Contractor** - the organisation undertaking the evaluation 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.

- **Exhumation** – removal of human burials from an archaeological site.
- **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.
- **Health and Safety Compliance Manager** – The manager with responsibility for site inspections, reporting and issuing of recommendations for the Site Supervisor and Project Manager to implement.
- **Location** – a specific HS2 worksite or group of worksites that are being addressed as a combined historic environment investigation programme of assessment, evaluation and further investigation.
- **Project Manager** - acts as administrator of the contract, handling certification, compensation events etc., with an obligation to act fairly and impartially as an agent of the Employer. An office-based manager who is the client’s principal point of contact and who has overall responsibility for the project budget and delivery
- **Project Plans** – specification document for each specific package of activity (e.g. a survey, desk-based assessment, excavation, recording project). The plans would respond to the Specific Objectives set out in the GWSI: HERDS and be delivered within an agreed budget and timeframe.
- **Senior Archaeologist** - a site-based manager provided by the Archaeological Contractor who is responsible for the direction of the works and the field team.
- **Works** – the specific historic environment assessment, evaluation or further investigation works at each location.

## Acronyms

ADS	Archaeology Data Service
CLR	Construction Land Requirement
DDBA	Detailed Desk-Based Assessment
ES	Environmental Statement
ESA	Enhanced Study Area (as part of GDBA)
GCZ	Geoarchaeological Character Zone (as part of GDBA)
GDBA	Geoarchaeological Desk-Based Assessment
GIS	Geographical Information System

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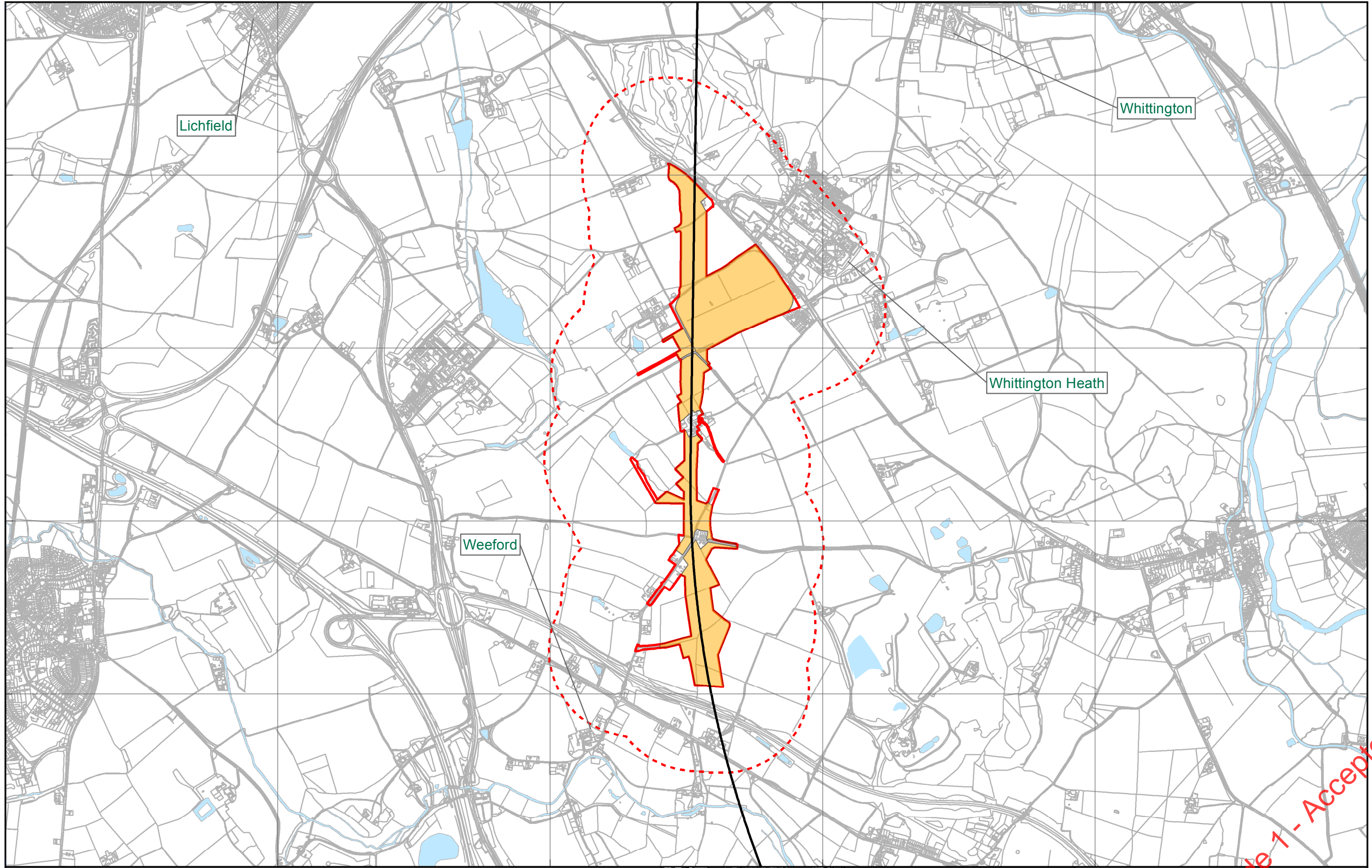
GWSI: HERDS	Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy
HE	Historic England (Formally English Heritage)
HER	Historic Environment Record
LLAU	Limits of Land to be Acquired or Used
LS-WSI	Location Specific Written Scheme of Investigation
NRHE	National Record for the Historic Environment
OASIS	Online AccesS to the Index of archaeological investigationS
PDF	Portable Document Format

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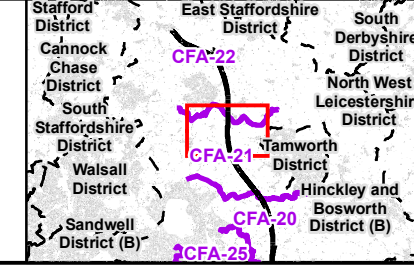
## Appendix A – Figures

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**Legend**

- Route in tunnel
- Route on surface
- Evaluation Area
- Land potentially required during construction
- 500m Boundary
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water Body



Map Number: **Figure 1**

Map Name: **Weeford to Whittington Location Plan**

Community Forum Area CFA21 & CFA22

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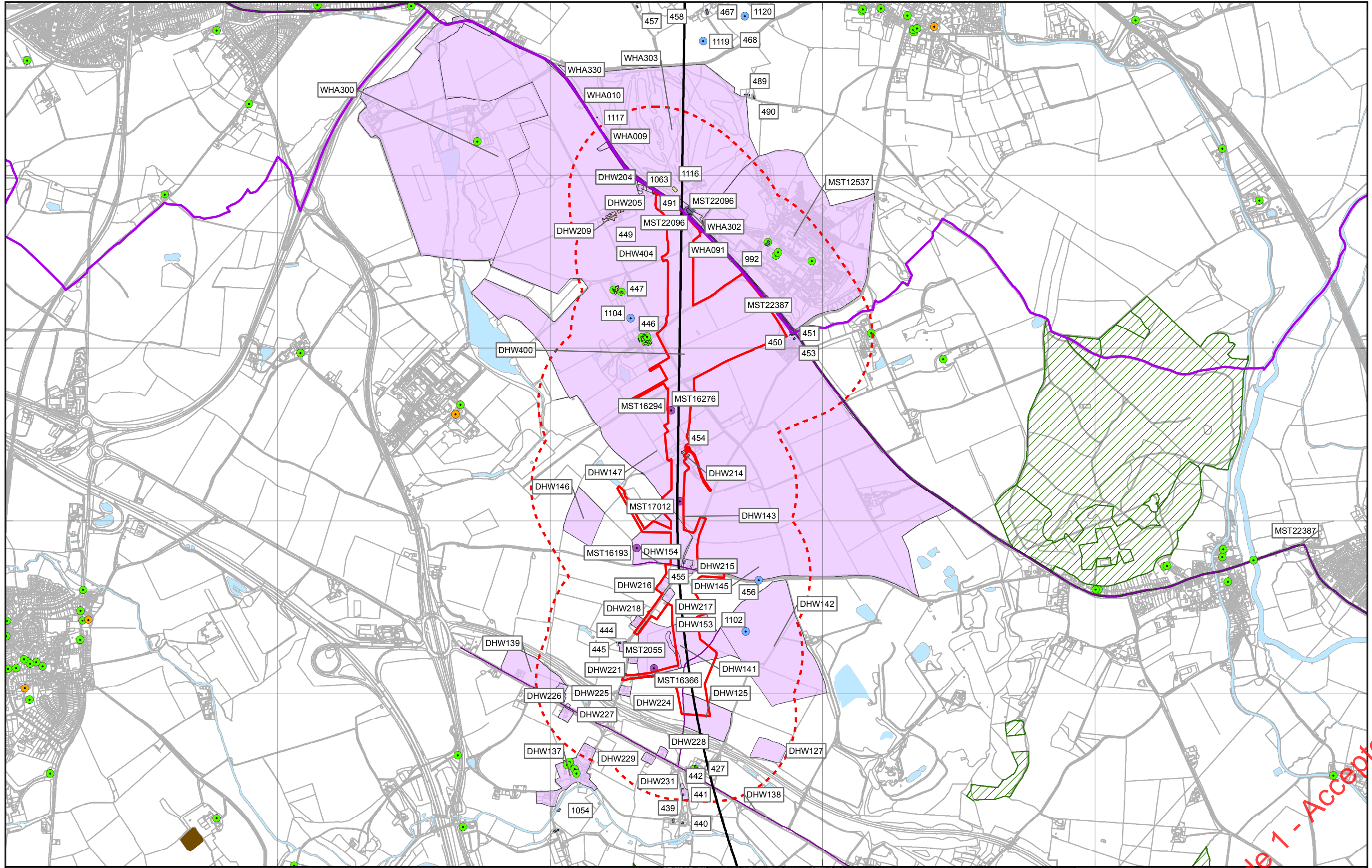
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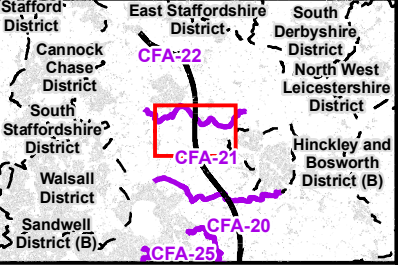
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**Legend**

— Route in tunnel	— District/Borough boundary	● Non Designated Heritage Site (point)	<b>Listed Building</b>
— Route on surface	— Watercourse	— Non Designated Heritage Site (Line)	● Grade I
— Land potentially required during construction	— Water Body	— Non Designated Heritage Site	● Grade II*
— 500m Boundary	— Ancient Woodland		● Grade II
— Community forum boundary	DHWXX Heritage Asset Reference ID (2013 ES)		



Map Number: **Figure 2**

Map Name: **Weeford to Whittington Heritage Assets**

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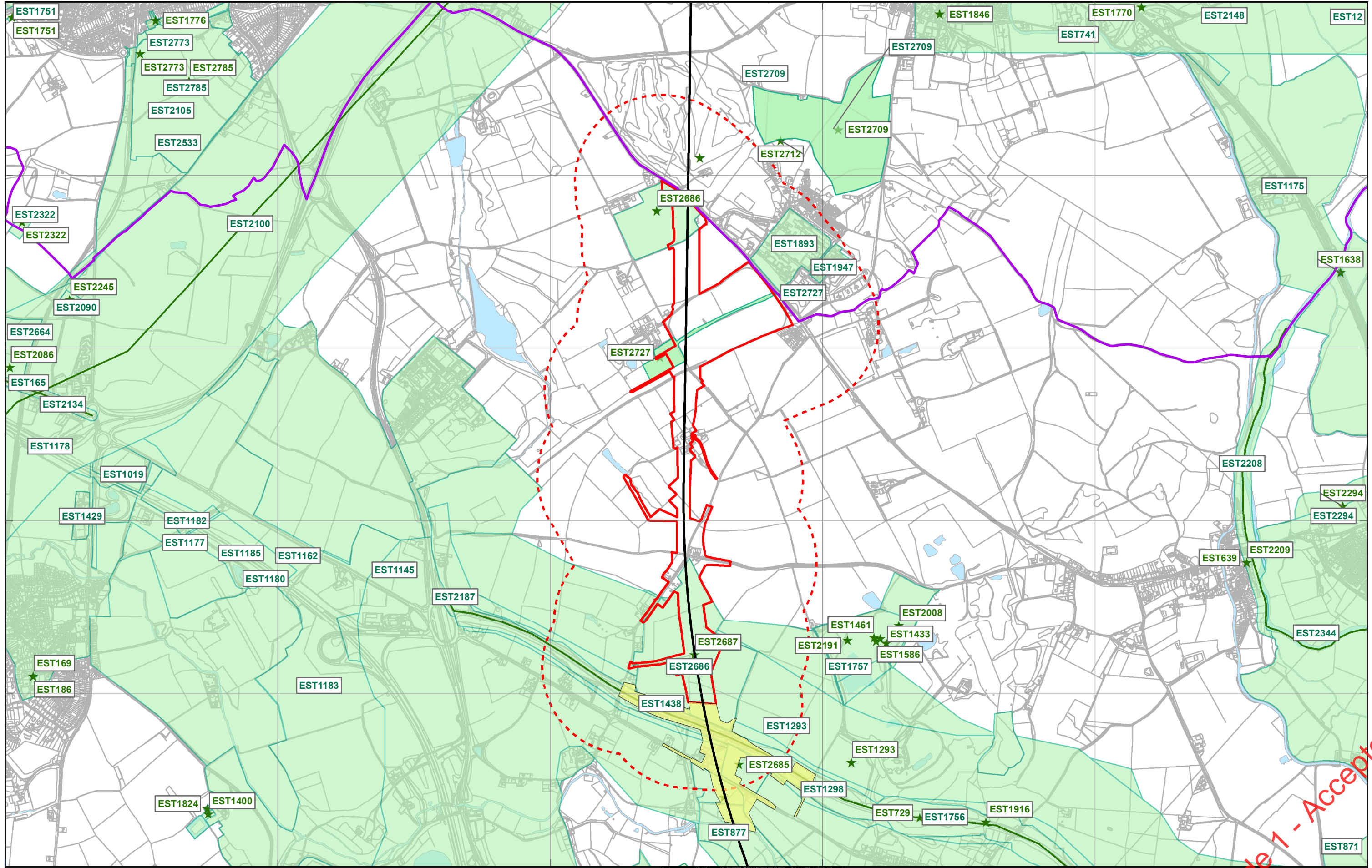
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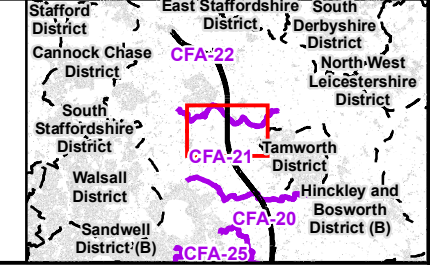
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**Legend**

Route in tunnel	Community forum boundary	Historic environmental record point
Route on surface	District/Borough boundary	Historic environment record line
Land potentially required during construction	Watercourse	Historic environment record area
500m Boundary	Water Body	WP22 Sites
HER Event Reference ID (2016)		



Map Number: **Figure 3**

Map Name: **Weeford to Whittington Previous Investigations**

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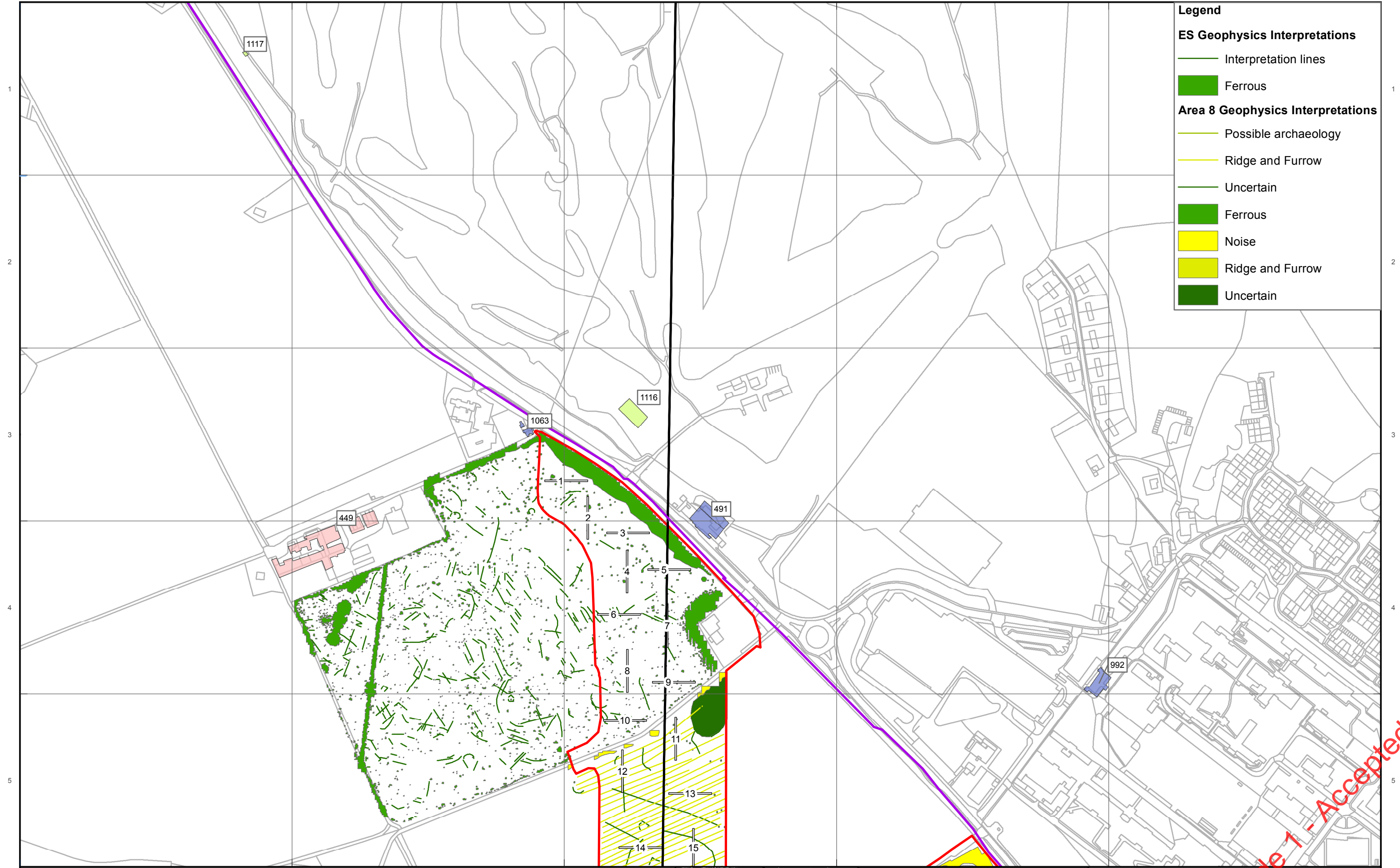
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**Legend**

**ES Geophysics Interpretations**

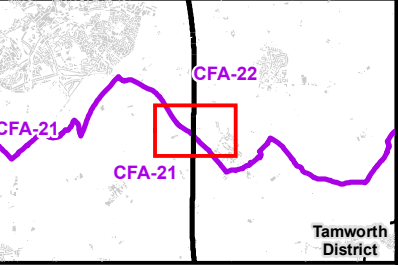
- Interpretation lines
- Ferrous

**Area 8 Geophysics Interpretations**

- Possible archaeology
- Ridge and Furrow
- Uncertain
- Ferrous
- Noise
- Ridge and Furrow
- Uncertain

**Legend**

- Route in tunnel
- Route on surface
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water Body
- Trenches
- Place name
- Building
- Farmstead
- Structure



Map Number: **Figure 4**

Map Name: **Weeford to Whittington Trench Plan 1/4**

Community Forum Area CFA21 & CFA22

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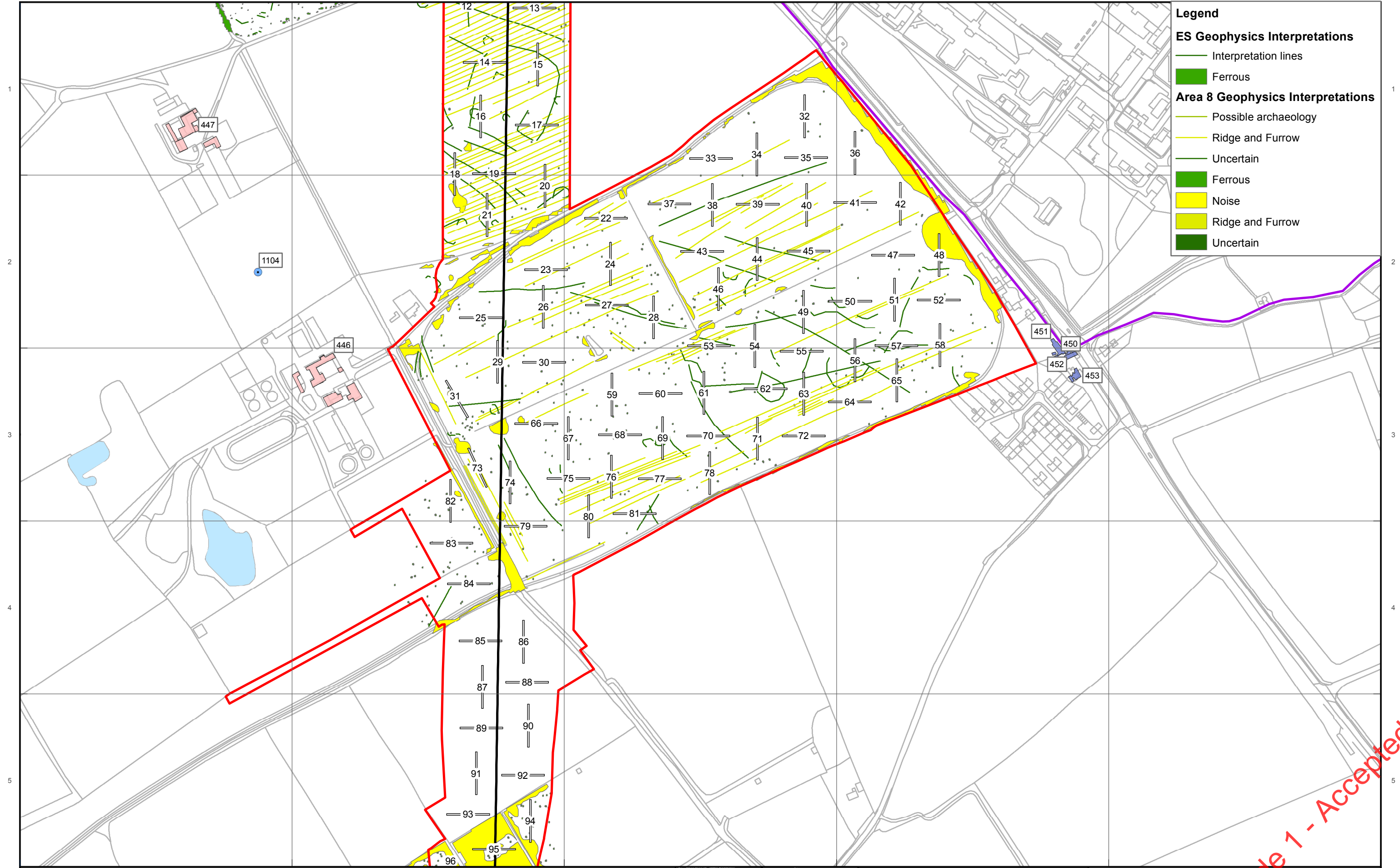
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**Legend**

**ES Geophysics Interpretations**

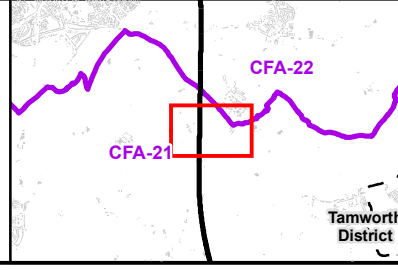
- Interpretation lines
- Ferrous

**Area 8 Geophysics Interpretations**

- Possible archaeology
- Ridge and Furrow
- Uncertain
- Ferrous
- Noise
- Ridge and Furrow
- Uncertain

**Legend**

- Route in tunnel
- Route on surface
- ▭ Land potentially required during construction
- Community forum boundary
- ▭ District/Borough boundary
- Watercourse
- Water Body
- ▭ Trenches
- Place name
- Building
- Farmstead
- Structure



Map Number: **Figure 5**

Map Name: **Weeford to Whittington Trench Plan 2/4**

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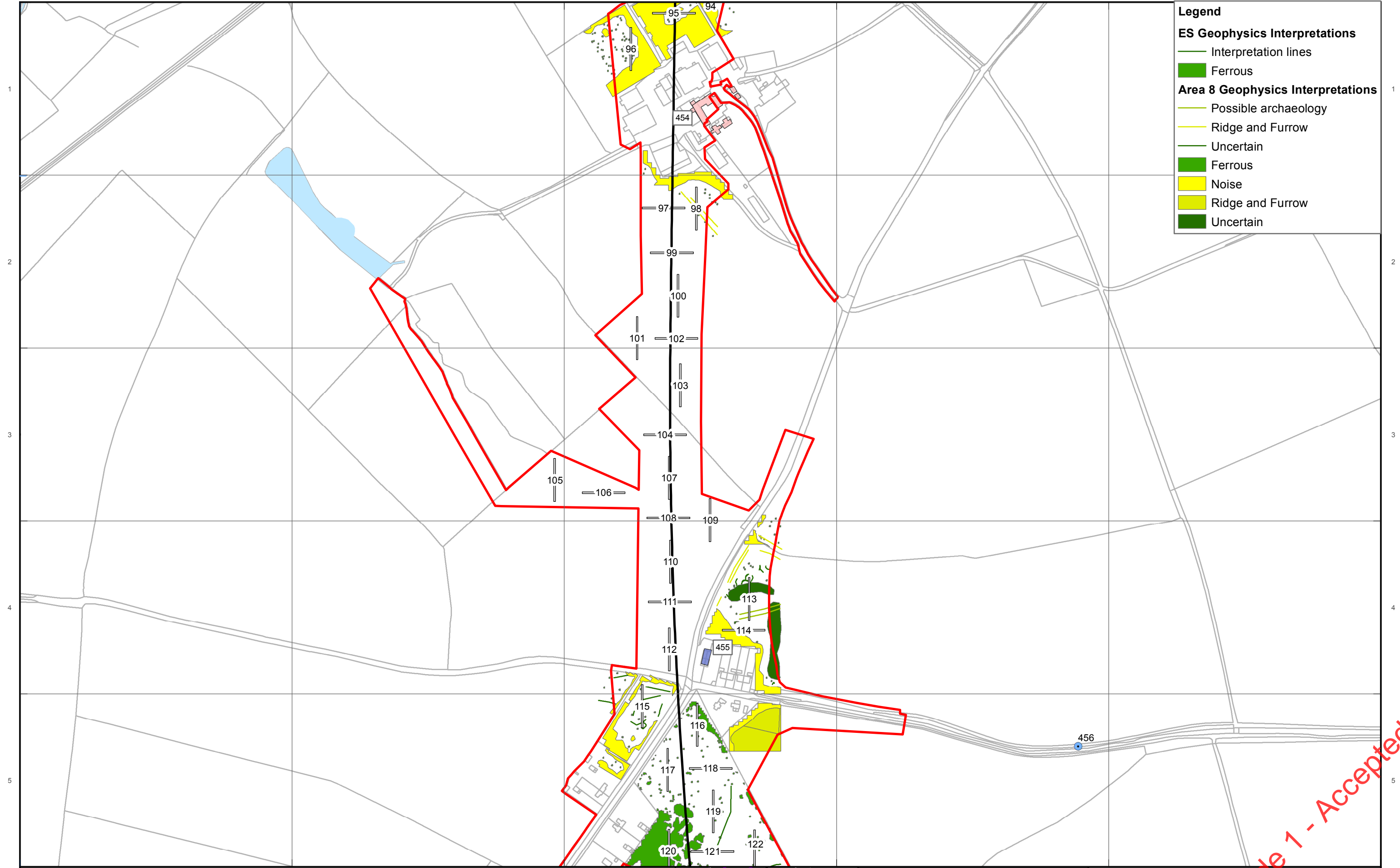
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**Legend**

**ES Geophysics Interpretations**

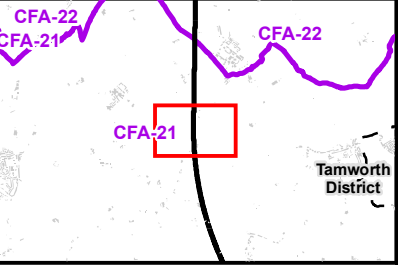
- Interpretation lines
- Ferrous

**Area 8 Geophysics Interpretations**

- Possible archaeology
- Ridge and Furrow
- Uncertain
- Ferrous
- Noise
- Ridge and Furrow
- Uncertain

**Legend**

- Route in tunnel
- Route on surface
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water Body
- Trenches
- Place name
- Building
- Farmstead
- Structure



Map Number: **Figure 6**

Map Name: **Weeford to Whittington Trench Plan 3/4**

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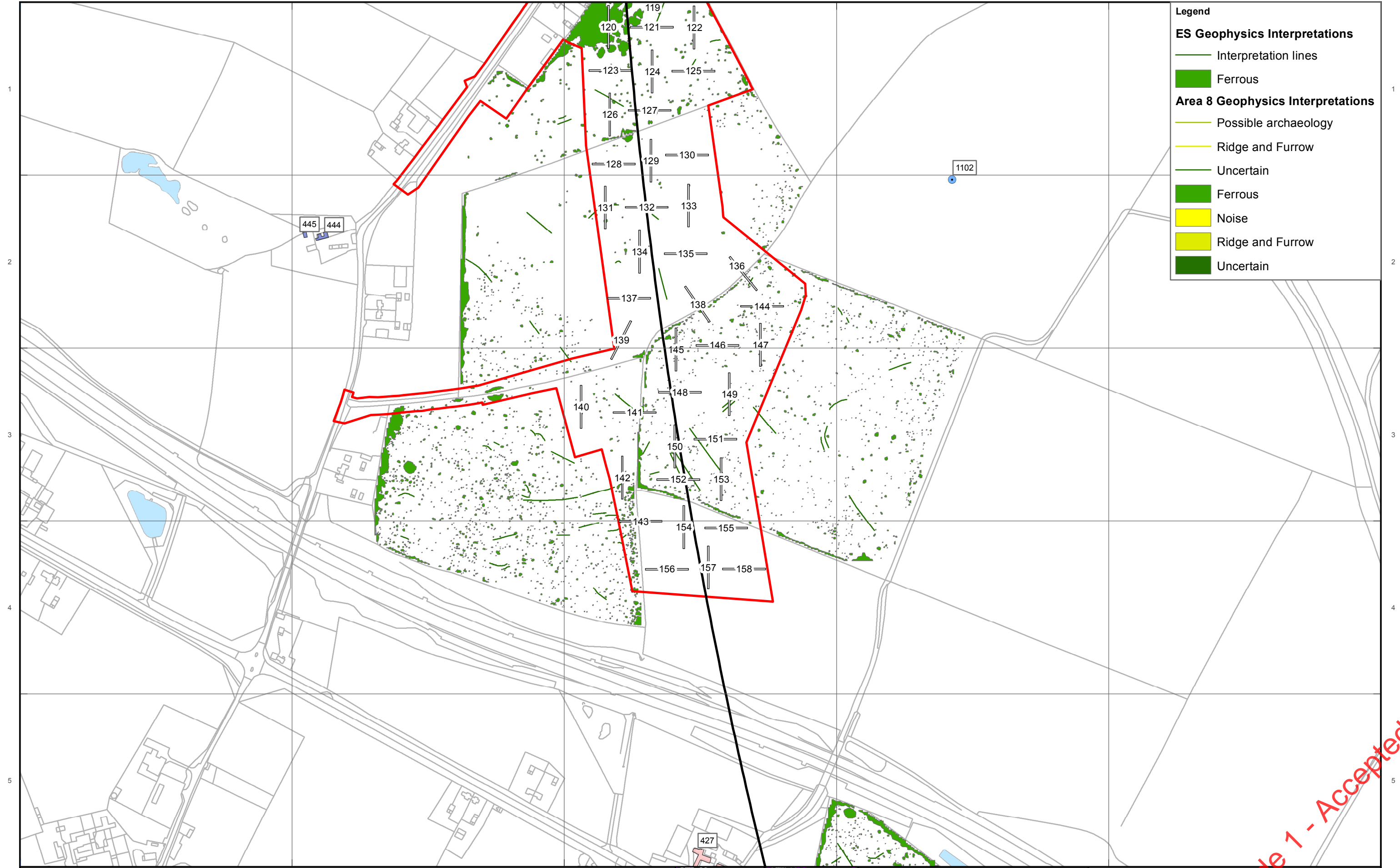
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**Legend**

**ES Geophysics Interpretations**

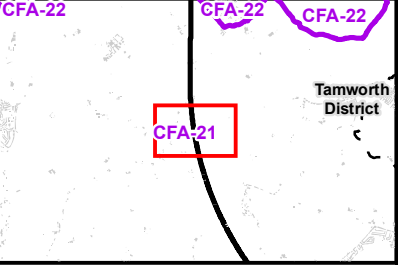
- Interpretation lines
- Ferrous

**Area 8 Geophysics Interpretations**

- Possible archaeology
- Ridge and Furrow
- Uncertain
- Ferrous
- Noise
- Ridge and Furrow
- Uncertain

**Legend**

- Route in tunnel
- Route on surface
- Land potentially required during construction
- Community forum boundary
- - - District/Borough boundary
- Watercourse
- Water Body
- Trenches
- Place name
- Building
- Farmstead
- Structure



Map Number: **Figure 7**

Map Name: **Weeford to Whittington Trench Plan 4/4**

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## Appendix B – Heritage Assets

Asset ID	Asset Name	Asset Description
ES ref. DHW125	Roman field system.	Linear features, potential field boundaries associated with nearby Roman remains adjacent to new A5.
ES ref. DHW127	Prehistoric pit alignment	Pit alignment visible in aerial photographs (CUCAP YK94-96), 1959.
ES ref. DHW137	Weeford (settlement) including the Church of St Mary, Weeford House Farm and associated buildings	Village in the Bourne Brook Valley, recorded as one of 15 settlements under the Manor of Lichfield in the Domesday Book of 1086. The parish church (Grade II) built 1802 with late 19th century chancel and west bay with bell turret is situated in a low-lying valley beside the Bourne Brook with limited views looking out of the valley to the west and east. Views east towards the Proposed Scheme are largely screened by woodland and mature trees along the brook. The bell tower of the church is visible from Watling Street to the northwest, but is largely screened from views to the north and east by Church Wood. In the village there are two cartsheds (Grade II) within Weeford House Farm, which also includes two other listed buildings and two non-designated historic buildings predating 1884. The farm is screened by woodland and mature trees along the brook. There are also two stables, both (Grade II). Also in Weeford, the Old Schoolhouse, a late 19th century school, now public house, with views across the Bourne Brook valley towards the south and south-east.
ES ref. DHW138	Watling Street	Watling Street, the approximate alignment of the Roman Road, this section running between Wall and Fazeley.
ES ref. DHW139	Enclosure and pit alignment	Cropmarks representing a possible Romano-British double ditched enclosure and pit alignment.
ES ref. DHW141	Pit alignment and enclosure	Pit alignment evident as cropmarks. Suggested to be of probable Bronze Age to Romano-British date (CUCAP ADR19-20, BQV71-3, BTO61-4).
ES ref. DHW142	Ring ditch, enclosure and linear features	Ring ditch and enclosure evident as cropmarks on aerial photograph. Suggested to be of Late Neolithic to Late Iron Age in date. Two parallel linear features of unknown date also seen in aerial photography (CUCAP CHI35-36), 1978.
ES ref. DHW143	Linear features and pits	Linear features and pits seen in (CUCAP CJN6-12), 1979. Possibly prehistoric or Romano-British in date.
ES ref. DHW145	Cropmark site	Four east-west linear cropmarks of unknown date.
ES ref. DHW146	Enclosure	A rectangular enclosure with a possible entrance on the western side, evident as a cropmark on aerial photography.

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Asset ID	Asset Name	Asset Description
		Suggested to be of probable late Prehistoric or Romano-British date.
ES ref. DHW147	Field system at Packington Moor Farm	Small regular rectangular boundaries associated with Packington Moor Farm (see CH-004-021).
ES ref. DHW153	Hedgerow 22 – Weeford parish boundary	Historic parish boundary
ES ref. DHW154	Knox Graves Lane	Historic parish boundary
ES ref. DHW204	Whittington Arms Public House, Tamworth Road, Lichfield	Building, Heath View, on 1880s mapping and possibly a private residence. Now a public house in red brick with timber gables and porch. An open setting in agricultural fields. The principal façade of the building faces north onto Tamworth Road with tree cover screening views north over the golf course and south towards Freeford Home Farm.
ES ref. DHW205	South Lodge, Tamworth Road, Lichfield	Brick-built 19th century cottage in local vernacular style situated on Tamworth Road. Principal façade of the building looks southeast. The building would always have faced the road, allowing historic access to Freeford Manor Park.
ES ref. DHW209	Freeford Home Farm and Forest House	Farm of the 18th to 19th century with altered courtyard plan and later detached homestead to the west. Few buildings remain of the original courtyard plan, largely replaced by larger modern sheds. Lies just south of a wooded plantation with open views over adjacent agricultural fields to the south and west.
ES ref. DHW213	House on Tamworth Road, Lichfield	Rural vernacular semidetached cottage (late 19th century/early 20th century) set back from Tamworth Road behind hedgerows with views west across open agricultural land partially obscured by existing tree cover.
ES ref. DHW214	Packington Moor Farm	Courtyard plan farmstead with detached farmhouse. Original farm buildings now converted for commercial use. Dutch barns to northwest and modern sheds to north and west still operational farm. To northeast and east of yard are horse boxes with that to the northeast with a fodder store over. West range of yard has threshing barn and cow house. South range is former shelter now toilet block. Two detached cart sheds situated to east of courtyard with granaries over. Southernmost has workers cottage incorporated – now converted to accommodation. The farm is in a roughly level and open position with long distance views to the south. Set within fields, the seclusion of the farm is enhanced by a long private drive. Located on the route of the Proposed Scheme.

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Asset ID	Asset Name	Asset Description
ES ref. DHW215	Moor Cottages, Knox's Grave Lane	19th century workers cottage divided into two dwellings with central chimney stack. Modern extensions to the north. Access and views southwards immediately onto the Proposed Scheme.
ES ref. DHW216	House on Flats Lane, Lichfield	Early 20th century semis with central bay with hipped gable. Limited architectural merit, but of a dispersed group forming a consistent aesthetic along Watling Street and Flats Lane. No agricultural buildings remain. Views east immediately onto the Proposed Scheme.
ES ref. DHW217	House on Flats Lane, Lichfield	Early 20th century semis with double projecting gabled bays in façade. Of limited architectural merit, but of a dispersed group forming a consistent aesthetic along Roman Road and Flats Lane. Views east immediately onto the Proposed Scheme.
ES ref. DHW218	House on Flats Lane, Lichfield	Early 20th century semis of with hipped projecting bays at either end. Of limited architectural merit, but of a dispersed group forming a consistent aesthetic along Roman Road and Flats Lane. Views east immediately onto the Proposed Scheme.
ES ref. DHW220	Hare Park Farm, Flats Lane, Lichfield	Two-storey late 19th century brick built farmstead with pitched roof and gabled wings to the rear. Screened from Flats Lane and views across it by substantial hedge. Views east immediately onto the scheme.
ES ref. DHW221	House on Flats Lane, Lichfield	Early 20th century semis with central bay with hipped gable. Limited architectural merit, but of a dispersed group forming a consistent aesthetic along Watling Street and Flats Lane. Views east immediately onto the Proposed Scheme.
ES ref. DHW224	House on Flats Lane, Lichfield	Early 20th century semis with double projecting gabled bays in façade. Of limited architectural merit, but of a dispersed group forming a consistent aesthetic along Roman Road and Flats Lane. Views east immediately onto the Proposed Scheme.
ES ref. DHW225	House on Roman Road, Weeford	Early 20th century semis with central bay with hipped gable. Limited architectural merit, but of a dispersed group forming a consistent aesthetic along Watling Street and Flats Lane. Western dwelling extended. Agricultural buildings to rear of property including small original stables. No views towards the Proposed Scheme.
ES ref. DHW226	Milepost, north of Weeford Church	Milepost on Watling Street. Labelled Weeford with distances to Lichfield and Fazeley.
ES ref. DHW227	House on Roman Road, Weeford	Early 20th century semis with double projecting gabled bays in façade. Of limited architectural merit, but of a dispersed group forming a consistent aesthetic along

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Asset ID	Asset Name	Asset Description
		Roman Road and Flats Lane. No views towards the Proposed Scheme.
ES ref. DHW228	House on Roman Road, Weeford	Early 20th century semis with projecting gabled bays at either side of façade. Of limited architectural merit, but of a group forming a consistent aesthetic along Roman Road and Flats Lane. The Proposed Scheme will be visible from the property where it crosses the A5.
ES ref. DHW229	House on Roman Road, Weeford	Early 20th century semis with central bay with hipped gable. Limited architectural merit, but of a dispersed group forming a consistent aesthetic along Watling Street and Flats Lane. The Proposed Scheme will be visible from the property where it crosses the A5.
ES ref. DHW231	Bourne Cottage with adjacent barn	Brick cottage possibly dating to the 18th century. The building is well screened to the west within a semi-wooded lane, but has open views south-east towards the Proposed Scheme.
ES ref. DHW400	Parliamentary Enclosure at Botany Bay	A coherent and legible example of a relatively rare landscape type for the county. The landscape type is planned enclosure, and the area is a good example of late enclosure by Parliamentary Act. The Act to enclose this part of Staffordshire was passed in 1879, and is probably related to the abolishment of commoners' rights on Whittington Heath by the War Department in 1877. The field patterns represent a classic Parliamentary-type enclosure, with large fields divided by ruler-straight lines at right angles. The settlement called "Botany Bay" reflects the tradition of naming fields located far from settlements after exotic and far-away locations and suggests the naming of the fields occurred after Cook's discovery and naming of Botany Bay in Australia in the late 18th century.
ES ref. WHA009	All the Winds	Single storey brick bungalow with high pitched roof built between 1930 and 1950, facing the Tamworth Road and surrounded on three sides by open fields. Part of a late 19th/early 20th century group on the Tamworth Road but otherwise not significant.
ES ref. WHA091	Milepost, near Whittington Barracks	The milepost is situated on the Tamworth Road between the golf club and Whittington Barracks. It is labelled 'Whittington Parish' with distances to Lichfield and Tamworth. The significance of the milepost lies in its position. Its significance would be lost if removed from its setting on the Tamworth Road.
ES ref. WHA300	Freeford Manor Park	A designed landscape (not designated) associated with Freeford Manor (Grade II) shown on 1st edition OS map as parkland with planted avenues and vistas towards the

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Asset ID	Asset Name	Asset Description
		north east. The Hall is 18th century and has a south facing principal facade. Views to the south are partially restricted by scattered trees but there are distant glimpses over agricultural fields towards the Proposed Scheme. There was an enclosed park at Freeford already in the earlier 17th century (VCH Vol XIV), and was used for grazing sheep and cattle in the early 18th century. In the 18th century the estate also encompassed a fishery and warren. The house was originally approached from the north, and by the later 18th century the main approach to the house was along an avenue from the east, but a lodge on the Tamworth road was renovated in the early 19th century, becoming the main access (DHW205). A service road laid out in 1845 joined the Tamworth road at the tollgate, replaced in 1882 by North Lodge. This remained the approach until the 20th century when the eastern avenue became the main approach again, via a lodge (East Lodge WHA311) rebuilt in the late 19th century. No significant features of the designed landscape survive.
ES ref. WHA302	Whittington Heath Golf Course Club House	The Club House is a mid to late 19th century brick building in the style of a bastion with crenelated towers located on the north side of the Tamworth road at Whittington Heath. It was originally built as a grandstand for Whittington racecourse, was subsequently used as a soldiers' hospital by Whittington Barracks from 1895 and then as a golf club from 1957. The building still has its terraced roof and covered balcony from which spectators would have viewed the races. A later western extension imitates design to a lesser degree, while unsympathetic modern extensions have been built to the north and east. The building's significance lies in the long history of its adapted use being still legible in its fabric, and its being one of the few surviving features of the early racecourse and of the mid-20th century golf course, as well as being associated with Whittington Barracks. Its setting does play a part in its significance, commanding a position across the golf course to the north, but also with a prominent place in the landscape when viewed from the south from beyond the Tamworth Road near Freeford Home Farm. There is noise in the vicinity of the building from the Tamworth road.
ES ref. WHA303	Whittington Heath Golf Course designed landscape	The significance of the golf course lies in its original design and in its reflection of early 20th century sporting and social history.
ES ref. WHA330	Tamworth road hedgerow	Hedgerow along the Lichfield-Tamworth Road, following an historic parish boundary and forming the south-western boundary of the Whittington Heath Golf Course, chainage 181+360 to 181+600.

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Document no.: 1EW04-LMJ-EV-PLN-NS06\_NL16-029003

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Asset ID	Asset Name	Asset Description
HER ref. MST2055	Pit Alignment, East of Flats Lane, Weeford	A possible late prehistoric or Roman pit alignment identified on aerial photography to the east of Flats Lane, Weeford.
HER ref. MST12537	Whittington Barracks / Whittington Heath Barracks	A military barracks established at Whittington Heath in the late 19th century. The barracks were arranged around a large parade square, with a north and south gate, keep, tall clock tower and later a church and war memorials.
HER ref. MST16193	Socketed Chisel Findspot, Swinfen and Packington	An incomplete cast bronze socketed chisel of Middle to Late Bronze Age date, recovered during metal detecting in Swinfen and Packington parish before March 2006.
HER ref. MST16276	Roman Finds, Swinfen and Packington	A fragment of a cast copper alloy Colchester type, two-piece brooch of 1st-2nd century AD date and an incomplete copper alloy radiate (coin), minted in the 3rd century AD. Both recovered during metal detecting in Swinfen and Packington parish.
HER ref. MST16294	Knife Findspot, Swinfen and Packington	A complete copper-alloy knife end stop in the form of a rounded female bust/head, dating to the 16th century, recovered during metal detecting in Swinfen and Packington parish before April 2006.
HER ref. MST16366	Socketed Spearhead Findspot, Swinfen and Packington	A slightly incomplete cast copper alloy socketed and side-looped spearhead of Middle to Late Bronze Age date, recovered during metal detecting in Swinfen and Packington or Weeford parish before September 2006.
HER ref. MST17012	Vessel Fragment Findspot, Swinfen and Packington	A fragment of a cast copper-alloy probably representing the remains of a handle of a medieval or post-medieval vessel such as a ewer. Recovered during metal detecting in Swinfen and Packington parish before November 2008.
HER ref. MST22096	Former Grandstand to Whittington Heath Racecourse, Tamworth Road, Whittington Heath	The grandstand to the former Whittington Heath racecourse, overlooking the water jump, which existed by circa 1880. Between 1895 and 1955 the building provided recreational facilities and refreshments for the soldiers of the adjacent Whittington Barracks.
HER ref. MST22387	Tamworth Turnpike Road	A turnpike road established in the mid-18th century to connect Wishaw (Warwickshire) to Fazeley and Tamworth (in Staffordshire) and Tamworth, Hopwas and Lichfield. It also linked Over Whitacre and Kingsbury (Warwickshire) to Dosthill and Tamworth.

Code 1 - Accepted



Document no.: 1EW04-LMJ-EV-PLN-NSo6\_NL16-029003

Revision: Co2

## Appendix C – Archaeological Events

Event ID	Event Description
EST1756	Road Improvement Scheme: Excavations on the A5 Weeford to Fazeley, adjacent to the south of the evaluation area.
EST1162	A preliminary archaeological assessment of the proposed route of the Birmingham Northern Relief Road. 144m west of the evaluation area.
EST1182	An archaeological assessment of the proposed route of the Birmingham Northern Relief Road. 240m south-west of the evaluation area.
EST1183	Further archaeological assessment of the proposed route of the Birmingham Northern Relief Road. 240m south-west of the evaluation area.
EST1893	Historic building recording survey at Whittington Barracks, Lichfield, Staffordshire in December 2008. 20m north-east of the evaluation area.
EST1947	Historic building recording survey at Whittington Barracks, Lichfield, Staffordshire in October 2008. 235m north-east of the evaluation area.
EST2187	Excavations on the A5 Weeford to Fazeley Road improvement scheme, Staffordshire. 70m south of the evaluation area.
EST729	Archaeological trial trenching along the A5 between Weeford and Fazeley, Staffordshire. 70m south of the evaluation area.
EST2709	Walton Hill, Stone, Staffordshire - Desk Bases Assessment. 110m east of the evaluation area.

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## Appendix D – Evidence of Engagement

Consultee and date	Comment	How this has been addressed in the Project Plan
Co1 Project Plan sent to Suzy Blake (Staffordshire HER Officer) on 18/12/2018	<b>1.1.8:</b> Is there any potential for pre-Bronze Age activity; the introductory paragraph seems to suggest that the specific objectives will only address questions relating to Bronze Age and later questions?	Amended to 'prehistoric to post medieval'.
	<b>1.1.8:</b> Should there be an '; and' at the end of objective KC40?	Removed
	<b>1.1.8:</b> Are any 'Specific Objectives' for the post-medieval period relevant here? The Environmental Statement (ES) makes reference to 'coherent and legible example of a relatively rare parliamentary enclosure' landscape (DHW 400). Are there any questions that could be answered in transecting this landscape or is there any intention to record it in any way?  The route here also passes directly through or adjacent to Packington Moor Farm (DHW214), Moor Cottages (DHW 215) and further houses on Flats Lane (DHW 216 and 217); the ES indicates that most of the buildings at the farm, the cottages and houses on Flats lane will be demolished to make way for the railway, are these historic buildings being dealt with by a separate project plan?	There are no HERDS Specific Objectives relevant to late post-medieval enclosure.  The work set out in this project plan will not investigate the late post medieval enclosures.  Built heritage work is being delivered under a different work package and all built heritage documents will be produced under this work package.
	<b>Table 1:</b> Previous investigations in the evaluation area  We do not appear to have been provided with copies of the geophysical survey report (1EW04-LMJ-EV-REP-NSo5_NL14-029003), trial trenching report (1EW04-LMJ-EV-REPNSo5_NL15-022010) or Historic Settlement Landscape Study (1EW04-LMJ-EV-REP-No00-029001) referred to in this table and they do not appear to be available to us on HS2s Sharepoint system.	Sent on 23/01/2019
	<b>2.2.8:</b> As referred to in comments on previous project plans, excavations at Tucklesholme Quarry in the Trent Valley has produced evidence for possible Late Upper Palaeolithic activity which may be worthy of mention here.	Added to baseline - in section 2.2.9.
	<b>2.2.11:</b> A scatter of flints of Mesolithic date have been recovered from the Shenstone Park area circa 2.8km to the west of the route and in closer proximity a flint scraper and flake have been recovered during topsoil stripping at Hints Quarry less than 1km to the east of the route.	This information has been added to section 2.2.11
<b>2.2.20:</b> There are also clusters of Burnt mounds along the Rising Brook near Rugeley and elsewhere in the Cannock Chase area, at Lount Farm, Colton plus some more	More information added to section 2.2.20	

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	recently excavated examples in the Uttoxeter area in Staffordshire.	
	<b>2.2.25:</b> Should read 'may' not 'my'.	Amended.
	<b>2.2.33:</b> What about the significant Anglo-Saxon settlement at Catholme and other settlement evidence further north along the Trent?	Reference to Catholme added to Section 2.2.30.
	<b>2.2.37:</b> Are farmsteads worthy of a mention here? Also, there is no reference to some of the post-medieval features identified by Lidar survey and geophysics referred to previously in the report and included in the ES survey reports?	Added mention of the two features identified by LIDAR although these are more likely modern.
	<b>Table 2: GWSI HERDS Specific Objectives:</b> As stated above in relation to 1.1.8, are any 'Specific Objectives' for the post-medieval period relevant here?	There are no GWSI: HERDS Specific Objects relative to such themes within the Site at this time.
	<b>4.3:</b> The general distribution and alignment of the trial trenches appears to be ok on the whole, but perhaps consider whether Trench 113 be better placed on the same alignment but further to the south so it intersects the parallel linear anomalies identified as 'possible archaeology' on Figure 6 so that the nature, date and extent of the features can be determined? Similarly, for Trench 142 (on Figure 7) so that it can intersect the 'interpretation line / uncertain feature' (it is difficult to distinguish between the two given the colours used on the figures) aligned east-west to the south of the trench.	Trench plan updated to intersect the linear features as identified.
	<b>4.3.19:</b> Any relevant consents for...? The sentence is incomplete.	Amended: "for the worksite".
	<b>4.3.44:</b> Bullet Point 1 – This seems to assume that no pre-Bronze Age features will be encountered. While the potential for Neolithic features may be considered more limited it perhaps should not be excluded from the sampling strategy?	Amended.
	<b>References:</b> The reports referred to in Table 1 are listed in the references (namely the geophysical survey report (1EW04-LMJ-EV-REP-NS05_NL14-029003) and the trial trenching report (1EW04-LMJ-EV-REPNS05_NL15-022010). The Historic Settlement Landscape Study appears to have a slightly different title and HS2 Document Reference in the references table (1EW04-LMJ-EV-PLN-N000-029008) as opposed to how it is referred to elsewhere in the Project Plan.	Reference amended to match Table 1.

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## 15.2 Risk Assessment Method Statement (RAMS)

Refer to *Archaeological Contractor's* documentation.

## Method Statement/ Risk Assessment

All sections of this method statement/risk assessment are to be completed. If a section is not applicable, this is to be stated. If needed, additional documents or extra information is to be attached to the back of the method statement and state the reference in the appropriate section of the method statement.

<b>Method Statement Title</b>	HS2 WP029 – Weeford to Whittington: Trial Trench Evaluation
<b>Method Statement Ref Number/Status/Revision</b>	33834/RAMS/02
<b>Contract Number</b>	33834
<b>Contract Title</b>	HS2 WP029 – Weeford to Whittington: Trial Trench Evaluation
<b>Client/Principal Contractor Details</b>	<p><b>LM Joint Venture</b> LMJV Head Office, Cornerblock, 2 Cornwall Street, Birmingham B3 2DL</p> <p>Paul Hunt, Project Manager 07775 551776</p> <p><b>Connect Archaeology</b> Melissa Melikian, Operations Director 0208 8437380 or 07500 104671</p> <p>Ross Murray, Project Manager 0131440 3593 or 07855 086322</p> <p>Alan Duffy, Project Officer/Site Manager 07764 154379</p> <p>Martin Cook, H&amp;S Director 0131 440 3593 or 07801 562493</p>
<b>Date of Issue</b>	<b>11/04/19</b>
<b>Contract Start Date</b>	<b>15/04/19</b>
<b>Contract End Date</b>	<b>09/12/19</b>

<b>Appendices</b>	A. Inspection and Test Plan ( <b>To be completed on site</b> )
	B. Site Layout Plans
	C. COSHH Assessments & Data Sheets
	D. Calibration Certificates ( <b>To be added to site file at time of works</b> )
	E. Plans and directions to A&E

<b>General Health, Safety, Quality &amp; Environmental Requirements</b>
All work will be carried out in compliance with Connect Archaeology & Clients Management Systems in-line with BS EN ISO 9001: 2008, BS EN ISO 14001: 2004 & OHSAS 18001: 2007 Requirements and all Operational Procedures.

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**Method Statement/ Risk Assessment****CONTENTS LIST**

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## Method Statement/ Risk Assessment

### 1.0 Scope & Objectives of Works

*Full description of the scope of works to be outlined, including a basic programme of works*

#### Scope

A programme of archaeological trial trenching is to be undertaken to assess the potential for the survival of sub-surface archaeological remains within the Site that may be affected by the proposed scheme. It is proposed to excavate up to 158 evaluation trenches across the site. The trenches will generally be 50m long and 2m wide, and no more than 1.2m deep, but generally 0.50m. Deeper excavation, requiring shoring or stepped sides, is not anticipated. The locations of all trenches are provisional and subject to confirmation of the locations of any utilities and constraints either previously recorded or found to be present on site once the on-site works have commenced.

The works will be in accordance with *HS2 WP 029 Historic Environment Works – Weeford to Whittington – Enabling Works North Contract – Location Specific Written Scheme of Investigation for Trial Trenching* (Doc No: 1EW04-LMJ-EV-MST-NS06\_NL16-029002). The objective of the investigation, as stated in *HS2 WP 029 Historic Environment Works – Weeford to Whittington – Enabling Works North Contract – Location Specific Written Scheme of Investigation for Trial Trenching* (Doc No: 1EW04-LMJ-EV- MST-NS06\_NL16-029002), is to gain information about the archaeological potential of the site to contribute to Specific Objectives set out in the *Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (HERDS)* (Doc No: HS2-HS2-EV-STR-000-000015).

The project will adhere to an Inspection and Test Plan (ITP), which will review/inspect, record and verify key stages in the set-up and execution of the project through to handover (see Appendix A). Monitoring of the project will be undertaken by DJV to ensure compliance with the Project Plan for Trial Trenching at Weeford to Whittington (Doc No: 1EW04-LMJ-EV-PLN-NS06\_NL16-029003.) and Location Specific Written Scheme of Investigation (Doc No: 1EW04-LMJ-EV-MST-NS06\_NL16-029002). All works will be carried out in accordance with this Risk Assessment/Method Statement. The Site Emergency Plan, detailing muster point(s), procedures, emergency contact details and directions to the nearest A&E, will be displayed in the Site Offices.

### 2.0 Location of Works

*Full location description including not only the working area but also the positioning of compounds/welfare facilities.*

The Site is located in the Lichfield District of Staffordshire. It runs for c 2.9km just to the north of Watling Street in the south (linear chainage 178500) and Whittington Heath in the north (linear chainage 181450). It covers an area of c. 62ha and is approximately centered on National Grid Reference (NGR) 414746 306134, which comprises mostly agricultural fields, subdivided by hedgerows.

Site compound and welfare facilities will be set up at a number (predicted to be 3) at different locations within the area of the proposed works, the layouts of which are shown on the Site Layout Plans (Appendix B).

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## Method Statement/ Risk Assessment

### 3.0 Task Methodology

#### Pre-Commencement

All Connect Archaeology and plant operator staff will attend a Site-Specific Induction, including Site Rules, Emergency Arrangements and in addition will be briefed on Site Specific Risk Assessments, Method Statements and Procedures.

The site compounds will consist of a mobile welfare cabin suitable for up to eight people, surrounded by a secure storage area demarcated with HERAS fencing. Access into the working areas will be secured by existing gates, or where these don't exist, HERAS fencing. The designated parking areas will be adjacent to the welfare cabins; all vehicles will reverse park. Appropriate signage will be displayed within each site compound. Where adjacent to a road appropriate signage will be displayed at the entrance to each working area when in operation.

The need for track matting at each compound will be reviewed during the duration of the project.

No tools or equipment will be left on site overnight.

A general photographic record will be made before, during and after the trial trenching including a number of general views of the Site from all sides, showing it in its setting.

Connect Archaeology staff will be on site between 08:00 and 16:00 Monday to Thursday, and between 08:00 and 15.30 on Fridays. Work outside of these hours will be agreed with LM in advance. Security will be present on site at all times, including weekends, outside of site hours.

#### Setting Out

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 for each trench or group of geographically related trenches.

Trenches shall be located to a horizontal accuracy of +/-500mm. The corner points of each trench location shall be set out with Real Time Kinematic (RTK) Global Navigation Satellite System (GNSS) equipment or other suitable automated equipment referenced from the PGMs.

Surface heights shall be recorded using RTK GNSS and related to PGMs. Ordnance Survey Bench Marks (OSBM) are not to be used. Levelling accuracy shall be within 10 mmÖk: where 'k' is the total distance levelled in kilometres.

The Contractor shall ensure that all trench or excavation limits and significant archaeology detail are surveyed 'as dug' in relation to the project grid before leaving the site. Ground level height data shall be recorded for each trench. Survey methodology and a detailed survey record shall be provided to the Employer within the survey report.

#### Mechanical Excavation

Trial trenches shall be excavated to the first archaeological level, or natural, whichever is reached first. Excavation will be undertaken using a mechanical excavator with toothless ditching bucket. Machining shall be carried out under the constant supervision of the Contractor to excavate the ground in spits. The Contractor shall use their professional judgement to determine the appropriate depth of each spit. Any variations to the excavation methodology shall be at the discretion of the Contractor and recorded in writing for inclusion in the final report. Each spit shall be examined carefully to assist in the recovery of any archaeologically significant artefacts and thus to determine when to cease machining. It is the responsibility of the Contractor to ensure that the finished

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surface is machined to a suitably 'clean' state in order to identify, define and investigate any exposed archaeological deposits. If the surface is not sufficiently clean, hand cleaning of the surface will be required. Machine excavation will comply with the Technical Standard - Route wide soil resources plan (HS2-HS2-EV-STD-000-000008). Spoil will be stored along the edges of excavated trenches, topsoil being kept separate from subsoil.

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

In areas of deep stratigraphy, such as alluvial sequences, each intervention shall be excavated to the base of the stratigraphic sequence and shall be appropriately shored and kept free of water to allow 'person entry' to the excavations i.e. to allow the Contractor to undertake investigation and recording to fulfil the aims of the work. The Contractor will ensure that all works undertaken in deep stratigraphy will comply with the Employer's Technical Standard – Temporary Works (HS2-HS2-CV-STD-000-000005).

Within alluvial sequences the Contractor shall pay particular attention to establishing the vertical extent of layers of archaeological potential and shall be aware that horizons of cultural activity may be interdigitated with horizons of sterile alluvium. The Contractor shall supervise the excavation of each test pit in such a manner so as to allow a cumulative or continuous section to be recorded.

Should any material be excavated that is deemed to be contaminated or potentially contaminated, excavation shall cease and LM will be immediately informed. LM will liaise with contaminated ground investigation teams on how to proceed. Any contaminated material which was removed when trenching will be placed separately from clean material. Under instruction from LM with advice from contaminated ground investigation teams, the material shall either be suitably backfilled or removed by specialists in accordance with the Environmental Management Plan.

**Constraints****Services**

Known services across the proposed area of the works include, low and high voltage buried electric cables, water mains, sewers, telecommunications and low and high-pressure gas mains, all which have been confirmed from service plans. The client will provide details of consultation with the relevant service providers, along with mitigation strategies to be adopted where necessary.

Prior to commencement of site operations, an on-site meeting will be held with the owner of the buried electrical cables with the aim of finalising mitigation for the crossing of buried high-voltage electrical cables, marking out known buried services and any required buffer zones.

All trenches have been positioned to avoid excavations both below and above known services.

Prior to excavation the margins of each field will be walked to check for the potential of unrecorded buried services. Each trench will be scanned by use of a Cable Avoidance Tool (CAT) by a suitably qualified person. A log of these scans will be kept in the site file.

**Undertakings and Assurances**

U&As are present within the trail trenching area adjacent to TR82, 83 and 84 (U&A 2219). The conditions of this prohibit staff and plant crossing the redline boundary. This will be highlighted to all staff, sub-contractors and visitor during the Site-Specific Induction.

**Method Statement/ Risk Assessment****Environmental Issues**

Connect Archaeology awaiting Ecology Report 1EW04-LMJ-EV-PKG-NS06\_NL16-029001

**Fieldwork Recording**

Archaeological recording shall be undertaken by the Contractor to the general requirements as described in the GWSI: HERDS (Section 7.3). 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.

Where areas of extensive archaeological stratification are encountered, the horizontal and vertical extent of archaeological stratification shall be assessed by the Contractor through implementation of an appropriate strategy including, either the excavation of features cut into horizontal stratification, limited test pitting or auguring. The aim shall be to recover suitable stratigraphic, finds and environmental samples from the full, intended depth of the trench, as far as is practicable. The exact methodology may need to be determined by the Contractor during the excavation of individual trenches and agreed with the Employer.

Metal detectors will be used by experienced staff to scan for metallic finds during the excavation of key archaeological features or deposits.

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

Archaeological recording is to include, as a minimum:

- At least one representative section at (1:10 or 1:20 scale) of each evaluation trench, from ground level to the base of the excavation;
- the written record of individual context descriptions on appropriate pro-forma;
- plans at appropriate scales (1:10, 1:20 or 1:50);
- single context planning should be used only if appropriate;
- photographs and other appropriate drawn and written records; and
- other sections, including the half-sections of individual layers or features shall be drawn as appropriate to 1:10 or 1:20.

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

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

A record of the full extent in plan of all archaeological deposits as revealed in the investigation shall be made. These plans will normally be based on digital survey data (digital planning methods shall be agreed in advance with the Employer) supplemented where appropriate by hand drawn records on polyester based drawing film (at a scale of 1:10 or 1:20 unless otherwise agreed with the 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.

## Method Statement/ Risk Assessment

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.

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

The photographic record will be in digital format, resulting in high resolution TIFF (uncompressed) images. Photographs will illustrate both the detail and context of the principal archaeological features discovered. In addition, the 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.

### Human Remains

Where human remains are identified, all subsequent work must be undertaken in accordance with the Human remains and monuments procedure (HS2-HS2-EV-PRO-0000-000008).

Should human remains be discovered, the Contractor shall notify the Employer immediately so that these procedures can be implemented. This notification may be initially made personally or by telephone but shall be confirmed in writing (including email) within 24 hours of discovery.

The Contractor will be required to cease all works at that location until further instruction is provided by the Employer. The Contractor shall undertake an initial in situ observation and assessment of the remains and shall advise the Employer of the course of action required.

Lifting of human skeletal remains shall be kept to the minimum which is compatible with an adequate evaluation, where the remains contribute to Specific Objectives and as required by the Project Plan.

Visible grave goods and other obvious artefacts, shall be recorded and lifted before the end of the working day to avoid the risk of vandalism and theft. Where this is not feasible or appropriate, the Contractor shall ensure, on liaison with the Employer 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 'occasional burials'.

### Environmental Sampling

Where required to meet the Specific Objectives being addressed by the investigation, appropriate features and deposits shall be sampled to retrieve palaeoenvironmental and economic indicators. The Contractor shall make provision for the sampling of a wide range of contexts for potential assessment and analysis for plant and animal micro/macro fossils and soils/sediments in order to fulfil the aims set out in the Project Plan.

The need for and focus of sampling will be determined by the Specific objectives the investigation is seeking to address. The selection, preparation for and methods of taking samples together with their size, presentation and processing shall be in accordance with current best practice (e.g. CIA 2014; Campbell et al. 2011; Ayala et al. 2007).

Bulk samples shall normally be in the range of 10-60 litres. The size selected will depend on the likely density of macrofossils in the soil. The lower end of the range (10- 20 litres) will be suitable for the recovery of macrofossils from waterlogged deposits. For non-waterlogged deposits the sample volume is likely to be in the middle to higher range (20-40 or 40-60 litres) dependent upon site activity, conditions and preservation. Where contexts have a volume of less than that stated

**Method Statement/ Risk Assessment**

above then 100% of the context should be sampled. Each bulk sample should only contain sediment derived from a single context.

The Contractor shall use ten litre plastic buckets (with lids and handles), or strong polythene bags (double bagged) secured at the neck, for the recovery of bulk 'disturbed' environmental samples. An adhesive label recording the project event code, context number and sample information shall be securely fixed to a vertical face of the bucket only or attached to the neck of the bag. Labels shall be completed with an indelible ink pen. A duplicate non-adhesive label shall be inserted within the bucket or between the polythene bags. Alternative methods such as the use of bar codes / Q- codes will be considered by the Employer on a case-by-case basis.

Flotation samples and samples taken for coarse-mesh sieving from dry deposits shall be processed at the time of the fieldwork, to permit variation of sampling strategies if necessary. Sampling strategies for wooden structures shall follow the methodologies presented in Brunning and Watson (2012), while other waterlogged organic materials shall be processed in accordance with guidance provided by Karsten et al. (2012).

The Contractor shall use appropriately sized monolith or kubiena boxes for the recovery of 'undisturbed' monolith samples for soil micromorphology and to sub- sample for microfossils (e.g. pollen and spores, diatoms, ostracods). Adjacent to each kubiena box (for) bulk samples of 50-100g should be taken to provide additional material for analyses such as loss-on-ignition, magnetic susceptibility, soil phosphate analysis etc. Alternatively, this could be sampled as a second monolith / kubiena box.

Care shall be taken to ensure that wherever possible only newly exposed sections are sampled to avoid contamination, desiccation and decalcification. This sampling shall be undertaken under supervision of the Contractor's environmental specialist. Boxes shall be wrapped neatly and tightly in bin-liners or plastic sacks and secured with rubber bands. A label shall be attached to the outside (in duplicate) with site name and code, feature/context number and depths of sample.

The Contractor shall record the depth of the 'undisturbed' monolith at the top and the bottom of the sample. There shall be a 50mm overlap between each monolith. This information shall be plotted onto a section drawing at an appropriate scale, with all levels reduced to heights relative to Ordnance Datum. Monoliths should be taken to ensure that context boundaries are sampled and these should be noted on the sample recording pro-forma.

Where it is not possible to insert monolith boxes, the Contractor shall take a vertical series of small 'spot' samples. Samples shall be at 20mm vertical intervals with no more than 10mm depth being sampled. In the case of deposits with a low organic content it may be necessary to take as much as 5g or even 20g per sample. If so, sampling shall be extended laterally at a given depth in 10mm deep spits.

Where appropriate, the Contractor shall take contiguous column samples for the retrieval of macrofossils (e.g. molluscs, plant remains and insects). The individual sub-samples will be of 1-10kg, depending on the nature of the deposit and the category of material to be retrieved. Where several specialists are involved it may be necessary to take separate subsamples for a range of palaeoenvironmental evidence, for example, insects, molluscs and waterlogged plant remains, to ensure that adequate sub- samples are available for specialist assessment.

Processing of all soil samples collected for biological assessment, or subsamples of them, should be completed within two weeks of collection. The preservation state, density and significance of material retrieved shall be assessed by the Contractor's recognised specialist. Special consideration shall be given to any evidence for recent changes in preservation conditions that may have been caused by alterations in the site environment. Unprocessed sub-samples shall be stored in appropriate conditions in accordance with the Contractor's method statement.

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

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## Method Statement/ Risk Assessment

with the Employer. Samples shall be protected at all times from temperatures below 5°c and above 25°c and from wetting and drying out due to weather exposure.

Where necessary to address Specific Objectives, animal bone assemblages, or sub- samples of them, shall be assessed by the Contractor’s specialist with reference to Historic England guidance (Baker and Worley 2014). When employed, other palaeoenvironmental techniques, such as, but not limited to, pollen, insects, molluscs, ostracoda, diatoms and charcoal shall follow standard methodologies (see Campbell et al. 2011) and adopt recognised standards in procedure (at both assessment and analysis stages) and agreed nomenclatures.

### Geoarchaeology

Wherever appropriate, artefacts, biological samples and soils shall be assessed for evidence of site and deposit formation processes and taphonomy and especially for evidence of recent changes that may have been caused by alterations in the site environment.

Samples collected for geo-archaeological assessment should be processed promptly by the Contractor’s specialist, particularly where storage of unprocessed samples is thought likely to result in deterioration. Appropriate assessment shall be undertaken as agreed with the Employer. Where preservation in situ is a viable and desirable option, consideration shall be given to minimising the possible effects of compression and loading on the physical integrity of the site and any hydrological or chemical impacts of the proposed construction works (Campbell et al. 2011).

### Backfilling

The trenches shall be pumped dry (by the Contractor) and any necessary protection measures for archaeological remains (in addition to those for below ground infrastructure, services or utilities) shall be completed prior to backfilling. 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.

The Contractor shall ensure, in liaison with the Employer that adequate protection is provided for any archaeological remains. Any specific archaeological requirements relating to backfilling including use of materials to mark excavated depth, such as geotextiles, shall be specified by the Contractor in the LS-WSI.

### Post Task Methodology

The Site will be left clean, tidy and secure.

## 4.0 Parties Affected by Works

<b>Clients Employees</b>	<b>Yes</b>	√	<b>No</b>		<b>Employees</b>	<b>Yes</b>	√	<b>No</b>	
<b>Visitors</b>	<b>Yes</b>	√	<b>No</b>		<b>Contractors</b>	<b>Yes</b>	√	<b>No</b>	
<b>Members of the Public</b>	<b>Yes</b>	√	<b>No</b>						

## 5.0 Specific Hazards

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## Method Statement/ Risk Assessment

<p>Principle hazards are:</p> <ul style="list-style-type: none"> <li>• Manual Handling</li> <li>• Infections and diseases</li> <li>• Livestock and dogs</li> <li>• Movement around site</li> <li>• Isolated working areas</li> <li>• Severe weather</li> <li>• Excavations and Utilities</li> <li>• Use of mechanical plant / delivery of mechanical plant</li> <li>• Confrontation with members of the public</li> <li>• Fire in compound</li> <li>• Contamination</li> <li>• Utilities</li> </ul>
---

### 6.0 Foreseeable Hazards & Risks Associated with Works

#### Risk Assessment

#### Risk Rating Matrix

Risk = Likelihood x Severity

RISK RATING (R) Likelihood (L) x Severity (s)		HAZARD SEVERITY (S)				
		Negligible (N) Negligible injury, no absence from work	Slight (S) Minor Injury requiring first aid treatment	Moderate (M) Injury leading to a lost time accident	High (H) Involving a single death or serious injury	Very High (VH) Multiple Deaths
LIKELIHOOD OF RECURRENCE (L)	<b>Very Unlikely (VU)</b> A freak combination of factors would be required for an incident/accident to result	LOW	LOW	LOW	LOW	MEDIUM
	<b>Unlikely (U)</b> A rare combination of factors would be required for an accident/incident to result	LOW	LOW	LOW	MEDIUM	MEDIUM
	<b>Possible (P)</b> Could happen when additional factors are present but otherwise unlikely to occur	LOW	LOW	MEDIUM	MEDIUM	HIGH
	<b>Likely (L)</b> Not certain to happen but an additional factor may result in an accident/incident	LOW	MEDIUM	MEDIUM	HIGH	HIGH
	<b>Very Likely (VL)</b> Almost inevitable that an accident/incident would result	MEDIUM	MEDIUM	HIGH	HIGH	HIGH

**LOW RISK**

May be acceptable; however, review task to see if risk can be reduced further.

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## Method Statement/ Risk Assessment

**MEDIUM RISK**

Task should only proceed with appropriate consultation with specialist personnel and safety team. Where possible the task should be refined to take account of the hazards involved or the risks should be reduced further prior to task commencement.

**HIGH RISK**

Task must not proceed. It should be redefined or further control measures put in place to reduce risk. The controls should be re-assessed for adequacy prior to task commencement.

Item	Hazards Identified	Who Is At Risk	Risk Rating at Initial Assessment	Residual Risk After Control Measures Applied
1.	Manual Handling: Over exertion, dropping, failure to assess the lift, incorrect lifting cuts, strains, back injuries etc	Employees	LxM=Med	UxM=Low
2.	Infections and Diseases <ul style="list-style-type: none"> <li>• Weils Disease</li> <li>• Ticks and Lymes Disease</li> <li>• Tetanus</li> </ul>	Employees	UxH=M	UxM=Low
3.	Livestock and Dogs	Employees	UxH=M	UxM=Low
4.	Movement around site. <ul style="list-style-type: none"> <li>• Slipping and tripping / uneven ground</li> <li>• Presence of unauthorised personnel / public footpaths</li> <li>• Movement around site</li> </ul>	Employees Visitors	PxM=Med	UxM=Low
5.	Isolated working areas <ul style="list-style-type: none"> <li>• Injury or ill health when working alone or at a distance from others</li> </ul>	Employees Visitors	PxM=Med	UxM=Low
6.	Severe weather <ul style="list-style-type: none"> <li>• Exposure to the elements and extreme temperatures</li> </ul>	Employees Visitors	UxM=Low	UxM=Low
7.	Excavations and Utilities	Employees Visitors	LxH=Med	UxM=Med

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## Method Statement/ Risk Assessment

8.	Use of Mechanical Plant / Delivery of Mechanical Plant	Employees Visitors	LxH=Med	UxM=Med
9.	Confrontation with members of the public	Employees Visitors	PxH=Med	UxM=Low
10.	Fire in Compound	Employees Visitors	PxH=Med	UxM=Low
11.	Contamination	Employees	PxH=Med	UxM=Low

Item	Control Measures
1.	<p><b>Manual Handling</b></p> <ul style="list-style-type: none"> <li>No weights requiring mechanical methods will be lifted.</li> <li>Seek help from others when lifting heavy equipment.</li> <li>Wear PPE including supportive/protective boots that complies with BS EN ISO 20345 that has a covered steel toe cap, mid-sole protection and provides support to the ankle. Rigger boots are not acceptable and will not be worn. Wear gloves conforming to EN388 intermediate design</li> <li>Assess weight to be lifted. No lifting issue is anticipated with the equipment used.</li> </ul>
2.	<p><b>Infectious Diseases (e.g. Lyme Disease and Leptospirosis)</b></p> <ul style="list-style-type: none"> <li>Contact with standing water to be avoided at all times.</li> <li>Wear gloves.</li> <li>Always wash hands before eating/drinking/smoking.</li> <li>Canteen/Welfare areas will be kept clean to deter vermin.</li> <li>Avoid unnecessary contact with eyes, mouth and nose using dirty hands.</li> <li>All cuts and skin abrasions to be immediately washed and dressed.</li> <li>Close fitting clothes (no shorts or short-sleeved shirts) to be worn in areas which are known to be inhabited by deer.</li> <li>Insect repellent to be used in areas which are known to be inhabited by deer.</li> <li>Medical attention to be sought if flu-like symptoms appear between one to four weeks after a possible insect or tick bite following working in such areas.</li> <li>It is the responsibility of each staff member to ensure compliance with the control measures.</li> <li>If sewage enters the working area work will cease.</li> </ul>
3.	<p><b>Livestock and Dogs</b></p> <ul style="list-style-type: none"> <li>No work will be undertaken in fields containing livestock.</li> <li>Follow instructions given by landowner.</li> <li>Livestock and dogs will not be approached.</li> <li>Consider removal of high-vis PPE near cattle/rams, as per landowner instruction.</li> </ul>

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## Method Statement/ Risk Assessment

4.	<p><b>Movement Around Site:</b></p> <p><b>Slipping and tripping / uneven ground</b></p> <ul style="list-style-type: none"> <li>• Track mats to be provided in access and compound areas if required.</li> <li>• The site will be inspected for slip and trip hazards prior to work commencing.</li> <li>• Suitable safety footwear will be worn by all staff.</li> <li>• Tools will be stored neatly in designated areas.</li> <li>• If appropriate access and egress to trenches will be by designated safe routes</li> <li>• The project supervisor will assess the site for hazards and update the risk assessment as necessary.</li> <li>• The project supervisor will regulate deployment into trenches.</li> <li>• All staff are to ensure that footwear is maintained and replacement sought if necessary.</li> </ul> <p><b>Presence of unauthorised personnel / public footpaths</b></p> <ul style="list-style-type: none"> <li>• In the event that unauthorised personnel gain access all survey works will cease until the person(s) have been escorted from the site.</li> <li>• There are no public footpaths within the site boundary.</li> </ul> <p><b>Movement around site</b></p> <ul style="list-style-type: none"> <li>• Staff to be aware of the potential dangers involved in moving around the site, eg. uneven ground, presence of moving plant, presence of unauthorized personnel etc.</li> </ul>
5.	<p><b>Isolated Working Areas:</b></p> <p><b>Injury or ill health when working alone or at a distance from others</b></p> <ul style="list-style-type: none"> <li>• Staff to work in small groups in relatively close proximity where practicable.</li> <li>• When staff are required to work alone at a distance from others regular mobile phone contact must be maintained with the Project Supervisor.</li> <li>• Project Supervisor to be aware of all staff working locations and to maintain personal or mobile phone contact.</li> <li>• All staff to maintain vigilance and communicate with Project Supervisor when working at a distance</li> </ul>
6.	<p><b>Severe Weather:</b></p> <p><b>Exposure to the elements and extreme temperatures</b></p> <ul style="list-style-type: none"> <li>• Individuals to wear appropriate protective clothing (rain proof and/or windproof and/or warm garments in adverse wet, windy or cold weather conditions. Foul weather equipment (where needed) that complies with BS EN 343: 2003 Class3.</li> <li>• Individuals to wear appropriate clothing (loose and light) and sun protection (sun screen, appropriate hat) in warm, bright weather conditions. Shorts should not be worn, short-sleeved shirts should not be worn in areas where deer are known to be present, or when weather conditions, extreme heat/cold, determine.</li> <li>• Work should cease in thunderstorms and appropriate shelter sought.</li> <li>• All staff to adhere to the control measures.</li> </ul>
7.	<p><b>Excavation and Utilities</b></p>

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## Method Statement/ Risk Assessment

	<ul style="list-style-type: none"> <li>• Permit to dig to be completed prior to any excavation.</li> <li>• Client to provide service plans which will be checked prior to excavation and trenches positioned to avoid known services.</li> <li>• The Project Supervisor will walk over the site prior to the commencement of works to inspect the site for obvious service trenches and the like.</li> <li>• Known services across the proposed area of the works include, overhead electric cables, a buried water main, and buried high pressure gas mains.</li> <li>• The need to cross either below or above any service will be avoided where possible. Where this is not possible then guidance will be sought from the relevant utility provider regarding best practice. Permission will be sought from the archaeological curator to move any trench that is found to lie under, above or within the immediate vicinity of any service. National Grid will be informed where overhead services are carried on pylons, and in the vicinity of buried gas mains. The locations of all trenches will be scanned with a Cable Avoidance Tool (CAT) prior to excavation by a suitably trained person.</li> <li>• The required buffers zones (given in HSE Guidance Note GS6) will be created around overhead utilities that lie within the site, with goalposts erected at a single crossing point where required. The height of goalpost will be determined by the asset owner. The required buffers zones will be erected around any known buried services, these will be agreed in advance with the asset owner. A single crossing point will be constructed above any buried service where required. Method of crossing the buried service will be sought from the asset owner</li> <li>• If unmapped services are located their presence will be confirmed by hand digging before proceeding and/or the trench moved to a new location or split either side of the unmapped service.</li> <li>• Further machine excavation will be restricted to a minimum distance of 1m from location of identified services, to create a 2m wide berm over the position of services.</li> <li>• Broken drainage and sewage pipes to be treated with particular care, especially during periods of rainfall. Staff will avoid contact with any discharge.</li> </ul>
8.	<p><b>Use of Mechanical Plant / Delivery of Mechanical Plant</b></p> <ul style="list-style-type: none"> <li>• The necessary level of traffic management will be employed at each access location during the delivery of heavy plant or other materials. Where access is off a road, a minimum of two members of staff acting as banksmen will be in attendance.</li> <li>• All plant drivers to be trained to CITB (or equivalent) standard and in possession of necessary certification</li> <li>• All staff and visitors to wear the following PPE: High-visibility upper-body clothing (orange) with reflective tape that complies with BS EN 471 – in addition, long-sleeved clothing must be worn; High-visibility trousers (orange) with reflective tape that complies with BS EN 47; Safety helmets that comply with BS EN 397 (Colour coding of safety helmets will be in accordance with the relevant contract requirements) Visitors will wear blue safety helmets; Safety footwear that complies with BS EN ISO 20345 that has a covered steel toe cap, mid-sole protection and provides support to the ankle. Rigger boots are not acceptable and will not be worn; Hand protection, (gloves) that conform to EN388 intermediate design; Eye protection (safety) glasses that conform to EN166, 1F; protective boots (boots preferably conforming to BS1870 Pt.1). In addition, and when required; foul weather equipment that complies with BS EN 343: 2003 Class3, 3; For employees working in close proximity to buried services, flame-retardant PPE that complies with BS EN 533.</li> <li>• Staff to remain in driver's view at all times and alert the driver to their presence.</li> <li>• A minimum of one staff member to guide machine operators</li> <li>• Staff not to stand or work within the swing area of the machine arm</li> </ul>

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	<ul style="list-style-type: none"> <li>• Machines travelling from one part of the site to another to be escorted by a banksman.</li> <li>• If crossing a public road, two banksmen will escort the machine.</li> <li>• Any areas of plant movement during delivery / collection outside the working area will be checked for public presence before and during unloading / loading.</li> <li>• Connect Archaeology's project supervisor will be responsible for checking certification, coordinating staff and supervising all plant movements.</li> <li>• All staff will maintain awareness of plant location/movement at all times.</li> <li>• When not in use the mechanical excavator will be stored in a dedicated compound. When in the dedicated compound a drip tray/plant nappy will be placed underneath the excavator.</li> <li>• All mechanical excavators will carry a Spill kit.</li> <li>• A fuel bowser will be located within the compound containing the welfare unit and tool store.</li> <li>• A drip tray/plant nappy will be placed underneath the fuel bowser.</li> </ul>
9.	<p><b>Confrontation with Members of the Public</b></p> <ul style="list-style-type: none"> <li>• Do not engage in confrontation with the public</li> <li>• Always be polite</li> <li>• Do not discuss the works, refer the person/s to the HS2 Contact Number</li> <li>• Leave the work area as soon as possible if arguments or aggressive behaviour becomes intimidating or threatening.</li> <li>• Report any issues to your Manager.</li> </ul>
10.	<p><b>Fire in Compound</b></p> <p>Display site emergency procedure and appoint fire-fighting equipment in areas of risk e.g. Canteen/Storage areas.</p> <p>Smoking prohibited in storage areas. Smoking only allowed in Designated area.</p> <p>Ensure cookers and heaters are powered by electricity.</p> <p>Ensure ALL WASTE is collected on a daily basis and deposited in skips for regular removal by waste carrier.</p> <p>Lock ALL FLAMABLE materials in steel units with good ventilation when not in use.</p> <p>The fuel bowser located in the main compound is banded (double skinned) and is lockable.</p> <p><b>Most fires can be prevented with simple precautions.</b></p> <p>If a fire does occur:</p> <ul style="list-style-type: none"> <li>• Raise the alarm.</li> <li>• Locate an escape route.</li> <li>• It is vital these routes are kept clear at all times</li> <li>• Make your way calmly to the designated meeting point and stay there. This is very important as a full register will be taken to ensure everybody is present.</li> </ul>

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	<ul style="list-style-type: none"> <li>If the fire is small –and suitable fire-fighting equipment is immediately to hand –and you decide to tackle the small fire ensure that you always position yourself between the fire and your escape route</li> </ul>
11.	<p><b>Contamination</b></p> <ul style="list-style-type: none"> <li>Prior to the start of excavation works all staff will be made aware of any areas (and nature of) the contamination identified in the Environmental Appraisal and Ground Investigation Logs.</li> <li>Prior to the start of excavation works, areas of contamination will be marked on the ground and appropriate buffers put in place.</li> <li>If areas of previously unknown contamination are identified during the trial trenching works trenching will cease in the vicinity. All staff will avoid the potentially contaminated area. Connect Archaeology will immediately inform LM and seek advice on how to proceed.</li> <li>Measures to deal with contaminated material may include: impermeable sheeting (DPM matting) on which to store excavated material; facilities to segregate hazardous and non-hazardous material; appropriate PPE; facilities to deal with any potentially contaminated wash water; and arrangements with appropriately licenced waste management contractors to dispose of any hazardous waste as quickly as possible.</li> <li>All works will be undertaken in line with LM’s Contaminated Land Action Plan and Waste Management Plan.</li> </ul>

### 7.0 Specific Health & Safety Compliance Arrangements

<i>Detail all health &amp; safety restrictions or arrangements required for the contract</i>
All works carried out by Connect site staff will adhere to the Client’s Health and Safety procedures as outlined in this document and given during the site induction.

### 8.0 Protection of Third Parties from Works

<i>Detail specific control measures for the prevention of exposing third parties to risks from works</i>
<p>Site Specific Rules in place.          If applicable, the access gate to the site will be kept locked at all times and only opened to allow authorised access/egress.          The site cabin will be kept locked whilst staff are on site and the site cabin otherwise unattended.          Security will be employed between 16:00 and 08:00 (out of work hours) to maintain the security of the compound, plant and general site area.</p>

### 9.0 COSHH

<i>Detail all substances, materials and biological organisms applicable to the works</i>	
<b>Material/Substance/Biological</b>	<b>Control Measure</b>
Petrol	COSHH Assessment
Diesel	COSHH Assessment

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## Method Statement/ Risk Assessment

### 10.0 Personal Protective Equipment & Other Essentials

<b>High Visibility Clothing</b> Upper body- orange long sleeved with reflective tape complying with BS EN 471 Lower Body- Orange high-visibility trousers with reflective tape complying with BS EN 471	√	<b>Safety Glasses that conform to EN166:1F</b>	√	<b>First Aid Kit</b>	√
<b>Sunscreen and after sun protection</b>	√	<b>Waterproof Trousers that comply with BS EN 343: 2003 Class3:3</b>	√	<b>Safety Gloves that conform to EN388 intermediate design</b>	√
<b>Wet Weather Clothing complying with BS EN 343: 2003 Class3:3</b>	√	<b>Hard Hat that complies with BS EN 397</b>	√	<b>Latex Gloves</b>	√
<b>Ear Protection</b>	√	<b>Respiratory Protective Equipment (RPE)</b>		<b>Antiseptic Wipes/Hand Cleaner</b>	√
<b>Safety Boots complying with BS EN ISO 20345 (covered steel toe cap, mid-sole protection and provides support to the ankle)</b>	√	<b>Sat Nav</b>	√	<b>Maps of Site</b>	√
<b>Food Provision</b>	√	<b>Fully Charged Mobile and Charger for Each Member of Staff</b>	√	<b>Other (Specify): Flame-retardant PPE complying with BS EN 533;</b>	√

### 11.0 Emergency Response Equipment/Arrangements

<i>Detail all emergency response equipment and arrangements</i>
<p><b>Emergency Procedures</b></p> <p>A qualified first aider will be present on site at all times (British Red Cross), as required by the Health and Safety (First Aid) Regulations (1981).</p> <p>A complete first aid kit will be maintained on site at all times. At a minimum first aid kits and eyewash stations will be located within the welfare facilities at each compound. A first aid kit will be located in each excavator.</p> <p>Any injury, no matter how minor, will be reported and included in the site accident book and reported to LM within 24 hours.</p> <p>In the case of health and safety concerns or injury, Connect Archaeology staff are to inform the Project Officer/Site Manager, in the first instance who will liaise with Melissa Melikian (Connect Archaeology Operations Director). Any immediate health and safety and security issues should also be reported to the client.</p> <p><b>Emergency Procedures if Contact is Made with Overhead Power Cables</b></p>

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If someone or something comes into contact with an overhead line, it is important that everyone involved knows what action to take to reduce the risk of anyone sustaining an electric shock or burn injuries. Key points are:

- never touch the overhead line's wires;
- assume that the wires are live, even if they are not arcing or sparking, or if they otherwise appear to be dead;
- remember that, even if lines are dead, they may be switched back on either automatically after a few seconds or remotely after a few minutes or even hours if the line's owner is not aware that their line has been damaged;
- if you can, call the emergency services. Give them your location, tell them what has happened and that electricity wires are involved, and ask them to contact the line's owner;
- if you are in contact with, or close to, a damaged wire, move away as quickly as possible and stay away until the line's owner advises that the situation has been made safe;

All site staff carry valid CSCS cards which will be made available for inspection. All site supervisors are SSSTS certified.

In the event that a member of staff is seriously injured on site the emergency services will be contacted immediately. The site address will be given as:

**For Compound 1:** Unnamed Road, Horsly Brook Farm, Lichfield. WS14 9PT

**For Compound 2:** Jerry's Lane, Lichfield. WS14 9PE

**For Compound 3:** 1-11 Knox's Grave Lane, Lichfield. WS14 9QE

In case of accident or emergency Connect Archaeology Project Management will be informed. Connect will be responsible for reporting the incident to the Health and Safety Executive (HSE), should this be required, within the time periods stipulated by the HSE.

The nearest Accident and Emergency hospital is:

**Good Hope Hospital,  
Rectory Road,  
Sutton Coldfield.  
B75 7RS.  
Tel: 0121 424 2000**

### 12.0 Permit to Work Requirements

Permit to Dig	Yes	✓	No	
Permit to Work At Height	Yes		No	✓

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<b>Hot Work Permit</b>	<b>Yes</b>		<b>No</b>	✓
<b>Confined Space Permit</b>	<b>Yes</b>		<b>No</b>	✓
<b>General Permit to Work</b>	<b>Yes</b>		<b>No</b>	✓
<b>Other Permit</b>				

### 13.0 Personnel Involved in Task & Contact Details

<i>Detail personnel involved in the task either in persons conducting job or overall numbers. Also include levels of supervision.</i>		
<b>Designated staff</b>		
LM	Paul Hunt	07775 551776
WSP (DJV)	Glenn Rose	07583 018586
Connect Archaeology Operations Director:	Melissa Melikian	07824 438954
Connect Archaeology Project Manager:	Ross Murray	07855 086322
Connect Archaeology Project Officer/Supervisor:	Alan Duffy	07764 154379
Connect Archaeology Health & Safety Consultant:	Stuart Draper	07595 450671

### 14.0 Specific Training Requirements for Task

<i>Detail all training requirements/restrictions, including any licences required for persons conducting task</i>
All staff are CSCS card holders. Site Supervisor SSSTS. Staff trained in GPS survey using Trimble dGPS. Staff trained in using a Cable Avoidance Tool

### 15.0 Plant & Equipment to be used During Works

<i>Detail all plant</i>
Machine type: c14 tonne tracked machine/wheeled excavator (eg JCB 3CX) Trimble R8s CAT (calibration certificates will be kept in the site file)

### 16.0 Traffic Management

<i>Detail requirements for traffic management restrictions and controls</i>
The necessary level of traffic management will be employed at each access location during the delivery of heavy plant or other materials. Where access is off a road, a minimum of two members of staff acting as banksmen will be in attendance.  Site vehicles will be parked in the Site Compound area.  Reverse parking only.

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## Method Statement/ Risk Assessment

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### 17.0 Waste Disposal & Environmental Considerations

*Detail all Waste Disposal Considerations*

Connect staff will work in accordance with the Site Environmental Procedures and Site Rules as stated by LM below.

A copy of the Environmental Site Rules should be displayed in the Site Office

#### **LM ENVIRONMENTAL SITE RULES**

- Core working hours from 08:00 to 17:00 on weekdays (excluding bank holidays) and from 08:00 to 13:00 on Saturdays.
- Any work out of these hours will need to be agreed with LM and the Local Authority.
- One hour before and up to one hour after normal working hours is allowed for start-up and close down of activities. **No plant and/or machinery shall be turned on during this period.**
- Repairs or maintenance of construction equipment that is required to be carried out outside of core working hours will normally be carried out on Saturday afternoons or Sundays between 09:00 and 17:00.
- No open fires allowed.
- LM subcontractors shall use biodegradable (vegetable-based) hydraulic oil for all site plant.
- No discharge of site runoff to ditches, watercourses, drains, sewers or soakaways is permitted without agreement from LM and the regulatory authority.
- Plant and machinery to be stored in designated areas only, outside of any flood plain.
- White noise alarms only are to be used on LM sites.
- Vehicles and plant will be switched off and secured when not in use.
- Movement of construction traffic around the site will be kept to the minimum.
- The site layout will be planned to locate machinery and dust-causing activities away from residences.
- If you are approached by members of the public advise them to contact the HS2 helpdesk and provide contact cards.

**ALL ENVIRONMENTAL INCIDENTS INCLUDING SPILLS, LEAKS, ECOLOGICAL OR DAMAGE TO BUILDINGS ARE TO BE REPORTED TO YOUR SITE SUPERVISOR WHO WILL NOTIFY LM.**

A Permit to Pump must be used and accepted before and pumping out of water.

Waste will be disposed of in accordance with Site Rules and Procedures.

Environmental Risk Assessments provided for site file.

### 18.0 Specific Emergency Contact Numbers/Procedures

*Detail all Specific Emergency Contact Numbers or Procedure references*

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## Method Statement/ Risk Assessment

Refer to Site Emergency Plan, Connect Archaeology Site Specific Procedures and Emergency Contact details displayed in the Site Office.

### 19.0 Specific Co-operation with Third Party Activities

*Detail specific requirements*

Occasionally other sub-contractors may be present on site during the archaeological works. Working practices to avoid conflict during these periods can be discussed and agreed at a Site Meeting.

<b>Method Statement/Risk Assessment Prepared by</b>	<b>Name</b>	Melissa Melikian	<b>Sign</b>	
	<b>Position</b>	Operations Director	<b>Date</b>	11 <sup>th</sup> April 2019
<b>Reviewed by</b>		Paul Hunt, LM	<b>Date</b>	

### 20. Acknowledgement:

I confirm that I have understood the Method Statement/ Risk Assessment and undertake to execute the works in the appropriate manner.

Print Name	Sign	Date

Code 1 - Accepted



## Method Statement/ Risk Assessment

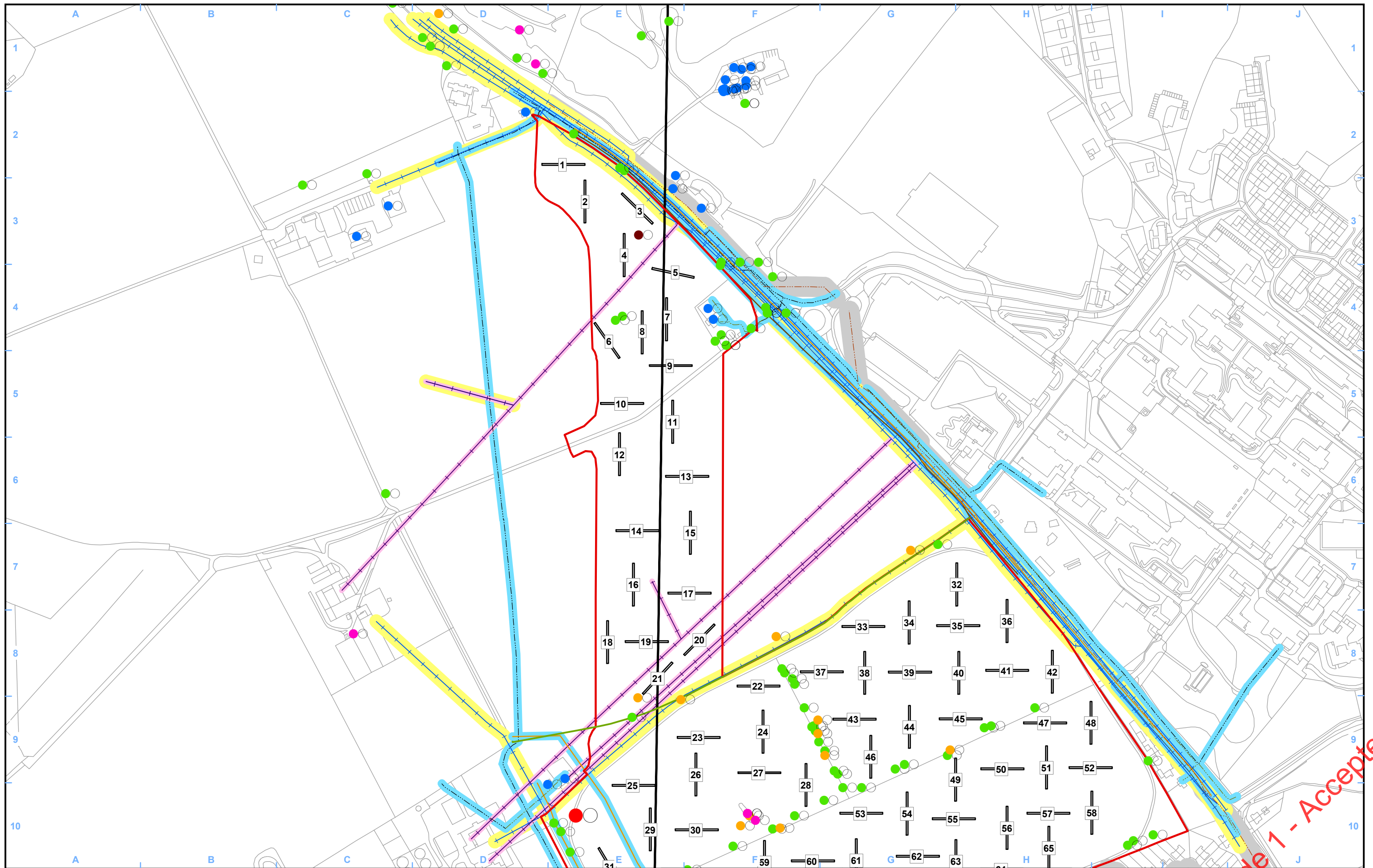

## Appendix A: Inspection and Test Plan

Code 1 - Accepted

## Method Statement/ Risk Assessment

### Appendix B: Site Layout Plans

Code 1 - Accepted



- Legend**
- Route on surface
  - Access Point/Compound Location
  - Trench Location
  - Site boundary
  - 3m buffer
  - 5m buffer

- 8m buffer
- 12m buffer
- Possible UG service
- LP Mains
- MP
- LV
- HV
- Telecommunications
- Sewer
- Water Mains
- Property Water Supply

- Breeding Birds Territory
- Amphibians Pond Survey Results
- Badger Setts
- Bats Building Roosts
- Bats Tree Roosts
- Barn Owl
- Wintering Birds Species
- Important Hedgerow



Map Number: **Figure 1**

Map Name: **Weeford to Whittington Trench Plan 1/4**

Community Forum Area CFA21 & CFA22

Scale at A3: 1:4,000

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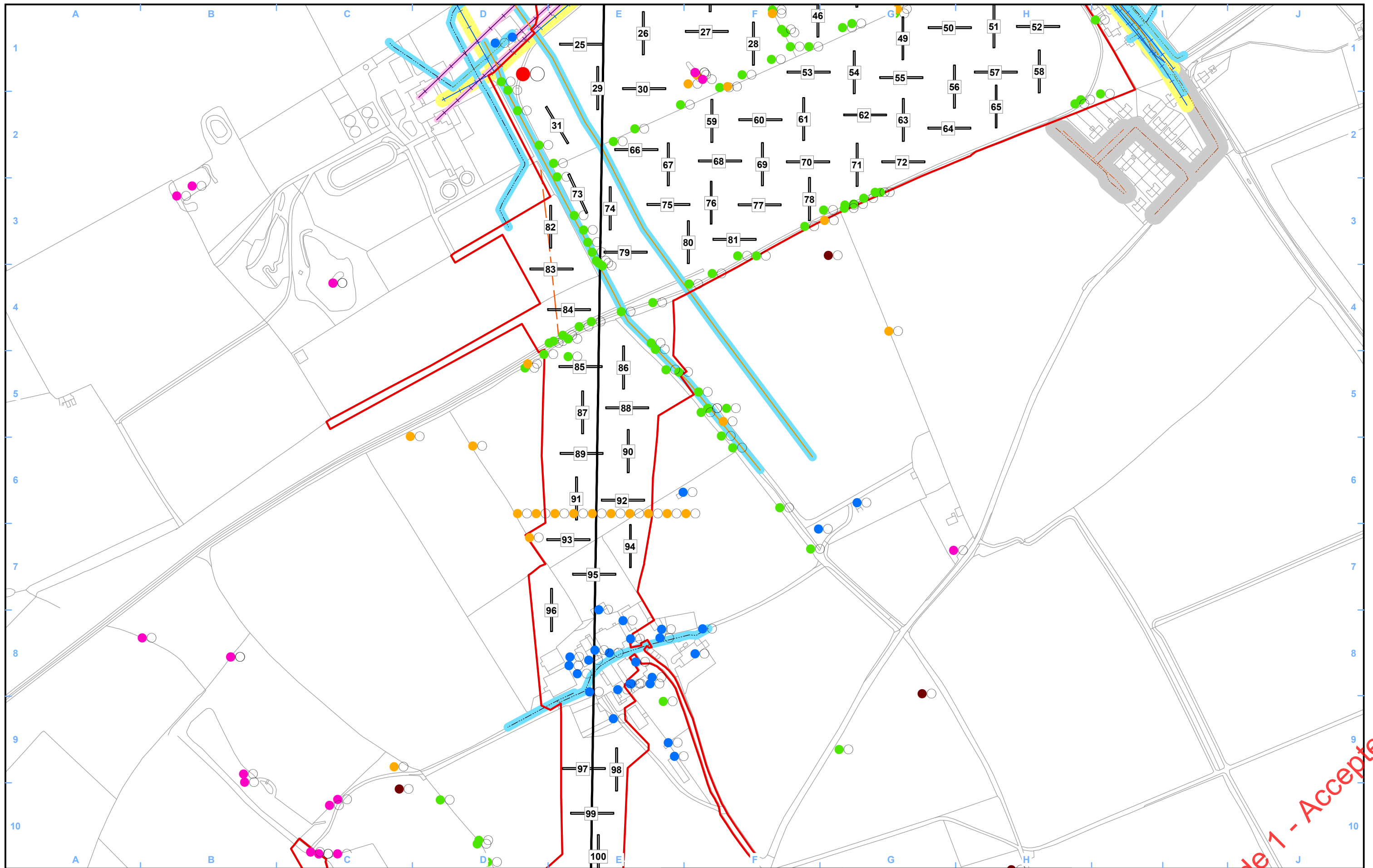
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Doc Number: -

Date: 11/04/19

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**Legend**

— Route on surface	8m buffer	--- HV	● Breeding Birds Territory	● Barn Owl
● Access Point/Compound Location	12m buffer	— Telecommunications	● Amphibians Pond Survey Results	● Wintering Birds Species
□ Trench Location	— Possible UG service	— Sewer	● Badger Setts	— Important Hedgerow
□ Site boundary	— LP Mains	— Water Mains	● Bats Building Roosts	
□ 3m buffer	— MP	— Property Water Supply	● Bats Tree Roosts	
□ 5m buffer	— LV			



Map Number: **Figure 2**

Map Name: **Weeford to Whittington Trench Plan 2/4**

Community Forum Area CFA21 & CFA22

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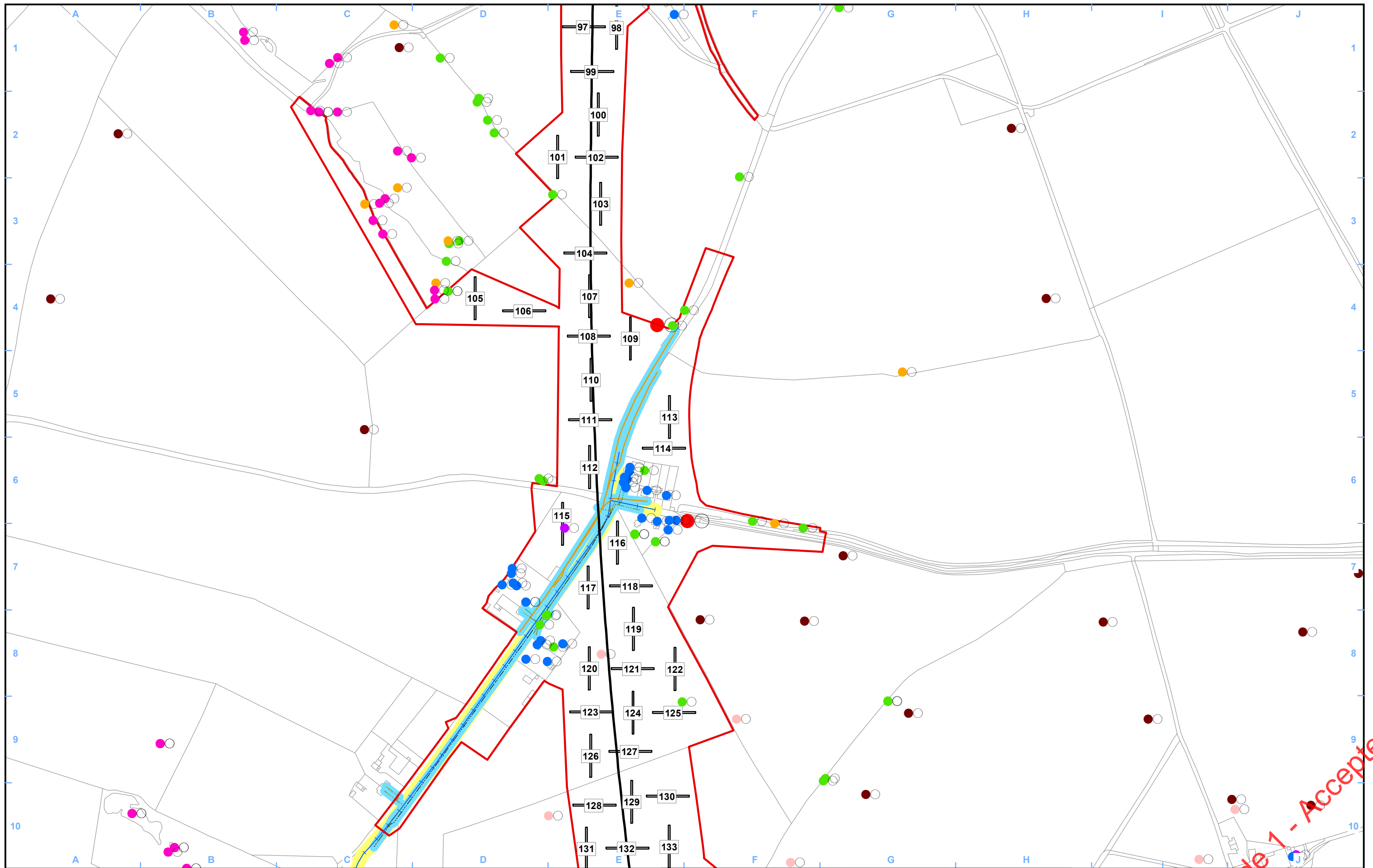
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**Legend**

— Route on surface	8m buffer	--- HV	● Breeding Birds Territory	● Barn Owl
● Access Point/Compound Location	12m buffer	— Telecommunications	● Amphibians Pond Survey Results	● Wintering Birds Species
□ Trench Location	Possible UG service	— Sewer	● Badger Setts	● Important Hedgerow
□ Site boundary	LP Mains	— Water Mains	● Bats Building Roosts	
□ 3m buffer	MP	— Property Water Supply	● Bats Tree Roosts	
□ 5m buffer	LV			

Lichfield District  
 Tamworth District (B)

Map Number: **Figure 3**  
 Map Name: **Weeford to Whittington Trench Plan 3/4**  
 Community Forum Area CFA21 & CFA22

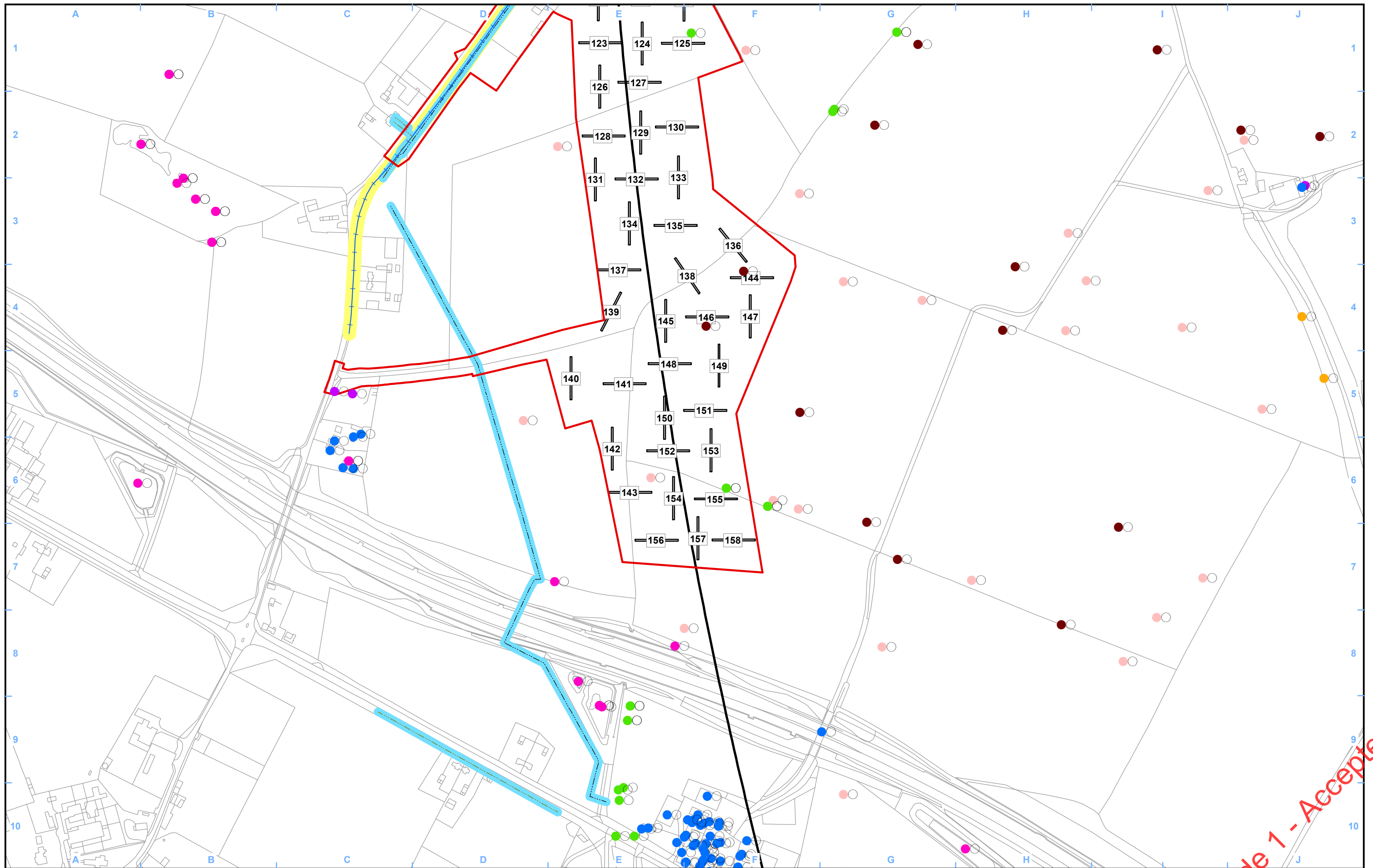
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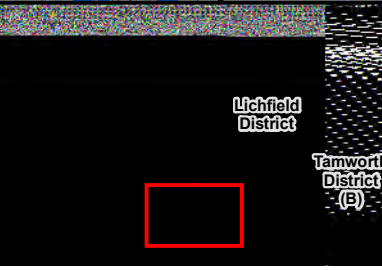
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Doc Number: - Date: 11/04/19



**Legend**

— Route on surface	8m buffer	--- HV	● Breeding Birds Territory	● Barn Owl
● Access Point/Compound Location	12m buffer	--- Telecommunications	● Amphibians Pond Survey Results	● Wintering Birds Species
□ Trench Location	Possible UG service	--- Sewer	● Badger Sett	● Bats Building Roosts
□ Site boundary	LP Mains	--- Water Mains	● Bats Tree Roosts	● Important Hedgerow
□ 3m buffer	MP	--- Property Water Supply		
	LV			



Map Number: **Figure 4**

Map Name: **Weeford to Whittington Trench Plan 4/4**

Community Forum Area CFA21 & CFA22

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Doc Number: -

Date: 11/04/19

Code 1 - Accepted

## Method Statement/ Risk Assessment

### Appendix C: COSHH Assessments & Data Sheets

<b>COSHH Assessment No: 01</b>			
<p>This assessment must take into account the Manufacturer's Safety Data Sheet, Product Label and the activity to be undertaken. A copy of the Safety Data Sheet is to be attached to this Assessment upon completion.</p>			
<b>Substance Name:</b> Petrol		<b>Supplier:</b> Various	
<p><b>Chemical Composition:</b>                  Complex mixture of hydrocarbons in the C<sub>4</sub>-C<sub>11</sub> range. CAS No 86290-81-5. EINECS No 289-220-8. The main components are paraffinic, naphthenic and aromatic hydrocarbons but catalytically and thermal cracked constituents from refinery processes may be present. May also contain up to 5% bio-ethanol.</p>			
<b>Hazard Classification</b>			
 Caution <input type="checkbox"/>	 Flammable <input checked="" type="checkbox"/>	 Dangerous for the Environment <input checked="" type="checkbox"/>	
 Corrosive <input type="checkbox"/>	 Gas under pressure <input type="checkbox"/>		
 Toxic <input type="checkbox"/>	 Oxidising <input type="checkbox"/>	Other (Please Specify):	
 Long Term Health Hazards <input checked="" type="checkbox"/>	 Explosive <input checked="" type="checkbox"/>		
<p><b>Risk Categories:</b>                  R45,R11,R48,R23,R24,R25                  Xi, Xn R12,R38,R45,R65,R67,R51,R53</p>		<p><b>Safety Phrases:</b></p>	
<b>Form of Substance</b>			
<b>DUST</b> <input type="checkbox"/>	<b>FUMES</b> <input checked="" type="checkbox"/>	<b>MIST</b> <input type="checkbox"/>	<b>GASES</b> <input type="checkbox"/>
		<input checked="" type="checkbox"/>	






Code 1 - Accepted

## Method Statement/ Risk Assessment

VAPOURS <input checked="" type="checkbox"/>	SOLID <input type="checkbox"/>	LIQUID <input type="checkbox"/>	OTHER (Please Specify):		
<b>Persons at Risk</b>					
Employees <input checked="" type="checkbox"/>	Sub-Contractors <input checked="" type="checkbox"/>	Visitors <input checked="" type="checkbox"/>	Members of the public <input type="checkbox"/>	Other (Please Specify):	
<b>Routes of Exposure</b>					
Skin <input checked="" type="checkbox"/>	Cuts/ Abrasions <input checked="" type="checkbox"/>	Eyes <input checked="" type="checkbox"/>	Inhalation <input checked="" type="checkbox"/>	Ingestion <input checked="" type="checkbox"/>	Other (Please Specify):
<b>Work Process (How is the Substance used?)</b>					
Petrol to Fuel Generator					
<b>Occupational Exposure Limits (From EH40):</b>					
<b>Effects of Exposure On Health &amp; Environment</b>					
Extremely flammable. Explosive mixtures may form at ambient temperatures. May cause irritation in contact with eyes and skin. Harmful if swallowed. Aspiration into the lungs caused by vomiting is harmful and can be fatal. Contains benzene: prolonged or repeated exposure to benzene may cause anaemia and other blood diseases including leukemia. Classified as a category 2 carcinogen. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment					
<b>Is Biological Monitoring/ Health Surveillance Required? (If yes what is in place?)</b>					
No					
<b>Is Environmental Monitoring Required? (If yes what is in place?)</b>					
No					
<b>Control Measures (Remember; Eliminate, Isolate, Engineer, PPE &amp; Training)</b>					
<p>All Operatives must receive a Site Induction and comply with Site Rules and Emergency Procedures.</p> <p>Site Specific Method Statement must be read and understood before work commences.</p> <p>Petrol will be delivered to site and stored on site in a metal 10ltr Jerrycan designed to carry petrol and its contents must be clearly identified, including the Flammable Liquid Diamond displayed.</p> <p>The above container should be stored in a flammable storage unit or box on site.</p> <p>When handling petrol ensure you have the corrective PPE as identified: Gloves, Coveralls, Respirator, Goggles, Safety Footwear. You must also wear the Specific PPE Requirements of the site:</p> <p>Smoking Strictly Forbidden.</p> <p>A suitable funnel</p> <p>A suitable Drip tray.</p> <p>A suitable Fire Extinguisher (Use carbon dioxide, dry powder or foam)</p> <p>A first Aid Kit which must include Eyewash.</p> <p>Extra care must be taken when opening containers after movement to prevent splashes.</p>					
<b>Personal Protective Equipment Required</b>					

Code 1 - Accepted

## Method Statement/ Risk Assessment

 <b>Gloves</b> <input checked="" type="checkbox"/>	 <b>Coveralls</b> <input checked="" type="checkbox"/>	 <b>Respirator/ Face Mask</b> <input checked="" type="checkbox"/>
 <b>Glasses/ Goggles</b> <input checked="" type="checkbox"/>	 <b>Safety Footwear</b> <input checked="" type="checkbox"/>	<b>Other (Please Specify):</b>
<b>Testing and Maintenance of Control Measures</b>		
Monitor, audit and review		
<b>First Aid Measures</b>		
<b>Skin</b>	Remove contaminated clothing as soon as possible. Wash exposed skin thoroughly with soap and water. If irritation persists, seek medical attention.	
<b>Eyes</b>	Immediately wash with fresh water for at least 15 minutes. Obtain medical advice if pain or redness develops.	
<b>Inhalation</b>	If over exposure occurs, remove to fresh air. Administer artificial respiration if breathing stops. Seek immediate medical attention.	
<b>Ingestion</b>	If this material is swallowed, DO NOT INDUCE VOMITING. If unconscious, place in recovery position and protect airway. Seek immediate medical attention.	
<b>Emergency Action</b>		
<p><b>FIRE FIGHTING MEASURES</b> EXTINGUISHING MEDIA Use carbon dioxide, dry powder or foam. DO NOT USE WATER JETS. For small fires sand or earth may also be used.</p> <p><b>FIRE AND EXPLOSION HAZARDS</b> Forms extremely flammable vapour – air mixture.</p> <p><b>PROTECTIVE MEASURES</b> Do not enter confined spaces without proper protective equipment including respirator. Use water fog or spray to cool containers exposed to fire.</p> <p><b>ACCIDENTAL RELEASE MEASURES (SPILLAGE)</b></p> <p><b>PERSONAL PRECAUTIONS</b> In the event of a major spillage only trained personnel wearing self contained breathing apparatus. Any spillage or leak should be treated as a major fire/explosion hazard.</p> <p><b>ENVIRONMENTAL PRECAUTIONS</b> Alert fire brigade. Eliminate all sources of ignition. If vehicles present, switch off engines. Contain spillage.</p> <p><b>RECOVERY:</b> Recovery of large spillages should be affected by specialist personnel. Soak up residual fluids using sand, sawdust, earth.</p>		
<b>Storage, Transport &amp; Disposal</b>		
<p><b>STORAGE AND HANDLING (IN NORMAL USE)</b></p> <p><b>STORAGE</b> Gasoline storage is subject to legislative controls. Storage tanks must be suitably designed and installed, in accordance with legislation. Storage must be remote from all sources of heat, ignition and open flame. The vapours in tank head spaces should be considered highly flammable at all times. Use spark proof tools.</p> <p><b>VENTILATION</b> Ensure adequate ventilation.</p> <p><b>HANDLING</b> DO NOT SMOKE, EAT OR DRINK WHILST HANDLING. Avoid breathing vapours and/or mist. Launder contaminated clothing before re-use. Do not siphon product by mouth.</p> <p><b>DISPOSAL</b> Dispose of in accordance with local authority/national regulations relating to hazardous waste. Materials contaminated with product should be treated as highly flammable.</p>		
<b>Risk Rating Following Assessment &amp; Implementation of Control Measures</b>		
<b>LOW</b>		
<b>Information Sources Used</b>		
<b>COSHH DATA Sheet</b>		
<b>Assessed by:</b> S Draper	<b>Date:</b> 1 <sup>st</sup> January 2019	<b>Date for Review:</b> 1 <sup>st</sup> January 2020

I confirm that I have read and understood this COSHH Assessment titled Petrol and that I shall Carry out works in the manner stated above.

Code 1 Accepted





## Method Statement/ Risk Assessment


### Risk Rating Matrix











**Risk = Likelihood x Severity**

RISK RATING (R) Likelihood (L) x Severity (s)		HAZARD SEVERITY (S)				
		Negligible (N) Negligible injury, no absence from work	Slight (S) Minor Injury requiring first aid treatment	Moderate (M) Injury leading to a lost time accident	High (H) Involving a single death or serious injury	Very High (VH) Multiple Deaths
LIKELIHOOD OF RECURRENCE (L)	<b>Very Unlikely (VU)</b> A freak combination of factors would be required for an incident/accident to result	LOW	LOW	LOW	LOW	MEDIUM
	<b>Unlikely (U)</b> A rare combination of factors would be required for an accident/incident to result	LOW	LOW	LOW	MEDIUM	MEDIUM
	<b>Possible (P)</b> Could happen when additional factors are present but otherwise unlikely to occur	LOW	LOW	MEDIUM	MEDIUM	HIGH
	<b>Likely (L)</b> Not certain to happen but an additional factor may result in an accident/incident	LOW	MEDIUM	MEDIUM	HIGH	HIGH
	<b>Very Likely (VL)</b> Almost inevitable that an accident/incident would result	MEDIUM	MEDIUM	HIGH	HIGH	HIGH

Code 1 - Accepted



## Method Statement/ Risk Assessment

COSHH Assessment No: 02			
This assessment must take into account the Manufacturer's Safety Data Sheet, Product Label and the activity to be undertaken. A copy of the Safety Data Sheet is to be attached to this Assessment upon completion.			
<b>Substance Name:</b> Diesel		<b>Supplier:</b> Various	
<b>Chemical Composition:</b> Hydrocarbons and Additives			
<b>Hazard Classification</b>			
 Caution <input checked="" type="checkbox"/>	 Flammable <input checked="" type="checkbox"/>	 Dangerous for the Environment <input checked="" type="checkbox"/>	
 Corrosive <input type="checkbox"/>	 Gas under pressure <input type="checkbox"/>		
 Toxic <input checked="" type="checkbox"/>	 Oxidising <input type="checkbox"/>	Other (Please Specify):	
 Long Term Health Hazards <input type="checkbox"/>	 Explosive <input type="checkbox"/>		
<b>Risk Categories:</b> Xn; Carc. Cat. 3;R40, Xn;R65, R66, N;R51/53 <b>Nature of Special Risk:</b> R40; Limited evidence of a carcinogenic effect. R65; Harmful: may cause lung damage if swallowed. R66; Repeated exposure may cause skin dryness or cracking. R51/53; Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.		<b>Safety Phrases:</b> <b>Safety Advice:</b> S2; Keep out of the reach of children. S36/37; Wear suitable protective clothing and gloves. S61; Avoid release to the environment. Refer to special instructions/safety data sheets. S62; If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.	
<b>Form of Substance</b>			
DUST <input type="checkbox"/>	FUMES <input type="checkbox"/>	MIST <input type="checkbox"/>	GASES <input type="checkbox"/>

Code 1 - Accepted

## Method Statement/ Risk Assessment

VAPOURS <input checked="" type="checkbox"/>	SOLID <input type="checkbox"/>	LIQUID	OTHER (Please Specify):		
Persons at Risk					
Employees <input checked="" type="checkbox"/>	Sub-Contractors <input checked="" type="checkbox"/>	Visitors <input checked="" type="checkbox"/>	Members of the public <input type="checkbox"/>	Other (Please Specify):	
Routes of Exposure					
Skin <input checked="" type="checkbox"/>	Cuts/ Abrasions <input checked="" type="checkbox"/>	Eyes <input checked="" type="checkbox"/>	Inhalation <input checked="" type="checkbox"/>	Ingestion <input checked="" type="checkbox"/>	Other (Please Specify):
Work Process (How is the Substance used?)					
Diesel for Excavators or Generators					
Occupational Exposure Limits (From EH40):					
Fuels, diesel, no. 2 Vapour TWA: 200 mg/m3			Fuels, diesel, no. 2 Stable Aerosol TWA: 5 mg/m3		
Effects of Exposure On Health & Environment					
<b>PHYSICAL / CHEMICAL HAZARDS</b>					
Material can release vapours that readily form flammable mixtures. Vapour accumulation could flash and/or explode if ignited. Material can accumulate static charges which may cause an incendiary electrical discharge.					
<b>HEALTH HAZARDS</b>					
Limited evidence of a carcinogenic effect. Harmful: may cause lung damage if swallowed. Repeated exposure may cause skin dryness or cracking. Under conditions of poor personal hygiene and prolonged repeated contact, some polycyclic aromatic compounds (PACs) have been suspected as a cause of skin cancer in humans. May be irritating to the eyes, nose, throat, and lungs. May cause central nervous system depression. High-pressure injection under skin may cause serious damage.					
<b>ENVIRONMENTAL HAZARDS</b>					
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.					
<b>Is Biological Monitoring/ Health Surveillance Required? (If yes what is in place?)</b>					
No					
<b>Is Environmental Monitoring Required? (If yes what is in place?)</b>					
No					
<b>Control Measures (Remember; Eliminate, Isolate, Engineer, PPE &amp; Training)</b>					

Code 1 - Accepted

**Method Statement/ Risk Assessment**

All Operatives must receive a Site Induction and comply with Site Rules and Emergency Procedures.

Site Specific Method Statements must be read and understood before work commences.

Diesel will be delivered to site and stored on site in a metal 10ltr Jerrycan designed to carry diesel and its contents must be clearly identified, including the Flammable Liquid Diamond displayed.

**ENGINEERING CONTROLS**

The level of protection and types of controls necessary will vary depending upon potential exposure conditions.

Control measures to consider:

Use explosion-proof ventilation equipment to stay below exposure limits.

**PERSONAL PROTECTION:**

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

**Respiratory Protection:**

If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

**Hand Protection:**

Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly affect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves. CEN standards EN 420 and EN 374 provide general requirements and lists of glove types.

**Eye Protection:**

If contact with material is likely, chemical goggles are recommended.

**Skin and Body Protection:**

Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:






Chemical/oil resistant clothing is recommended.

**Specific Hygiene Measures:**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

**Personal Protective Equipment Required**

## Method Statement/ Risk Assessment

 <b>Gloves</b> <input checked="" type="checkbox"/>	 <b>Coveralls</b> <input checked="" type="checkbox"/>	 <b>Respirator/ Face Mask</b> <input checked="" type="checkbox"/>
 <b>Glasses/ Goggles</b> <input checked="" type="checkbox"/>	 <b>Safety Footwear</b> <input checked="" type="checkbox"/>	<b>Other (Please Specify):</b>
<b>Testing and Maintenance of Control Measures</b>		
Monitor, audit and review		
<b>First Aid Measures</b>		
<b>Skin</b>	Remove contaminated clothing. Dry wipe exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.	
<b>Eyes</b>	Flush thoroughly with water. If irritation occurs, get medical assistance.	
<b>Inhalation</b>	Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.	
<b>Ingestion</b>	Seek immediate medical attention. Do not induce vomiting.	
<b>Emergency Action</b>		
<p><b>FIRE FIGHTING MEASURES</b>                  Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames. Inappropriate Extinguishing Media: Straight streams of water.</p> <p>Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.</p> <p>Hazardous Combustion Products: Aldehydes, Sulphur Oxides, Smoke, Fume, Incomplete combustion products, Oxides of carbon</p> <p>FLAMMABILITY PROPERTIES                  Flash Point [Method]: &gt;56C (133F) [ ASTM D-93]                  Flammable Limits (Approximate volume % in air): LEL: 0.6 UEL: 7.0                  Autoignition Temperature: &gt;250°C (482°F)</p> <p><b>NOTIFICATION PROCEDURES:</b>                  In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.</p> <p><b>PROTECTIVE MEASURES:</b>                  Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. See Section 5 for firefighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for Personal Protective Equipment.</p>		

COPY 1 - Accepted

## Method Statement/ Risk Assessment

### SPILL MANAGEMENT:

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapour suppressing foam may be used to reduce vapour. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

#### Large Spills:

Water spray may reduce vapour but may not prevent ignition in enclosed spaces.

Water Spill: Stop leak if you can do so without risk. Eliminate sources of ignition. If the Flash Point exceeds the Ambient Temperature by 10 deg C or more, use containment booms and remove from the surface by skimming or with suitable absorbents when conditions permit. If the Flash Point does not exceed the Ambient Air Temperature by at least 10C, use booms as a barrier to protect shorelines and allow material to evaporate. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

### ENVIRONMENTAL PRECAUTIONS

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

### Storage, Transport & Disposal

#### HANDLING

Avoid all personal contact. Use proper bonding and/or earthing procedures. Do not use as a cleaning solvent or other non-motor fuel uses. For use as a motor fuel only. Do not use electronic devices (including but not limited to cellular phones, computers, calculators, pagers or other electronic devices etc) in or around any fuelling operation or storage area unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. Prevent small spills and leakage to avoid slip hazard. Do not siphon by mouth. Material can accumulate static charges which may cause an electrical spark (ignition source).

Static Accumulator: This material is a static accumulator.

#### STORAGE

Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release.

Store in a cool, well-ventilated area. Storage containers should be earthed and bonded. Drums must be earthed and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters.

### Risk Rating Following Assessment & Implementation of Control Measures

**LOW**

### Information Sources Used

COSHH DATA Sheet

Assessed by: S Draper

Date: 1<sup>st</sup> January 2019

Date for Review: 1<sup>st</sup> January 2020

I confirm that I have read and understood this COSHH Assessment titled Diesel and that I shall carry out works in the manner stated above.

Code 1 - Accepted





## Method Statement/ Risk Assessment


### Risk Rating Matrix

**Risk = Likelihood x Severity**

RISK RATING (R) Likelihood (L) x Severity (s)		HAZARD SEVERITY (S)				
		Negligible (N) Negligible injury, no absence from work	Slight (S) Minor Injury requiring first aid treatment	Moderate (M) Injury leading to a lost time accident	High (H) Involving a single death or serious injury	Very High (VH) Multiple Deaths
LIKELIHOOD OF RECURRENCE (L)	<b>Very Unlikely (VU)</b> A freak combination of factors would be required for an incident/accident to result	LOW	LOW	LOW	LOW	MEDIUM
	<b>Unlikely (U)</b> A rare combination of factors would be required for an accident/incident to result	LOW	LOW	LOW	MEDIUM	MEDIUM
	<b>Possible (P)</b> Could happen when additional factors are present but otherwise unlikely to occur	LOW	LOW	MEDIUM	MEDIUM	HIGH
	<b>Likely (L)</b> Not certain to happen but an additional factor may result in an accident/incident	LOW	MEDIUM	MEDIUM	HIGH	HIGH
	<b>Very Likely (VL)</b> Almost inevitable that an accident/incident would result	MEDIUM	MEDIUM	HIGH	HIGH	HIGH

Code 1 - Accepted

## Method Statement/ Risk Assessment

### Appendix D: Calibration Certificates

To be held on file on site.

Code 1 - Accepted

## Method Statement/ Risk Assessment

Code 1 - Accepted

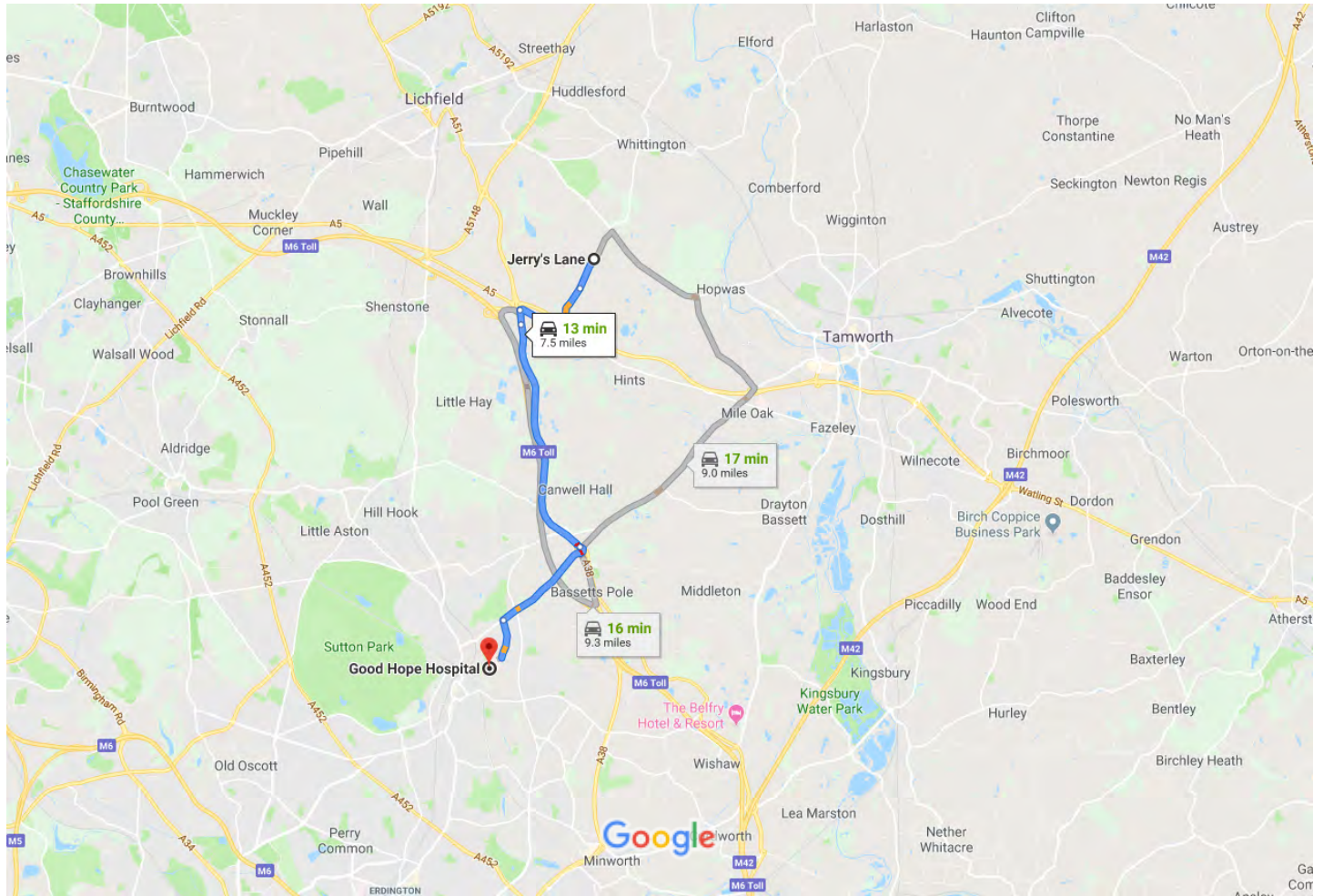
## Method Statement/ Risk Assessment

### Appendix E: Plan and Directions to A&E

Code 1 - Accepted



Jerry's Ln, Lichfield to Good Hope Hospital, Sutton Coldfield B75 7RS Drive 7.5 miles, 13 min



Map data ©2019 Google 2 km

### Jerry's Ln

Lichfield

- ↑ 1. Head south-west on Jerry's Ln towards Knox's Grave Ln  


---

 0.5 mi
- ↑ 2. Continue onto Flats Ln  


---

 0.7 mi
- ↗ 3. Turn right onto Roman Rd/Watling St  
ⓘ Continue to follow Roman Rd  


---

 0.6 mi
- 📍 4. At Weeford Interchange, take the 1st exit onto the London Rd/A38 slip road to Birmingham/A38(S)  


---

 0.2 mi
- ⤴ 5. Merge onto London Rd/A38  


---

 3.4 mi
- 📍 6. At the roundabout, take the 4th exit onto A453  


---

 1.6 mi
- ↶ 7. Turn left onto Bedford Rd  


---

 0.6 mi

Code 1 - Accepted

# Good Hope Hospital

Sutton Coldfield B75 7RS

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Code 1 - Accepted