This factsheet is about archaeological assets - the physical remains of past human activity, either above or (largely) below ground. Archaeological remains include evidence of our ancient environment and geological deposits which contain evidence of human activity. They are part of our historic environment.
1 Introduction

1.1.1 High Speed Two (HS2) is the Government's proposal for a new, high speed north-south railway. The proposal is being taken forward in phases: Phase One will connect London with Birmingham and the West Midlands. Phase 2a will extend the route to Crewe. Phase 2b will extend the route to Manchester, Leeds and beyond (the ‘Proposed Scheme’).

1.1.2 The construction and operation of Phase One of HS2 is authorised by the High Speed Rail (London – West Midlands) Act (2017). In July 2017, the Government introduced a hybrid Bill to Parliament to seek powers for the construction and operation of Phase 2a. A hybrid Bill to seek powers for the construction and operation of Phase 2b is expected to be introduced to Parliament in 2020.

1.1.3 HS2 Ltd is the non-departmental public body responsible for developing and promoting these proposals. The company works to a Development Agreement made with the Secretary of State for Transport.

1.1.4 The work to produce the Phase 2b Bill will include an Environmental Impact Assessment (EIA), the results of which will then be reported in an Environmental Statement (ES). The ES would be submitted alongside the Phase 2b Bill when it is introduced to Parliament. The emerging findings of the EIA are reported in a working draft Environmental Statement (WDES)¹ that is being consulted on in late 2018.

1.1.5 As was the case with Phase One and Phase 2a, when the Phase 2b Bill is introduced to Parliament the Secretary of State will also publish draft Environmental Minimum Requirements (EMRs). The EMRs will set out the environmental and sustainability commitments that will be observed in the construction of Phase 2b.

1.1.6 A series of information papers were produced for the Phase One and Phase 2a hybrid Bills, explaining the commitments made in those Bills and EMRs. It is the Secretary of State’s intention to follow a similar process for the Phase 2b Bill. These information papers for Phase 2b will be used to provide information about Phase 2b itself, the powers contained in the Phase 2b Bill when it is introduced to Parliament and how decisions on Phase 2b have been reached. It

¹ The WDES presents draft environmental information based on a stage in the ongoing design and assessment process for the Proposed Scheme. It includes a description of the existing environment; an evaluation of the anticipated environmental impacts of the Proposed Scheme; and the measures currently being proposed to manage these anticipated impacts. The WDES will be updated for the preparation of the formal ES to reflect any changes made to the Proposed Scheme following consultation, and any changes made following further work on the design and EIA, between now and when the ES is submitted alongside the hybrid Bill. A guidance document explaining the contents of the WDES and how to navigate it has been produced alongside the WDES.
is currently proposed that these information papers for Phase 2b will be published at the time the Phase 2b Bill is introduced in Parliament.

1.1.7 The Secretary of State for Transport will be ‘the Promoter’ of the Phase 2b Bill. The Promoter will also eventually appoint a body responsible for delivering the Proposed Scheme under the powers to be granted by the Phase 2b Bill. This body will be known as the ‘nominated undertaker’. There may well be more than one nominated undertaker. However, any and all nominated undertakers will be bound by the obligations contained in the Phase 2b Bill, the policies established in the Phase 2b EMRs and any commitments provided in the Phase 2b information papers.

1.1.8 These Phase 2b factsheets have been produced to provide information on the emerging proposals for measures to manage the design process for Phase 2b and to control impacts which may arise from the construction and operation of the Proposed Scheme. These measures may then be applied to Phase 2b as commitments made through the eventual Phase 2b Bill, EMRs or information papers.

2 Overview

2.1.1 This factsheet is about archaeological assets - the physical remains of past human activity, either above or (largely) below ground. Archaeological remains include evidence of our ancient environment and geological deposits which contain evidence of human activity. They are part of our historic environment.

3 Archaeological assets

3.1.1 It should be noted that archaeological remains are an element of heritage assets, which are addressed in Chapter 12 of the National Planning Policy Framework (NPPF). Annex 2 of the NPPF sets out the Government’s planning policies for England and defines a ‘heritage asset’ as:

“A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. ‘Heritage asset’ includes designated heritage assets and assets identified by the local planning authority (including local listing).”

3.1.2 HS2 Ltd will continue to seek to avoid direct impacts on all heritage assets, including archaeological remains, during the development of the route for the Proposed Scheme and the design of associated works. All heritage assets will be considered in the EIA process, to be published within the ES as part of submission of the Phase 2b Bill.
3.1.3 The construction of the Proposed Scheme will include works (such as ground breaking and excavation) that may affect archaeological remains. HS2 Ltd will continue to design the Proposed Scheme and to approach the task of construction in ways that reduce the impact on archaeological remains, as far as is reasonably practicable. Where such remains are affected, HS2 Ltd will seek to use the opportunities presented by archaeological investigation to deepen our understanding of the history of England.

4 Approach to assessment

4.1.1 Archaeological studies will be undertaken as part of the EIA for the Proposed Scheme.

4.1.2 The ES will set out the archaeological assets identified through desk-based study – termed the ‘baseline conditions’. This baseline will be added to, using the results of:

- walkovers and site reconnaissance carried out from public areas and areas where access was granted;
- remote sensing data (including LiDAR\(^2\) and aerial photographs); and
- non-intrusive surveys (fieldwalking and geophysical survey).

4.1.3 Non-intrusive techniques allow insight into what archaeological information lies beneath the ground.

4.1.4 The archaeological assessment in the ES will evaluate:

- whether there are likely to be archaeological resources in land affected by the Proposed Scheme;
- how important such resources might be; and
- how they would be physically affected by the construction and operation of the Proposed Scheme.

4.1.5 In determining the overall significance of the effect, we will evaluate the significance of the asset and the magnitude of the impact; we will also consider how the effect could be mitigated. The Scope and Methodology Report (SMR) sets out this assessment methodology in more detail.

---

\(^2\)LiDAR: Light Detection and Ranging is a high resolution remote sensing technique to capture 3D data. It is a form of aerial survey.
5 Framework for the control of impacts

5.1.1 Two parts of the eventual EMRs for the Proposed Scheme – the Heritage Memorandum and the Code of Construction Practice (CoCP) – will be especially relevant to the archaeological works that will be required as part of the construction of the Proposed Scheme.

5.1.2 The Heritage Memorandum is expected to set out how the historic environment will be addressed during the design and construction of the Proposed Scheme. It will provide a framework for the nominated undertaker, Historic England, local authorities and other stakeholders to work together to ensure that the design and construction of the Proposed Scheme is carried out with proper regard for the historic environment.

5.1.3 The draft CoCP is expected to require the nominated undertaker to ensure that the works are carried out in such a way as to ensure that disturbance to all heritage assets is managed in accordance with accepted industry practice and, where disturbance cannot reasonably be avoided, is controlled and limited as far as reasonably practicable.

6 Investigation and recording of archaeological assets

6.1 Sequence and programming of works

6.1.1 The nominated undertaker will develop an integrated investigation programme to deliver all archaeological works that will be identified in the ES and as developed during the detailed design process. This programme would set out the key stages of investigation, for example:

- detailed desk-based assessment (where appropriate to inform location-specific mitigation);
- field evaluation (where appropriate to inform location-specific investigation, recording and mitigation); and
- location-specific investigation, recording and mitigation (for example preservation in situ or archaeological excavation).

3 A separate factsheet relating to the Draft Code of Construction Practice has been published.
6.1.2 The investigation programme will be developed in light of, and in conjunction with, the overall construction programme and will be reviewed and updated, as necessary.

6.2 Archaeological field investigation methods

6.2.1 Addressing the impact of the Proposed Scheme on archaeological remains is likely to involve a range of investigation methods and these are summarised in Table 1, below. Several different techniques may be used at the same location dependant on the nature of the archaeological remains.
**Table 1: Archaeological investigation methods**

<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-intrusive investigation methods</strong></td>
<td></td>
</tr>
<tr>
<td>Topographic survey</td>
<td>Undertaken to record the surface topography and detail of any relevant features, including feature profiles and a photographic record where appropriate.</td>
</tr>
<tr>
<td>Walkover survey</td>
<td>Exploratory site reconnaissance to examine a location's configuration and its former or present uses. The aim is to:</td>
</tr>
<tr>
<td></td>
<td>• identify opportunities for (and constraints on) fieldwork;</td>
</tr>
<tr>
<td></td>
<td>• understand factors that affect archaeological preservation (e.g. developments, such as basements, that have truncated archaeological deposits);</td>
</tr>
<tr>
<td></td>
<td>• identify any access constraints; and</td>
</tr>
<tr>
<td></td>
<td>• create a photographic record.</td>
</tr>
<tr>
<td>Geophysical survey</td>
<td>A series of techniques such as magnetometer and resistance surveys and ground-penetrating radar. It is used to record the presence or absence of sub-surface archaeological features by:</td>
</tr>
<tr>
<td></td>
<td>• scanning the ground surface;</td>
</tr>
<tr>
<td></td>
<td>• identifying areas of local variation; and</td>
</tr>
<tr>
<td></td>
<td>• interpreting anomalies and fluctuations that indicate archaeological features.</td>
</tr>
<tr>
<td>Surface artefact collection</td>
<td>This is a non-intrusive technique that samples the upper surface of cultivated or disturbed ground. As such surface artefact collection surveys must be timetabled to take place when arable fields are lying fallow and preferably immediately after ploughing/harrowing.</td>
</tr>
<tr>
<td>Metal-detector survey</td>
<td>A non-intrusive archaeological survey technique used to record the position and distribution of metal objects recovered from a rapid survey of the topsoil with a metal detector.</td>
</tr>
<tr>
<td><strong>Preservation in situ</strong></td>
<td></td>
</tr>
<tr>
<td>Archaeological preservation in situ</td>
<td>In some cases, it may be appropriate to leave archaeological remains where they are in the ground. The decision depends on a range of factors - for example, the nature and significance of the remains, and the type of construction activity and its ability to cover the remains effectively.</td>
</tr>
<tr>
<td><strong>Intrusive investigation methods</strong></td>
<td></td>
</tr>
<tr>
<td>Trial trench survey</td>
<td>A survey to expose and investigate buried remains to understand the extent and/or character of previously identified archaeological deposits or areas of potential remains. Often used to evaluate a location following non-intrusive survey.</td>
</tr>
<tr>
<td>Method</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Archaeological excavation</td>
<td>The process of exposure, investigation, recording and recovery of archaeological remains. This may be targeted at specific locations or a sample range of locations (e.g. specific investigation trenches).</td>
</tr>
<tr>
<td>Geo-archaeological investigation</td>
<td>A programme of sample recovery and analysis undertaken to investigate past environmental conditions and soil sediment development that may be relevant to the research of archaeological remains recovered nearby. It involves trial pit excavations or other methods of taking geotechnical soil samples.</td>
</tr>
<tr>
<td><strong>Investigation within construction</strong></td>
<td></td>
</tr>
<tr>
<td>Construction integrated recording</td>
<td>A programme of observation, investigation and recording of archaeological remains undertaken during construction where appropriate. It is used where the likely extent of the remains has been demonstrated, but it is not practical or appropriate to investigate in detail before the main construction programme (e.g. due to safety or logistical considerations or environmental or engineering constraints). The contractor's preferred method of working would be controlled as necessary to allow archaeological recording to take place to the required standard.</td>
</tr>
<tr>
<td>Archaeological watching brief</td>
<td>A programme of observation, investigation and recording during construction. It is used where remains have not been identified by a detailed desk based assessments or field evaluation, but where there is realistic potential for archaeological discoveries. The contractor's method of working would not be directly controlled for archaeological purposes, unless important archaeological discoveries are found (in which case the site method may change to construction integrated recording).</td>
</tr>
</tbody>
</table>

6.3 **Route-wide generic written scheme of investigation: historic environment research and delivery strategy**

6.3.1 To deliver the archaeological investigation works a route-wide, generic written scheme of investigation: historic environment research and delivery strategy (GWSI: HERDS) is proposed to be prepared. This GWSI: HERDS would be developed in consultation with Historic England and the local authorities. Its purpose will be to set out the research framework and general principles for design, evaluation, investigation, analysis, reporting and archive deposition to be adopted for the design, development and construction of the Proposed Scheme. The GWSI: HERDS would be supported by strategies, technical standards and procedures that will provide the detailed mechanisms of the delivery of the works.
6.4 Location-specific investigation

6.4.1 The principles to be set out in the route-wide GWSI: HERDS will be applied in location-specific documents, which are proposed to be developed in consultation with Historic England and the relevant local authority.

6.4.2 The outcomes of the desk-based assessments, non-intrusive surveys and any field monitoring works will be used to inform the development of location-specific investigation and recording works. The location-specific documents, will describe:

- the local archaeological conditions;
- the proposed construction works;
- interfaces; and
- the details of the evaluation and investigation measures required.

6.4.3 The location-specific documents will include individual project plans for specific activities and a programme for the archaeological works within the overall construction programme, including details of how each stage of the archaeological programme interacts with other activities and the parties undertaking them.

6.4.4 Location-specific documents will address each work being carried out for the Proposed Scheme that impact heritage assets. Therefore, location-specific documents will cover the whole of the design and construction process and the subsequent post-excavation phase of analysis and reporting.

6.4.5 Taking account of accepted industry practice and national guidelines, location-specific documents will:

- set out the scope of archaeological work in sufficient detail for it to be quantified, implemented and monitored;
- define the specification for the archaeological work, the recording required, and the collection and disposal strategy for artefacts;
- reflect the nature of archaeological remains that are likely to be found and the nature of the development impact, whilst allowing sufficient flexibility for variable site conditions; and
- comply with the controls set out in the EMRs, including the proposed requirement on the nominated undertaker to use reasonable endeavours to adopt mitigation measures that will further reduce any adverse environmental impacts caused by the Proposed Scheme, insofar as these mitigation measures do not add unreasonable costs to the Proposed Scheme or unreasonable delays to the construction programme.
6.5 Analysis and reporting

6.5.1 Once archaeological investigations are complete, the records generated and the artefacts and samples collected will be analysed. The results of that work are planned to be published via a range of media, for example online and in specialist journals, popular publications and academic books. Approaches to post-exca
vation works are also proposed to be developed with Historic England and the relevant local authority.

6.6 Archiving

6.6.1 The Promoter recognises the need to deposit the nominated undertaker’s archaeological archive and will seek to deposit it in an appropriate repository or repositories. It is proposed that the nominated undertaker will work with Historic England and local authorities to identify suitable repositories (such as a museum storage facilities) to enable the deposition of the artefacts and records generated by the Proposed Scheme’s archaeological investigation works.

7 Unexpected discoveries of national importance

7.1.1 The approach to investigating archaeological remains that are affected by the construction of the Proposed Scheme will be designed to reduce the potential for making unexpected discoveries. However, such discoveries may be made.

7.1.2 In some cases, these discoveries may be of national importance (as defined by the Department for Culture Media and Sport using criteria published in the document ‘Scheduled Monuments and nationally important but non-scheduled monuments’). The nominated undertaker will develop a procedure for unexpected discoveries of national importance. This will set out what will happen following such a discovery, and the roles and responsibilities for decision-making and the implementation of archaeological investigation.

7.1.3 Other discoveries during construction will be addressed via the methods set out in Table 1 above.

7.2 Scheduled monuments

7.2.1 Following the approach adopted on Phase One and Phase 2a and to enable the construction of the Proposed Scheme, it is proposed, that an alternative regime to that provided for by the Ancient Monuments and Archaeological Areas Act

---

4 [https://content.historicengland.org.uk/content/docs/guidance/scheduled-monuments-policy-statement-dcms](https://content.historicengland.org.uk/content/docs/guidance/scheduled-monuments-policy-statement-dcms)
1979 (nationally significant archaeological remains) will be applied to the Proposed Scheme as commitments made in connection with the eventual Phase 2b Bill.

7.2.2 Following the approach employed on Phase One and Phase 2a, it is proposed that this alternative regime will require that a Heritage Agreement be entered into between the nominated undertaker and Historic England. These agreements will provide a similar level of information as is required for Scheduled Monument Consent. They will set out what construction works are specifically required on or at the scheduled monument to construct the Proposed Scheme. It will detail the archaeological methods (for example, investigation and recording) that are required before and during construction, together with any necessary protection and monitoring measures. The nominated undertaker will then engage closely with Historic England during the preparation of the methodology for the works.

8 More information

8.1.1 Further factsheets and details on the Proposed Scheme, including the working draft Environmental Statement documents, can be found at: www.hs2.org.uk/phase2b