

**High Speed Rail: Consultation on the route from the
West Midlands to Manchester, Leeds and beyond**

Sustainability Statement

Appendix E3 – Archaeology

A report by Temple-ERM for HS2 Ltd



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1. INTRODUCTION

- 1.1.1. This report has been prepared to support the HS2 Phase Two proposed scheme for consultation Sustainability Statement (the Sustainability Statement, Volume 1), a report which describes the extent to which the Government's proposed scheme supports objectives for sustainable development. This document is a technical appendix which summarises the method for the Archaeology appraisal, informing the Sustainability Statement main report (Volume 1). The Sustainability Statement places emphasis on the key impacts only. This technical report summarises all the conclusions relating to the Archaeology appraisal.

2. METHODOLOGY

2.1. Scope

- 2.1.1. The baseline dataset for the archaeological appraisal comprised Scheduled Monuments and Registered Historic Battlefields. The reasons for the exclusion of other assets of archaeological interest are set out in the 'Assumptions and Limitations' section below. No geographical constraint was set on the data available for the appraisal: geospatial data in the form of shapefiles and descriptions were available for all designated assets and were examined if considered potentially relevant.

2.2. Method

- 2.2.1. The principal sources of data, as set out above, were the Registered Battlefield and Scheduled Monument shapefiles and 'metadata' provided by English Heritage. These were refreshed during the course of the appraisal to ensure they were up-to-date. More detailed Scheduled Monument descriptions were available on-line through the National Heritage List for England maintained by English Heritage. For some assets, the list contained only the briefest of descriptions - or occasionally no substantive data at all - and in these cases the data was augmented by on-line Historic Environment Records held by County or Unitary authorities. Other readily available data, such as regional research strategies, were also consulted as appropriate. On-line aerial photographs (e.g. Google Earth) were also examined to help appreciate the settings of relevant assets. Additional information on battlefields was gathered through the website of The Battlefield Trust. Site visits were also made where it was deemed necessary to determine the extent of the potential impact, namely Towton Battlefield and the Scheduled Monuments between Hardwick and Bolsover.
- 2.2.2. For Scheduled Monuments, the appraisal was undertaken with regard to the earthworks and structures of the proposed route and a wider 'buffer zone' 350m either side of the centreline. The coincidence of an asset with the proposed structures and earthworks constituted a potential impact on the asset that would almost certainly lead to damage of the physical fabric of the historic asset. The presence of an asset in the wider corridor was taken to indicate an impact on its setting.
- 2.2.3. Appraisal of impact to Registered Battlefields was judged with regard to the proposed structures and earthworks and a wider buffer zone: in this case 1km from the centreline. This larger buffer zone was implemented in recognition of the potentially wide-ranging settings of these extensive historic landscape designations.

- 2.2.4. The different buffers reflected the size of the features concerned. Registered Battlefields are large areas and were thus provided a correspondingly large 1km buffer, since the character of these areas is appreciated and affected at a correspondingly large scale. Other features tend to be smaller and so were given the smaller buffer (350m). In practice, the area within which a development might influence the setting or character of an historic feature would vary for each feature depending on its size and the visibility across the surrounding landscape. But for the Appraisal of Sustainability (AoS) process¹ and its strategic level remit, these buffers were adopted and were deemed appropriate given the large number of options that required appraisal at that stage. For reporting the proposed scheme, the specialists adopted a more flexible approach and considered each site more according to its unique situation, although the defined buffers remained the initial area of consideration.
- 2.2.5. In reality, defining the setting of an asset is not objective, or conducive to metric thresholds, so a degree of latitude/professional judgement was implemented during the appraisal. The restriction of the baseline to registered assets meant that the historic context of a monument or battlefield could not always be determined, and thus the appraisal, for the most part, focused on impacts to the landscape setting of an asset and how these might alter its enjoyment, appreciation or understanding. Some assets lack any substantial above ground remains and their setting is minimal geographically; in some cases it is not really a relevant concept. Also, the current setting of an asset may be so degraded that new development would be unlikely to have a measurable impact. Thus, very occasionally an asset within the wider corridor was assessed as 'not impacted'. By contrast, some assets, by virtue of location or importance/sensitivity, for instance, command much wider settings and an appraisal of impact was undertaken even though the proposed route was some considerable distance from them.
- 2.2.6. Appraisal of impact was determined as set out in the table below (no positive or supportive impacts were identified and the relevant thresholds have been excluded). These are in effect 'worst case' scenarios as no additional mitigation (e.g. landscaping) was factored into the appraisal.

Severity of Impact	Application
Major negative	If a designated asset, or part of, is located in the 50m corridor. Substantial intrusion into the setting of a Registered Battlefield or Scheduled Monument with no significant screening from landform and/or current land use.
Moderate negative	If a designated asset lies within the 350m buffer zone, is close to the proposed route and is afforded no significant screening from topography and/or land use.
Minor negative	Where an asset is at the very edge of the 350m zone or receives significant screening from landform and/or land use.
Negligible	Impacts on setting are most unlikely due to distance from the route, substantial pre-existing screening from land use or landform The existing setting is already significantly degraded.

¹ Appendix B (AoS Method and Alternatives) provides an explanation of the methodology used for the AoS and the rationale behind it.

2.3. Assumptions and limitations

Assumptions

2.3.1. The appraisal has made the following assumptions:

- The data provided by English Heritage was accurate and up-to-date. On-line sources were only used where it was considered likely that they had been subject to peer review;
- The coincidence of any part of a Scheduled Monument with the proposed route would result in damage to the physical fabric of the asset through either permanent or temporary construction works; and
- It would not be possible to preserve Scheduled Monuments in situ: thus the appraisal is 'worst case'.

Limitations

- 2.3.2. The current appraisal, as well as selection of the proposed route, relied on Scheduled Monument and Registered Battlefield data provided by English Heritage (with some minor augmentation from other sources). This is the only nationally applicable dataset that has been compiled on the basis of objective or quasi-objective appraisal of importance that allows like for like comparisons to be made within and between regions. All other data is compiled and held at a more local level and cannot readily be used in this manner; it would not create an 'even playing field' for comparison.
- 2.3.3. Designated assets, by definition assets of national importance, account for only 2-3% of all known assets: there are just under 20,000 Scheduled Monuments and 43 Registered Battlefields in England out of approximately one million known heritage assets (Source: English Heritage). Most assets, therefore, are undesignated and were not factored into the appraisal.
- 2.3.4. Scheduled Monuments do not include all nationally important archaeological remains. The figures vary between regions, but a very high percentage of assets comprise earthworks of prehistoric and medieval date, as well as post-medieval structures. Assets of national importance that survive only as below ground remains, by contrast, are often underrepresented. Such sites may include, for example, Roman villas, prehistoric and Roman settlements, ritual sites and cemeteries of all dates. In the West Midlands region, English Heritage calculates that 13% of Scheduled Monuments survived as below ground remains only. A lack of data on these sites is a consequence of the absence of above ground remains and is probably the principal reason why they remain undesignated. This, coupled with the absence of an agreed and readily applicable method for determining their importance, has precluded their inclusion in the appraisal process to-date.
- 2.3.5. It is also likely that the proposed route and the immediate area contain currently unrecognised assets of archaeological interest that by definition cannot be factored into the appraisal at this stage.
- 2.3.6. The above limitations would be addressed during the EIA stage and as part of any site investigation where appropriate, prior to construction.

3. FINDINGS

3.1. Western leg

HSM03 – Streethay to Swynnerton

- 3.1.1. One Registered Battlefield lies within 1km of this route section - Battle of Hopton Heath, 1643, which is 665m away at its closest point. The proposed route is located to the southwest of the Registered Battlefield. Intervening settlement, light industrial type buildings and landscape features would probably provide a fair degree of screening and reduce impacts on setting, potentially to **minor** levels.

HSM08 – Madeley to Hough

- 3.1.2. Old Madeley Manor is a well preserved example of a manorial site with a moated manor house enclosure, associated garden enclosure, water management system and the earthwork remains of a mill site. It survives as above ground remains, including earthworks and a short length of standing masonry (also listed Grade II). It is located in open countryside approximately 450m from the proposed route, which is on an embankment/viaduct (8-9m high) at this point. There are no significant intervening landscape features and a **minor** impact on its setting is likely.

HSM10 – Hough to Pickmere

- 3.1.3. Indirect impacts may be generated for the Moated Site at Minshull Vernon, which is 220m away. The asset is a medieval double moat of unusual form. It comprises a range of shallow earthworks preserved under pasture in a rural setting of enclosed fields. The proposed route would pass east of the existing railway line in shallow cutting, thus affording some screening to the asset. **Minor/moderate** impact.

HSM28a – Winterbottom to Rostherne

- 3.1.4. Hough Hall moated site lies just beyond the 350m buffer zone to the east of the mainline connection to the HS2 station approach, which is on a low embankment at this point. The moated site survives as above ground remains in open farmland with no substantial landscape features to provide screening from the proposed route. **Minor** impacts on the setting of this feature are likely.

3.2. Eastern leg

HSL06 – Birchmoor to Tonge

- 3.2.1. The proposed route in this area would be constructed on embankment or at, or close to, grade to the west of two Scheduled Monuments. Collectively, the designated areas (three in all) include above and below ground remains of medieval and later coal mining preserved in woodland. The proposed route may have some impact on the setting of the remains, most noticeably on the 'Birch Coppice' area, although this would likely be reduced by the screening afforded by woodland. Impacts are likely to be **negligible, possibly minor**.

HSL09 – Tonge to Long Eaton

- 3.2.2. The proposed route would have a direct physical impact on the Scheduled Monument known as 'Roman site on Red Hill'. The site is thought to have originated as an early Iron Age settlement that grew into an important Roman trade centre and river crossing with urban characteristics. It also contains remains of the only known Roman dated temple in the county. Fieldwork undertaken in the immediate area in association with other development proposals indicates that the extent of archaeological remains of potentially national importance extends beyond the designated area. The proposed route would cross the designated area on viaduct; **major** impacts on nationally important below ground remains may occur during construction from a variety of activities.

HSL27 – Toton Station

- 3.2.3. One Scheduled Monument (also listed Grade II), a 17th -18th century lock up and pinfold, would be within 350m of the proposed station, but its location in an industrial/residential area indicates that construction of the proposed station would not impact upon its setting.

HSL13 – Trowell to Killamarsh

- 3.2.4. The medieval moat and fishpond at Strelley Church survives as above ground remains and is a good example of its kind. The proposed cutting would have some impact on the setting of the asset, but locating the proposed route to the northwest of a cluster of listed buildings would help to maintain links with Strelley Hall, its associated buildings and the church. **Minor/moderate** impact.
- 3.2.5. The earthworks of the manorial complex and chapel at Stainsby are not well preserved and difficult to interpret from the ground. There are no obvious contemporary assets to provide an historic setting, although the enclosed landscape of hedge lined fields with trees is probably broadly contemporary with the later phases of the site. Some of the field enclosures appear to have been set out with reference to the earthworks and this provides a setting. There are distant views to Hardwick Hall, but this is not a strong link. There are few if any 'modern' visual intrusions in the landscape and views of the traffic on the M1 are limited; however, there is ever present background noise from traffic. The proximity of the proposed cutting and embankment would impact the setting of those remains that are visible. A **moderate** impact is likely.
- 3.2.6. The fishponds south of Damstead Farm are a well-preserved example of unusual size and a water management system. The ponds are part surrounded by trees in arable fields; a substantial industrial estate is located nearby to the east. The proposed embankment would likely be clearly visible from the designated area, though its setting may be fairly restricted and may not be impacted significantly. **Minor/moderate** impact.
- 3.2.7. In addition to the assets noted above, the proposed route is aligned past Hardwick Old Hall, Sutton Scarsdale Hall and Bolsover Castle. All three occupy prominent landscape locations intervisible with the proposed route and were included in the appraisal despite their considerable distance from the proposed route.

Hardwick Old Hall

- 3.2.8. The Old Hall is located in an elevated position that commands excellent views of the surrounding parkland as well as the rolling countryside and farmland further to the west. Looking from the west, both the Old and New Hall are clearly visible on the hill top set

within the later parkland. The Hall survives mainly as a ruin, but with limited access to the upper floors. It includes a grass courtyard area defined by a wall and lodge buildings and the whole creates a distinct space that can be appreciated and understood without constant reference to its wider setting.

- 3.2.9. There is little if any significant modern intrusion into the western vista with the exception of the M1, which is partially visible. At its closest point, the M1 is well screened from the Hall and conversely represents a greater visible intrusion in more distant views (i.e. approximately to the south of Deep Lane and north of Astwith Lane). Noise from the motorway, by contrast, is ever present and intrusive. The westerly views can be enjoyed at ground level on the north side of the Hall but are more impressive from the upper floors of the asset. There are no views to the west from within the courtyard, or from much of the Hall building itself. To the east, the setting is more confined and is dominated by the later Hall and outbuildings, which are in turn set within the later parkland. Viewed from the west (e.g. from Astwith Lane), the M1 is far more visible and audible and often, though not always, forms a highly intrusive feature in the setting.
- 3.2.10. The proposed route would be located on the west side of the M1 approximately 980m away from the Hall at its closest. This places it on an east facing slope and would be visible from the asset – principally the proposed cutting in the Deep Lane area. Likewise, the proposed route are likely to intrude into the setting of the Hall when seen from the west.
- 3.2.11. In light of the above, it is concluded that the proposed route would likely generate a **moderate** negative impact on setting of the asset, with the greatest impact noticeable from the asset itself. However, this would be unlikely to undermine an appreciation or enjoyment of the building itself. See appendix E2. Built Heritage, for the assessment of Hardwick Hall Registered Parks and Garden (Grade I).

Sutton Scarsdale

- 3.2.12. The main interest is in the ruin itself (the house as an artefact), which allows a relatively rare insight into construction and development of a country house over several hundred years. Its immediate historic setting is largely absent or severely degraded, a fact reinforced by study of the interpretation panel on the north side of the house and the absence of any historic landscape designation. The formal gardens (of which trace remains as below ground features on the east side of the house) would probably have been replaced in the 18th century with a park type landscape of which there is now little or no trace, itself now replaced with large arable fields. Places such as ‘Park Farm’, ‘Hall Farm’ and ‘Park Gate Cottages’ all point towards contemporary elements of the landscape but there are no tangible links today. ‘Pond Plantation’ may likewise indicate a former part of the contemporary landscape. It is likely that Bolsover Castle was deliberately drawn into the wider setting of the house and gardens, but today this aspect is degraded by the M1 and the substantial development (19th/20th centuries) on the western slopes up to the town. The M1 is a dominant feature of the landscape and is clearly visible (and audible) to the north and north east; it is less obvious and more or less invisible to the east and south east. Inside the house, many of these later impacts are irrelevant and views can be framed through windows that avoid them altogether.
- 3.2.13. The proposed route would pass east of the hall on an embankment of variable height, approximately 1km away at its closest. The M1 would always be visible in the foreground, between the Hall and the proposed route.

3.2.14. The appraisal concluded that due to the degraded nature of the historic landscape, and the dominance of the M1, the proposed route would have a **negligible** impact on the setting of the asset.

Bolsover Castle

3.2.15. The castle occupies a prominent position with wide-ranging views to the west, taking in Sutton Scarsdale Hall in the near distance and the Peak District beyond. Prominent within the near ground are the M1 - running from south to north and audible from the castle - and the urban spread of the town down slope to the west and northwest - including areas of business units and reclaimed former industrial land. From the west, the castle is clearly visible on the skyline set in trees with several fields in the foreground. It shares the skyline with more recent buildings that spill downslope and occupy much of the foreground. To the east the 'old part' of the town does not form an obvious part of the castle's immediate setting.

3.2.16. The castle is of 17th century date and comprises, amongst other elements: a square keep with enclosed forecourt fountain garden, a riding school range, a terrace range and massive enclosure walls. With the probable exception of the terrace range, these can all be appreciated and enjoyed without reference to the wider setting of the asset.

3.2.17. The modern developments noted above all detract from the setting of the castle on the west side and would form the backdrop to the proposed route. At its closest point, the proposed route would be located approximately 1.6km to the west on embankment up to 14m high; to the northwest, but further away, the embankment increases to just over 18m.

3.2.18. The appraisal concluded that whilst the proposed route would be visible from the Scheduled Monument, the current setting on the west side is degraded by 19th and 20th century development. Mindful of this, the proposed route would have **no or negligible** impact on the setting of the castle nor prevent the appreciation and enjoyment of the building itself.

HSL28 – Meadowhall Station

3.2.19. Station: One Scheduled Monument, 'Roman Ridge between Jenkin Lane and Tylers Street', would be within 350m of this station. The current urban/industrial context of the asset is such that construction and operation of the station would be unlikely to generate a **significant** impact on its setting. **No or negligible** impact.

HSL16 – Blackburn to Cold Hiendley

3.2.20. Impacts may be generated on the setting of a Romano-British settlement in Wombwell Wood, which is 290m away at its closest point. The asset is known to survive as above ground earthworks, including enclosures and banks in dense vegetation. Impacts from the proposed alignment on its setting are unlikely to be highly significant. **Negligible/ minor** impact.

HSL17 – Cold Hiendley to Church Fenton

3.2.21. Five Scheduled Monuments would be within 350m of the proposed route.

3.2.22. Three separate parts of the Grim's Ditch survive as above ground remains in proximity to the proposed route. Survival is variable, with the ditch up to 13m wide and 1.8m deep and the bank over 10m wide and up to 1.5m high. In places, the asset is partly obscured by

Bullerthorpe Lane. **Minor** impacts on the setting of these features from the proposed cutting and embankment are to be anticipated. These would be greatest for those sections east of the M1, which would already have had a **significant** impact on setting.

- 3.2.23. Henge on Birkwood Common. No detailed information is readily available for the asset, but it is known to survive as a low earthwork. Its current landscape setting is poor. Impacts on its setting are likely to be **minor**. English Heritage advised that there is some doubt over the authenticity of the asset as a Neolithic henge.
- 3.2.24. Newland Preceptory. The proposed route passes the site of Newland Preceptory on above ground structures. Above ground earthworks are known to remain; some impacts on setting may be generated, but these are unlikely to be highly significant due to the presence of existing tree cover. **Minor** impact.
- 3.2.25. In addition to the above assets, the proposed route is located to the southeast of Towton Registered Battlefield. The importance of the battlefield dictated that the potential impact of the proposed route be assessed despite its location some way beyond the 1km buffer zone.
- 3.2.26. The battlefield occupies a relatively high point and commands views over a wide area, whilst at the same time the core of the site is surprisingly cut off from the surrounding land. The historic landscape has clearly changed since the 15th century, although context is provided by the villages of medieval origin (e.g. Saxton and Towton) and probably the road network. The open field system known to exist at the time of the battle has long gone, but the large modern fields that have probably recently replaced smaller post-medieval enclosures give some sense of the contemporary landscape. A new interpretation trail has been set up (2011) and currently concentrates on the centre and northern part of the designated area. Lord Dacre's Cross (possibly relocated from an unfinished chapel at Towton) on the B1217 within the battlefield is of 15th century date and commemorates those who died. It still attracts flowers in commemoration. Battlefields form a rare (only 43) and highly significant part of the historic landscape, recognising turning points in history, the making and breaking of reputations and the deaths of thousands of people. As such they are emotionally charged and attract a degree of interest and study beyond many other heritage assets. The boundary to the designated area is, to an extent, arbitrary and may exclude important locations, such as the action at Dintingdale to the southeast. From the south, a high point within the battlefield (a trig point) is accessible by footpath. This gives good views into the centre of the designated area as well as to the south and southeast.
- 3.2.27. At its closest point, approximately 1.6km to the southeast of the Registered Battlefield, the proposed route runs on low embankment, with short stretches of viaduct over floodplains. The appraisal concluded that the route was sufficiently far away for there to be **no or negligible** impact on the setting of the Battlefield or an appreciation and understanding of it.

HSL21 – Cold Hiendley to Woodlesford

- 3.2.28. Two Scheduled Monuments would be within 350m of the proposed route. Indirect impacts on setting may be present at:
- 3.2.29. Newland Preceptory, which is 125m away. The proposed route passes the site of Newland Preceptory on above ground structures. Above ground earthworks survive; some impacts on setting may be generated, but these are unlikely to be highly intrusive due to the presence of existing tree cover. **Minor impact.**

3.2.30. Henge on Birkwood Common, which is 130m away. No detailed information is readily available for the asset, but it survives as a low earthwork. Its current landscape setting is poor. Impacts on setting are unlikely to be highly significant. **Minor impact.** English Heritage advised that there is some doubt over the authenticity of the asset as a Neolithic henge.

4. CONCLUSIONS

- 4.1.1. The design of the proposed route has taken account of the rich and varied historic assets to be found in the landscape and urban areas across which it runs and has taken every effort to avoid impacts on designated archaeological assets as well their settings. That only one direct impact is registered on a Scheduled Monument is ample evidence of this. Impact on setting is less tangible and far more subjective, but likewise the list of potential impacts is not long in relative terms. Notwithstanding this, much work remains to be done with regard to identifying, characterising and assessing the impact on non-designated assets, whether of national importance or not, and designing and implementing appropriate mitigation to ensure that impacts are avoided or reduced wherever possible.
- 4.1.2. Given the lack of impacts identified, it is not clear that overall there are any cumulative impacts, although this is likely to change once non-designated assets are factored in. Two stand out areas do emerge, however: that part of proposed route (HSL13) that passes Hardwick Old Hall, Stainsby Manor, Scarsdale Hall and Bolsover Castle and the proposed route (HSL17) as it passes to the southeast of Towton Battlefield. With regard to the former, it is probably justified to identify a moderate cumulative impact on the settings of these assets, which is most acute as the proposed route passes Hardwick and Stainsby. The issue is more nebulous at Towton and to some extent rests on whether the extent of the designated area is redefined: i.e. extended.