



# High Speed Rail (West Midlands - Crewe)

## Environmental Statement

### Volume 5: Technical appendices

Working Draft Environmental Impact Assessment Report:  
Consultation Summary Report (CT-008-000)



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Consultation Summary Report (CT-008-000)



## Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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A report prepared for High Speed Two (HS2) Limited:

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# 1 Working Draft Environmental Impact Assessment Report: Consultation Summary Report

## 1.1 Introduction to HS2

- 1.1.1 High Speed Two (HS2) is a new high speed railway proposed by the Government to connect major cities in Britain. Stations in London, Birmingham, Leeds, Manchester and the East Midlands will be served by high speed trains running at speeds of up to 225mph (360kph). Trains will also run beyond the HS2 network to serve destinations including South Yorkshire, Liverpool, Glasgow, Edinburgh, Newcastle and York.
- 1.1.2 HS2 will be built in phases. Phase One comprises the first section of the HS2 rail network of approximately 143 miles (230km) between London and the West Midlands that will become operational in 2026. It was the subject of an Environmental Statement (ES) deposited with the High Speed Rail (London – West Midlands) Bill in 2013. Subsequent ES were deposited with Additional Provisions to that Bill in 2014 and 2015. The High Speed Rail (London – West Midlands) Bill received Royal Assent in February 2017 and initial works have commenced.
- 1.1.3 Phase Two of HS2 would extend the line to the north-west and north-east, to Manchester with connections to the West Coast Main Line (WCML) at Crewe and Golborne, and to Leeds with a connection to the East Coast Main Line approaching York, completing what is known as the ‘Y network’.
- 1.1.4 Phase 2a (‘the Proposed Scheme’), is the western section of Phase Two between the West Midlands and Crewe, comprising approximately 36 miles (58 kilometres) of HS2 main line (including the section which would connect with and form the first part of Phase 2b) and two spurs (approximately 4 miles, 6 kilometres) south of Crewe that will allow trains to transfer between the HS2 main line and the West Coast Main Line (WCML). It will connect with Phase One at Fradley, to the north-east of Lichfield, and connect to the WCML south of Crewe, enabling high speed trains to call at Crewe Station, and to provide onward services beyond the HS2 network, to the north-west of England and to Scotland.
- 1.1.5 The delivery of this section of the route has been brought forward by six years to open in 2027, one year after the opening of Phase One, as set out in the Command Paper *High Speed Two: East and West, The next steps to Crewe and beyond (November 2015)*<sup>1</sup>. This will deliver faster journeys between London and Crewe, Manchester, Liverpool, Preston, Warrington, Wigan and Glasgow. Accelerating delivery of the route to Crewe means that the North West and Scotland will see more of the benefits of HS2, including economic benefits, sooner.

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<sup>1</sup> HS2 Ltd (2015), *High Speed Two: East and West, The next steps to Crewe and beyond, November 2015*. Available online at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/480712/hs2-east-and-west.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/480712/hs2-east-and-west.pdf)

## **1.2 The working draft EIA Report**

- 1.2.1 HS2 Ltd has developed plans to bring forward Phase 2a, a short section of the HS2 Phase Two route. As part of its activities to keep local people and relevant authorities informed about the scheme HS2 Ltd undertook a consultation on the working draft Environmental Impact Assessment (EIA) Report with the aim of better understanding local views about the emerging plans and potential impacts that could arise and informing the design and assessment of the Proposed Scheme.
- 1.2.2 To assist the public and stakeholders, the Phase 2a route is divided into five community areas (CA) and the working draft EIA Report set out information on each of the CA. The working draft EIA Report also included an introduction and methodology for the undertaking of the EIA, and a route-wide presentation of potential significant effects likely to occur at a geographical scale greater than the CA.
- 1.2.3 The working draft EIA Report comprised the following:
- Non-technical summary (NTS) of the working draft EIA Report;
  - Volume 1: Introduction and methodology;
  - Volume 2: Community area reports;
  - Volume 3: Route-wide effects;
  - Alternatives Report; and
  - draft Code of Construction Practice (CoCP).
- 1.2.4 In parallel HS2 Ltd also carried out a consultation on a working draft Equality Impact Assessment Report (EQIA). The Department for Transport (DfT) also conducted a consultation on some route design refinements.
- 1.2.5 The three separate consultations are collectively referred to as the 'Autumn 2016 Consultation', undertaken between 13 September and 7 November 2016. Further details of the Autumn 2016 Consultation is provided in Section 2 of this report.

## **1.3 The purpose of this report**

- 1.3.1 The purpose of this report is to summarise the key issues raised during consultation on the working draft EIA Report, explaining how these have been considered through the development and EIA of the Proposed Scheme. This report does not consider feedback from ongoing engagement with stakeholder outside of the consultation on the working draft EIA Report.
- 1.3.2 Relevant information from consultation responses received on the design refinements and the working draft EQIA Report have also been considered in this report. Comments submitted in response to the working draft EIA Report which were considered relevant to the EQIA Report, have been summarised in the separate working draft EQIA CSR.
- 1.3.3 Issues summarised in the CSR are not an exhaustive list. They reflect the key locations, issues and themes which were identified by consultees to the Autumn 2016 Consultation, in relation to the Proposed Scheme and EIA.

- 1.3.4 Throughout this report, references are made to other reports where the reader can obtain more detailed information on specific issues identified during consultation and summarised in this CSR. These reports are available on the HS2 Ltd website at [www.gov.uk/hs2](http://www.gov.uk/hs2) and in non-electronic formats.
- 1.3.5 HS2 Ltd employed an independent specialist response analysis company, Dialogue by Design (DbyD), to receive and collate the responses to the Autumn 2016 Consultation. DbyD's summary of consultation responses to the working draft EIA report is available on the HS2 Ltd website at [www.gov.uk/hs2](http://www.gov.uk/hs2).

## **1.4 Structure and content of this report**

- 1.4.1 This report is structured to provide the reader with an understanding of the Autumn Consultation process and the issues raised by consultees in relation to each of the reports consulted upon, as set out in Section 1.2.
- 1.4.2 The structure of this report is as follows:
- Section 2. The Autumn 2016 Consultation and response processing: this section provides an overview of the consultation undertaken to support the development of the Proposed Scheme and processing of consultation responses. This section also addresses responses beyond the scope of the EIA;
  - Section 3. Consultation issues relating to the NTS: this section summarises the key consultation issues raised in regard to the NTS of the working draft EIA Report;
  - Section 4. Consultation issues relating to Volume 1 and the Alternatives Report: this section summarises the key consultation issues raised in regard to Volume 1 and Alternatives Report of the working draft EIA Report;
  - Section 5. Consultation issues relating to Volume 3: this section summarises the key route-wide consultation issues, including those raised in regard to Volume 3 of the working draft EIA Report;
  - Section 6: Introduction to Sections 7-11, setting out the structure and content of the summary of issues raised in regard to the Volume 2 reports for each of the five CA;
  - Section 7. Consultation issues relating to the Fradley to Colton area (CA1);
  - Section 8. Consultation issues relating to the Colwich to Yarlet area (CA2);
  - Section 9. Consultation issues relating to the Stone and Swynnerton area (CA3);
  - Section 10. Consultation issues relating to the Whitmore Heath to Madeley area (CA4);
  - Section 11. Consultation issues relating to the South Cheshire area (CA5);
  - Section 12. Consultation issues relating to the draft CoCP and its implementation; and
  - Section 13. Concluding comments: this section provides concluding commentary on the role of consultation responses in informing ongoing stakeholder engagement and communications.

## 2 The Autumn 2016 Consultation and response processing

### 2.1 Introduction

2.1.1 This section provides a summary of the Autumn 2016 Consultation on the working draft EIA Report. It provides an overview of the reports being consulted upon as part of the working draft EIA Report and the time, scope and process by which consultees were invited to comment.

### 2.2 Autumn 2016 Consultation

2.2.1 Three reports were formally consulted upon during the Autumn 2016 Consultation:

- High Speed Two Phase 2a: West Midlands to Crewe working draft Environmental Impact Assessment (EIA) Report;
- High Speed Two Phase 2a: West Midlands to Crewe Design Refinement Consultation Report; and
- High Speed Two Phase 2a: West Midlands to Crewe working draft Equality Impact Assessment (EQIA) Report.

2.2.2 The reports were made available online on the HS2 website, [www.gov.uk/hs2](http://www.gov.uk/hs2).

2.2.3 Hard copies were available upon request to the HS2 Ltd helpdesk and document sets were made available at libraries along the HS2 Phase 2a route.

2.2.4 The focus of this report is the consultation undertaken on the working draft EIA Report.

### 2.3 Engagement to support Autumn 2016 Consultation

#### Programme of engagement

2.3.1 To support the Autumn 2016 Consultation, engagement was undertaken in advance of and during the course of, the formal consultation period. A summary of this activity is provided below. Further detail on Phase 2a stakeholder engagement, and its role in informing the development of the Proposed Scheme, is set out in Volume 1 and Volume 2 of the ES.

2.3.2 Letters were sent by email to a range of stakeholders including: local authorities, business and representative bodies, non-governmental organisations, statutory agencies, parish councils and other community organisations. Prior to the launch, reports and publicity posters for the consultation events were sent to public libraries and parish councils with a request that they be made available/displayed at community locations. Posters were also sent to other community venues, such as Citizen Advice Bureaux and medical surgeries, amongst other amenities.

2.3.3 A letter and a leaflet promoting the consultation events was sent to residents and other occupiers living up to 1km either side of the proposed line of route and in areas of the design changes proposed in the Design Refinement Consultation, as well as to key local stakeholders.

- 2.3.4 Notices informing the public of the consultation events were placed in a number of local newspapers along the HS2 Phase 2a route. Advertising for the events by mail extended beyond the 1km area either side of the line of route/design refinement areas. This was to ensure those living further away from the line of route or design refinement areas, who might have an interest in the Proposed Scheme, were aware that the consultation was taking place. A press release was issued to local media to promote the consultation and associated events. Social media was also used to promote the consultation events.
- 2.3.5 Briefings were offered to local authority elected members. These took place between 20 and 28 September 2016. HS2 Ltd also engaged with parish councils during the consultation period.
- 2.3.6 The consultation materials provided details about the HS2 Ltd consultation website and where further information about the consultations could be found.

### Consultation events

- 2.3.7 During the Autumn 2016 Consultation, events were held to provide direct engagement with stakeholders along the route; these events are detailed in Table 1.

Table 1: Autumn 2016 Consultation events

Venue	Date
Whitmore and District Village Hall Coneygreave Lane, Newcastle-under-Lyme ST5 5HX	Friday 30 September 2016
Kings Bromley Village Hall Alrewas Road Kings Bromley, Burton-on-Trent DE13 7HW	Wednesday 5 October 2016
Great Haywood Memorial Hall Main Road Great Haywood, Stafford ST18 0SU	Friday 7 October 2016
Stafford Gatehouse Theatre Eastgate Street, Stafford ST16 2LT	Monday 10 October 2016
Yarnfield Park Training and Conference Centre The Cedar Suite, Yarnfield, Stone ST15 0NL	Wednesday 12 October 2016
The Madeley Centre New Road, Madeley, Crewe CW3 9DE	Saturday 15 October 2016
Wychwood Park The Wychwood Centre, Weston, Crewe CW2 5GP	Wednesday 19 October 2016

- 2.3.8 At each event, maps and relevant reports were available to inspect and take away. These included copies of the reports being consulted upon, as described in Section 1.2. HS2 Ltd staff and consultants attended to provide advice and answer questions.
- 2.3.9 The events were attended by just over 1,900 people in total.

- 2.3.10 Attendees at the consultation events were requested to provide written feedback via the official consultation response channels once they had had the opportunity to review the available reports.

## 2.4 Responding to consultation

- 2.4.1 DbyD was commissioned to receive, collate and summarise responses to the consultation, through online, email and postal platforms.
- 2.4.2 A separate response form was available for each of the three consultations, namely: the working draft EIA Report, working draft EQIA Report and the Design Refinement Report. Stakeholders were invited to submit their comments against the questions asked within the respective response forms.
- 2.4.3 Stakeholders were invited to submit their comments, online, by email and by post through the following mechanisms facilitated by DbyD:
- DraftEnvironment2a.dialoguebydesign.net;
  - [DraftEnvironmental2a@dialoguebydesign.co.uk](mailto:DraftEnvironmental2a@dialoguebydesign.co.uk); and
  - FREEPOST DRAFT ENVIRONMENTAL2A.
- 2.4.4 Responses submitted within the formal period of consultation were eligible for consideration as part of the consultation response analysis. Responses postmarked before the end of consultation, but not received until after consultation was closed, were also considered.

## 2.5 Analysing consultation responses

### Consultation response numbers

- 2.5.1 The Autumn 2016 Consultation generated 1,139 responses, comprising:
- 475 responses on the working draft EIA Report;
  - 572 responses on the Design Refinement Consultation; and
  - 92 responses on the working draft EQIA Report.
- 2.5.2 Consultees were able to submit responses to each of the three consultations. Duplications of responses did occur and were identified and managed during the collation and review process undertaken by DbyD.

### Review of the consultation responses

- 2.5.3 Review of consultation responses was undertaken by the HS2 Phase 2a project team. The purpose of this review was to consider how the issues raised during the consultation could inform the Proposed Scheme and EIA in a timely and appropriate manner.
- 2.5.4 To facilitate this review, a multi-disciplinary working group was established. This group included representation from project engineers, construction and logistics engineers, environmental specialists and stakeholder engagement advisers. Further reviews were conducted by the EIA topic teams to ensure that responses informed the EIA and that the findings were reported within the ES.

- 2.5.5 Reviews were undertaken through workshops, which commenced once consultation responses were available to review. The reviews analysed the responses and assessed whether further changes to the scheme design were appropriate in light of the issues raised.
- 2.5.6 Responses were analysed to identify the key report, theme or geographical location being commented on.
- 2.5.7 For the purpose of this review, responses were analysed with respect to their content and not necessarily the specific document or consultation question to which the response was provided.
- 2.5.8 This report sets out a brief summary of the issues raised by consultees and how the scheme design and EIA has been informed by these issues, where relevant.
- 2.5.9 At the beginning of the relevant sections in the remainder of this report, an indicative list of consultees who provided responses on a particular issue or topic is set out. No names or contact details of individuals are, however, provided within this report. Such consultees are referred to as 'individual consultees'.

## **2.6 Responses relating to general engagement and consultation processes**

### **Consultation issues**

- 2.6.1 The analysis of consultation responses identified a number of issues which were not related to the content of the working draft EIA Report but focused on the process of engaging and consulting stakeholders undertaken by HS2 Ltd.
- 2.6.2 Issues raised by consultees included the approach adopted to planning engagement and consultation activity, such as the use of online consultation, choice of venues for consultation events and duration of the consultation period.
- 2.6.3 Commentary received on these issues has been passed to the HS2 Ltd Stakeholder Engagement and Consultation team and will be considered in light of ongoing and future engagement and consultation activity.
- 2.6.4 Consultees also sought information on future engagement and consultation including the hybrid Bill process and what will happen after the hybrid Bill has been deposited.
- 2.6.5 Engagement remains ongoing with stakeholders across the route of the Proposed Scheme, including individual stakeholders, local authorities, parish councils, key expert, technical and specialist organisations and interest groups, among others.
- 2.6.6 Following submission of the hybrid Bill, Parliament is undertaking consultation on the ES, providing all stakeholders with the further opportunity to comment on the Proposed Scheme.
- 2.6.7 There will also be a Select Committee process during which people and organisations whose interests and property are specially and directly affected will have the opportunity to submit petitions to Parliament for consideration by the Select Committee. Further details on this process are set out in Volume 1 of the ES and in the

HS2 Ltd Information Papers B9: Introduction to hybrid Bill Powers and B10: Locus Standi / Right to petition<sup>2</sup>.

## **2.7 Requests for further information**

2.7.1 The review process also identified requests from consultees for further information in relation to issues such as individual household eligibility for compensation.

2.7.2 These issues are noted to be of importance but do not generally fall within the remit of the EIA and this report. Where appropriate, these issues have been communicated to the relevant teams within HS2 Ltd and the DfT with responsibility for such matters and are not, therefore, responded to within this report.

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<sup>2</sup> All HS2 Ltd Information Papers are available online at: [www.gov.uk/hs2](http://www.gov.uk/hs2)

## **3 Consultation issues relating to the NTS**

### **3.1 Introduction**

- 3.1.1 This section provides a summary of consultee comments received on the NTS of the working draft EIA Report.
- 3.1.2 The NTS of the working draft EIA Report provides a summary of the Proposed Scheme and reasonable alternatives considered, the environmental impacts of the Proposed Scheme, including where possible, the likely significant environmental effects, both beneficial and adverse and any proposed means of avoiding, reducing or managing the likely significant adverse effects.
- 3.1.3 This summary draws upon relevant responses submitted across all sections of the working draft EIA response form, and not just those ascribed to the section of the form inviting commentary on the working draft EIA NTS. Issues submitted under the response form section pertaining to the NTS, which were of relevance to the wider working draft EIA Report, have been addressed through the sections to which they relate.

### **3.2 Consultation themes**

- 3.2.1 Recognising that the NTS is a summary document, the analysis of consultee responses reported in this section focuses on those issues of direct relevance to the NTS of the working draft EIA Report and not the other volumes that make up the working draft EIA Report, which were summarised in the NTS.
- 3.2.2 Analysis of consultee comments identified three key themes or sets of issues in relation to the NTS of the working draft EIA Report, namely the:
- presentation of information;
  - level of detail of the information provided; and
  - technical content of the NTS.
- 3.2.3 The remainder of this section describes how consultation feedback has been considered and used to inform the NTS of the ES.

### **3.3 Presentation of information**

#### **Consultation issues**

- 3.3.1 Issues raised by consultees in relation to the presentation of information in the NTS of the working draft EIA Report included: the language used, data presentation and specifically the use of imagery and the length and structure of the document.
- 3.3.2 For some consultees, the tone, language and presentation of information in the NTS was appropriate and well received. For others, the NTS was perceived as challenging to understand and the use of technical language was identified as detracting from their comprehension of what was being presented.
- 3.3.3 The use of further visual illustrations or graphics in the NTS was requested, to provide enhanced context and understanding of the scheme.

- 3.3.4 While some stakeholders regarded the length of the working draft NTS as suitable and appropriate, others perceived it as either too short or too long.

#### **Response to consultation issues**

- 3.3.5 The approach adopted in the production of the NTS follows established practice. The length of the NTS is dictated by the scope and complexity of the content of the ES. A balance is always sought between seeking to keep the document concise, while also providing adequate information to enable a reader to understand the project and its assessment, without reverting to the wider ES documentation.
- 3.3.6 During the production of the ES and its NTS, an ongoing review was undertaken of where it was possible to incorporate the use of graphics and visual imagery. The NTS and ES have incorporated further graphics and illustrations in order to assist understanding. The maps have also been reviewed and labelling revised to reflect information provided in consultation responses. Recognising that the NTS is a summary document, the more detailed maps are more appropriately presented in the Volume 2 and Volume 5 map books.

### **3.4 Level of detail in the NTS**

#### **Consultation issues**

- 3.4.1 Issues were raised by consultees about the extent of baseline information provided in the NTS of the working draft EIA Report. Some consultees commented there was not enough baseline data included in the NTS while others commented there was too much. While identified in relation to the NTS, these issues have also been considered more broadly in relation to the wider ES.
- 3.4.2 It was also noted by some consultees that survey work was not yet completed that was required to inform the assessment of localised conditions and predicted impacts.

#### **Response to consultation issues**

- 3.4.3 As acknowledged in the working draft EIA Report and its NTS, at that time the collation of baseline information, including surveys, was still in progress.
- 3.4.4 Engagement with organisations, including statutory agencies and the local authorities, has also continued to provide further baseline data. The assessment has been undertaken using the updated baseline information and findings from surveys. The updated baseline and assessment is reported in the ES, and a summary of the residual significant effects is presented in the NTS.

### **3.5 Technical content of the NTS**

#### **Consultation issues**

- 3.5.1 Consultees provided comments on the technical information referenced in the NTS of the working draft EIA Report, including scheme design, EIA scope and methodology approach and the detailed technical assessment and findings.
- 3.5.2 Consultees requested further information on the assessment of impacts to be included in the NTS. A particular focus of commentary was the scale or magnitude of impacts identified by the EIA and summarised in the NTS, i.e. the assessment of

significance set out by EIA topics. Consultees provided commentary on locations within and across the five CAs.

- 3.5.3 It was also noted by consultees that they had only limited understanding of some of the information or documents referred to in the NTS of the working draft EIA Report, in particular the Environmental Minimum Requirements (EMR) and the draft CoCP.

### **Response to consultation issues**

- 3.5.4 Much of the commentary provided by consultees was not specific to the NTS and it has, therefore, been considered in respect to the component of the EIA to which it relates.
- 3.5.5 The criteria by which the assessment has been undertaken in regard to significance, scale and magnitude of impacts, is presented in the EIA Scope and Methodology Report (SMR) and Addendum<sup>3</sup>, which accompanies the ES.
- 3.5.6 The EIA of the Proposed Scheme has been undertaken in accordance with the EIA SMR and Addendum and the assessment findings are reported in the ES. A summary of the residual significant effects for each CA is reported in the NTS.
- 3.5.7 The NTS explains the role of the draft CoCP and EMRs. Further information on these, and other documents referred to in the NTS, is presented in Volume 1 of the ES.

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<sup>3</sup> Hs2 Ltd (2017), Environmental Statement, *Environmental Impact Assessment Scope and Methodology Report (EIA SMR) and Addendum*, Volume 5: Appendix CT-001-001 and Appendix CT-001-002.

## 4 Consultation issues relating to Volume 1 of the working draft EIA Report

### 4.1 Introduction

4.1.1 This section provides a summary of consultee comments about Volume 1 and the Alternatives Report of the working draft EIA Report. The issues are presented in accordance with the structure of the working draft Volume 1 and Alternatives Reports.

### 4.2 Consultation themes

4.2.1 Consultation responses submitted on the Volume 1 and Alternatives Report were analysed to identify key themes raised by consultees, including:

- details of the scheme and permanent features presented in the working draft EIA Report;
- construction techniques;
- scope and methodology for the environmental topics;
- approach to mitigation; and
- strategic, route-wide and route corridor alternatives considered prior to November 2015.

4.2.2 This section addresses each of these key themes, summarising how these have been considered and used to inform the Proposed Scheme and EIA.

### 4.3 Permanent features of the Proposed Scheme

#### Consultation issues

4.3.1 Consultees raised issues in regard to a range of permanent features of the Proposed Scheme, with the key groups of issues raised set out below. This includes responses received from the Design Refinement consultation in addition to those received in relation to the working draft EIA Report.

#### *Description of scheme features*

4.3.2 Consultees raised issues with regard to descriptions of scheme features. Comments identified a range of suggested changes to the titles or descriptions of scheme features and the social, geographical or historic environment within which the scheme is located.

#### *Construction compounds*

4.3.3 Consultees provided detailed comments relating to the location of construction compounds. The comments raised issues relating to the proximity of proposed construction compounds to residential properties and schools, amongst other amenities. Issues were also raised concerning the construction traffic accessing these compounds.

### *Embankments*

- 4.3.4 Consultees raised issues in regard to the design of embankments described in the working draft EIA Report, including the Pipe Ridware, Trent South, Trent North, Marston South, Meaford North, Swynnerton, Stableford North, Meece, Lea South, Lea North and Chorlton embankments. The issues raised mainly related to the height of embankments, particularly where a viaduct is connected; the design of the landscaping associated with embankments and the land required for embankments and any associated landscaping.

### *Viaducts*

- 4.3.5 Consultees raised issues in regard to the design of viaducts described in the working draft EIA Report, including the River Trent, Great Haywood, Meece Brook, River Lea and Chorlton viaducts. Key issues included the height of the viaducts and associated noise and visual impacts on surrounding communities. Some consultees expressed concern about the potential impacts of certain viaducts on flood plains and drainage.

### *Tunnels and cuttings*

- 4.3.6 Consultees raised issues with regard to the tunnels and cuttings described within the working draft EIA Report including:
- Hopton: a preference was stated for a green tunnel at this location in place of a cutting;
  - Whitmore Heath tunnel: the suitability of the ground conditions at Whitmore Heath for tunnelling was questioned. Issues were also raised around the construction and length of the tunnel;
  - Madeley tunnel: a preference for the extension of the tunnel; and
  - Crewe tunnel extension: both support and dissent were expressed with regard to the location of the southern tunnel portal which forms the boundary with HS2 Phase 2b.

### *Overbridges*

- 4.3.7 Consultees raised issues with regard to the design and location of overbridges. These issues related to requests for accommodation or green overbridges either to be provided or relocated, the impact of construction of overbridges on the wider local road network and its use, and the visual impact of the height of overbridges.

### **Responding to consultation issues**

- 4.3.8 The majority of comments received in respect of features of the scheme design presented in the working draft EIA Report, focused on components of the scheme design in specific locations. Summaries of these responses and how they have been used to inform the Proposed Scheme are set out in the CA sections of this report (Sections 7 to 11). Responses to more general comments are set out below.

### *Descriptions of scheme features*

- 4.3.9 Consultee comments have been considered and used to inform the updates to mapping and description of key features presented in the ES. Examples of this include

changes to the names of cuttings or brooks, identification of housing settlements, and the identification of historic and community features.

### *Construction compounds*

- 4.3.10 Detailed consideration has been given to the location of construction compounds. This has involved consideration of assessment criteria used to identify optimum locations across the line of route, taking into account community considerations. Volume 1 of the ES provides a description of the type of construction compounds included in the Proposed Scheme and what these will entail.
- 4.3.11 Details of the locations and activities based at construction compounds in the Proposed Scheme are set out in the Volume 2 reports. Details of how construction compounds and the construction traffic accessing these compounds will be managed, is set out in Section 12 of this report.
- 4.3.12 Some further information is provided in the HS2 Ltd Information Paper: D2 Selection of location of construction compounds.

### *Embankments, viaducts, tunnels and overbridges*

- 4.3.13 The issues raised with regard to specific locations of these features have been addressed in the CA sections of this report (Sections 7 to 11).
- 4.3.14 Volume 1 of the ES provides a general description of each of these features in the Proposed Scheme, with more details of their locations set out in the Volume 2 reports.
- 4.3.15 The design and details relating to construction of all structures along the route has progressed significantly since the scheme presented in the working draft EIA Report. As a result of consultation and stakeholder engagement, some overbridges have been relocated or added to the design to improve access for a variety of stakeholders across the route.
- 4.3.16 The approach of scheme design is set out in HS2 Ltd Phase 2a Information Papers D1: Design, E1: Control of Environmental Impacts, E13: Control of Construction Noise and Vibration and F2: Phase 2a Tunnels.

## **4.4 EIA scope and methodology, assessment of impacts, mitigation and monitoring**

### **Consultation themes**

- 4.4.1 Consultees raised issues around the EIA scope and methodology, as well as the proposed mitigation and monitoring for the scheme presented in the working draft EIA Report. The key themes identified include:
- specific technical scope and methodology issues;
  - requests for additional survey work;
  - the approach to the assessment of impacts, and specifically the assessment of impacts on farm holdings and agricultural businesses;
  - issues with regard to mitigation and specifically the mitigation hierarchy; and
  - requests for further information on monitoring.

## Technical methodologies and scope issues

### *Consultation issues*

- 4.4.2 Consultees raised issues with regard to the scope and methodology of EIA technical assessments. Comments have been considered by the environmental technical teams and any changes set out in the SMR Addendum.

## Assessment findings

### *Consultation issues*

- 4.4.3 Consultees raised issues in regard to the assessment findings set out in the working draft EIA Report, across disciplines. Comments challenged the determination of the significance of impact set out in the working draft for key features including heritage assets, designated and non-designated sites of ecological importance, community impacts and impacts on individual farms.

### *Response to consultation issues*

- 4.4.4 Technical assessments have been carried out in accordance with the scope and methodology set out in the EIA SMR. The draft SMR was consulted upon from March to May 2016 and amended to form the SMR. The SMR has subsequently been updated, where necessary, with the SMR Addendum.
- 4.4.5 The assessment has taken into consideration consultation responses where these identified further relevant baseline information or information relevant to the assessment. The ES reports the significant effects predicted by the assessment, reflecting the evolved scheme design and additional mitigation embedded within it.

## Mitigation

### *Consultation issues*

- 4.4.6 The approach to mitigation has been raised as an issue by some consultees in particular the level and scope for environmental mitigation embedded into the Proposed Scheme. Consultees stressed the importance of adherence to the mitigation hierarchy, specifically with respect to preventing effects. It was also suggested that mitigation should be put in place before impacts to ecological assets occurred.
- 4.4.7 Comments were received on specific environmental assets, such as ancient woodland, with consultees reiterating the importance of avoiding loss where possible, making sure compensation planting is connected and the provision of an Ancient Woodland Strategy as was developed for HS2 Phase One.
- 4.4.8 Consultees requested that mitigation measures be designed into the Proposed Scheme to reduce potential impacts on agricultural land, particularly in regard to land required for temporary purposes during construction and that such land should be restored to the same agricultural land classification. Consultees made suggestions on how drainage should be maintained and brought back into working order after construction of the Proposed Scheme.
- 4.4.9 Consultees listed proposals for detailed mitigation at specific locations and with respect to particular features of the Proposed Scheme or by way of reducing impacts to households and communities across the route. Where appropriate, these are

discussed within the respective locations they refer to, and are set out in Sections 7-11 of this report.

### *Response to consultation issues*

- 4.4.10 The EIA Regulations<sup>4</sup> require an ES to include 'a description of any features of the proposed development, or measures proposed in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment'. Such measures are described generally as mitigation measures. Priority has been given to avoiding or preventing adverse effects. Where this is not achievable, measures to reduce effects have been taken. If despite these efforts, significant adverse effects are predicted to occur, HS2 Ltd seeks to propose restoration and compensation measures.
- 4.4.11 Details on the approach in the Proposed Scheme to the mitigation of specific community and environmental assets are considered in Section 5 of this report and set out in Volumes 1 and 2 of the ES.
- 4.4.12 An HS2 Phase 2a Ancient Woodland Strategy will be prepared. Further detail on the approach to ecological mitigation is set out in the Ecological Principles of Mitigation<sup>5</sup> and in the HS2 Ltd Phase 2a Information Paper E2: Ecology.

## **Monitoring**

### *Consultation issues*

- 4.4.13 Consultees sought clarification on what monitoring would be undertaken to ensure the implementation and effectiveness of the mitigation measures presented in the working draft EIA Report and those which would be presented in the ES.

### *Response to consultation issues*

- 4.4.14 The EIA Regulations require consideration to be given to monitoring of significant effects on the environment. Monitoring which will be undertaken of the Proposed Scheme during and after construction, is reported in general within Volume 1 of the ES and in further detail within Volume 2 of the ES.

## **4.5 Alternatives**

- 4.5.1 The purpose of the Alternatives Report, as part of the working draft EIA Report, was to provide stakeholders with an overview of the alternatives which had been considered in the development of the scheme presented in the working draft EIA Report. The Alternatives Report of the working draft EIA Report outlined a number of design options including: strategic, route-wide, route corridor and local alternatives.

### *Consultation issues*

- 4.5.2 Comments were raised by consultees in response to the options described in the Alternatives Report of the working draft EIA Report under each of the above categories, including:

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<sup>4</sup> *The Town and Country Planning (Environmental Impact Assessment) Regulations 2017*. Available online at: [http://www.legislation.gov.uk/uksi/2017/571/pdfs/uksi\\_20170571\\_en.pdf](http://www.legislation.gov.uk/uksi/2017/571/pdfs/uksi_20170571_en.pdf)

<sup>5</sup> Included in the *EIA SMR Addendum*, Volume 5: CT-001-002.

- strategic alternatives issues: consultees raised issue in relation to the need for and cost (the 'business case') for high speed rail and specifically Phase 2a;
- route-wide alternatives: some consultees noted support for the Atkins 'High Cost Option' due to its perceived reduction of impacts on communities and the environment;
- route corridor options south of Crewe: some consultees stated that the route of Corridor C would have an ecological impact on the Pasturefields salt marsh at the southern edge of Lionlodge Covert and it was suggested that, with slower speeds, the track could be re-aligned to the north of Pasturefields;
- route corridor alternative alignment to Crewe: some consultees commented that the Stoke-on-Trent City Council (STCC) option should be considered as an alternative Phase 2a alignment in order that Stoke on Trent might benefit economically from the Proposed Scheme; and
- a range of issues around local alternatives, which are considered within the respective CA sections (Section 7 to 11).

### *Response to consultation issues*

- 4.5.3 The assessment of alternatives is set out in the Alternatives Report in Volume 5 of the ES, where detailed information is presented on strategic, route-wide, route corridor and local alternatives. A brief summary of these responses to consultees is provided below.
- 4.5.4 Strategic alternatives: the Government set out its rationale for pursuing a high speed rail network and the case is accepted in the High Speed Rail (London - West Midlands) Act 2017. Detailed information on the business case is available in the DfT and HS2 Ltd report: HS2 Phase 2a Outline Business Case and further information on the Phase 2a scheme is presented in the HS2 Ltd Information Paper A2: Strategic case for Phase 2a.
- 4.5.5 Route-wide alternatives: the working draft EIA Report summarised the assessment of the 'high cost option' which had previously determined that it would not achieve the same wider economic benefits, capacity and performance and resilience benefits as the Proposed Scheme. It was concluded that the high cost option would not meet the strategic objectives of HS2 Ltd and no further assessment has been undertaken. None of the consultee responses on the strategic or route-wide alternatives presented new information that alters the conclusions about these alternatives.
- 4.5.6 Route corridor options south of Crewe: potential routes to the north of Pasturefields Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) were further considered but rejected, amongst other reasons, to avoid impacts to Pasturefields SAC and the high risk associated with ensuring compliance with the Habitats Regulations. HS2 Ltd, the Environment Agency and Natural England are in agreement with the approach taken.
- 4.5.7 Route corridor alternative alignment to Crewe: modelling of the STCC option showed that the Proposed Scheme offered benefits in respect of improved regional connectivity, journey time savings, requiring fewer property demolitions and less impact on cultural heritage, designated biodiversity sites, watercourses and landfills.

None of the consultee responses on the route corridor options presented new information that alters the conclusions about these alternatives. Where site specific information was provided, this was taken into account in developing and assessing the Proposed Scheme.

- 4.5.8 Local alternatives: these alternatives were further considered in light of consultation responses and are addressed in the relevant CA sections of this report, Sections 7 to 11.

## 5 Consultation issues relating to Volume 3 and key route-wide issues

### 5.1 Introduction

- 5.1.1 This section provides a summary of the key route-wide issues raised by consultees, including issues raised in relation to Volume 3 of the working draft EIA Report.
- 5.1.2 As with other sections, this summary also draws upon relevant responses submitted for all sections of the working draft EIA Report response form, and not solely those ascribed to the section of the form inviting commentary on Volume 3 of the working draft EIA Report.
- 5.1.3 Analysis of consultee comments identified a number of consistent themes. Whilst some of the themes were specific to an EIA topic, others cut across topics.
- 5.1.4 This section is structured in accordance with the key themes, noting where these cut across EIA topics, as appropriate. The key themes or groups of issues which consultees raised include:
- presentation of information and content;
  - survey locations;
  - agricultural holdings;
  - air quality;
  - climate change;
  - communities;
  - cultural heritage;
  - ecology and biodiversity;
  - excavation of materials and stockpiles;
  - landscape and visual;
  - local businesses and employment;
  - local road network and Public Right of Way (PRoW);
  - property; and
  - sound, noise and vibration.
- 5.1.5 Many consultee comments in response to Volume 3 of the working draft EIA Report were location specific. These issues and how they have informed the Proposed Scheme and EIA have been summarised in the relevant CA sections of this report, Sections 7 to 11.

## 5.2 Presentation of information and content

### Consultation issues

- 5.2.1 Issues were raised regarding the labelling of data on the maps presented, including requests to amend or add labels and, in specific instances, to include additional localised baseline data within respective map books.
- 5.2.2 Some consultees referred to particular information or knowledge that they considered should inform the EIA. Local data was identified by consultees, including individual consultees, landowners, parish councils and technical stakeholders.

### Response to consultation issues

- 5.2.3 The issues raised about labelling of data and information in the respective maps has been reviewed by the Phase 2a project team. The map books for the ES have been updated, where appropriate, incorporating comments provided by consultees.
- 5.2.4 Where specific information was identified by consultees, this information has informed the baseline against which the assessment of impacts and reporting of effects has been undertaken.

## 5.3 Survey locations

### Consultation issues

- 5.3.1 Issues were raised by local authorities, technical and individual consultees on the location of survey work, how locations had been identified, and the perceived need for additional survey work to be undertaken in specific locations. The key themes identified from consultation responses included:
- requests for further survey work to be undertaken in respect of noise levels in a number of locations including specific residential properties and farm holdings;
  - identifying issues with previous traffic and transport counts and/or requesting additional counts to be undertaken; and
  - requests for additional landscape and visual survey work to be undertaken at key sites.

### Responding to consultation issues

- 5.3.2 Each EIA discipline has a prescribed methodology, set out in the SMR and SMR Addendum, which is applied to the identification of sites requiring survey work. These methodologies take into account baseline information and feedback from stakeholders on specific sites or issues.
- 5.3.3 Surveys have been undertaken, where there is an identified need or potential sensitivity of receptor, based on the information which is available and using professional judgement. The assessments have made informed judgements on the basis of geographical area and general location, providing a robust assessment of predicted impacts.
- 5.3.4 Since the working draft EIA, additional survey work has been undertaken, including at some of the sites identified by consultees. This includes additional traffic and

transport road counts and noise monitoring at specific sites. Further landscape and visual survey work has also been undertaken, including the production of photomontages, which were not undertaken at the working draft EIA Report stage.

- 5.3.5 Data gathered from these surveys has informed the assessment reported in the ES and mitigation incorporated into the Proposed Scheme, where appropriate.

## 5.4 Agricultural holdings

### Issues raised by consultees

- 5.4.1 Issues were raised by many farmers, tenants and their agents in relation to specific landholdings. The key issues include:

- need for engagement with farmers, growers and their representatives;
- issues specific to individual farmers and growers, and their property;
- the extent of agricultural land loss, and specifically loss of high grade land;
- impacts upon accessibility of holdings as a result of road diversions and construction traffic;
- suitable road accommodation for farm vehicles;
- the protection of livestock from construction and operational activity; and
- removal of hedgerows.

### Response to consultation issues

- 5.4.2 The key themes in the consultation responses of farmers and growers, and their agents, have been considered in this section. This report does not address the issues raised by individual consultees in respect of their particular personal or commercial circumstances. Where appropriate, however, the design and environmental issues raised by individual farmers have been incorporated into the summary of issues specific to locations within the CA sections, Sections 7 to 11.

- 5.4.3 HS2 Ltd has conducted site visits to individual farms, and held meetings with farmers and growers, and their representatives. A guide for farmers and growers affected by the Proposed Scheme<sup>6</sup> will be published following the deposit of the Bill and distributed to farmers and growers along the route of the Proposed Scheme. Engagement with farmers and growers, and their representatives, will continue to be undertaken by HS2 Ltd. The approach to agricultural and rural land property matters is set out in the HS2 Ltd Phase 2a Information Paper: C2 Rural landowners and occupiers guide.

- 5.4.4 The design of the Proposed Scheme has sought to reduce impacts to agricultural land and to avoid wherever possible, the best and most versatile (BMV) agricultural land. Wherever practicable, land required for construction will be made available for restoration to agricultural land use.

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<sup>6</sup> HS2 Ltd (2017), *Part 3 of the HS2 Phase 2a Guide for Farmers and Growers*. Available online at: [www.gov.uk/hs2](http://www.gov.uk/hs2)

- 5.4.5 Volume 2 and Volume 3 of the ES report residual significant effects on agricultural land and holdings, noting where these effects are related to either construction or operation of the Proposed Scheme, and whether these will be temporary or permanent in nature. Impacts on agricultural holdings will vary according to the size of the holding and the nature of its use and business. Work with farmers and landowners is being undertaken to assist in mitigating the effects of the Proposed Scheme on their businesses, where reasonably practicable.
- 5.4.6 With respect to accessibility, consultation comments were reviewed to understand where and how individual farmers access their holdings. A number of changes have been incorporated into the Proposed Scheme to provide continuity of access to holdings.
- 5.4.7 The design of overbridges follows established standards to provide access for farm vehicles and livestock. Further information on overbridges is provided in Volume 1 and Volume 2 of the ES.
- 5.4.8 During construction and operation of the Proposed Scheme, fences will be maintained to protect both livestock and walkers from straying into construction sites or activity.
- 5.4.9 Loss of hedgerows will be compensated through a range of measures, including translocation of important hedgerows, creation of new and reinstatement of current hedgerows and linear planting features, and tree and shrub planting for landscape purposes. This follows an integrated approach, responding to the landscape character and connecting existing features.

## 5.5 Air quality

### Consultation issues

- 5.5.1 Consultees raised a number of issues in relation to air quality, including impacts to air quality arising from construction activity, particularly in relation to health and wellbeing of residents and receptors located in proximity to construction activities.
- 5.5.2 Consultees who raised this concern included Public Health England; Staffordshire local authorities; Jeremy Lefroy MP; National Trust; Ingestre and Tixall Against HS2 Action Group; Swynnerton Parish Council; Yarlet School; and individual consultees.

### Response to consultation issues

- 5.5.3 The draft CoCP sets out a series of measures detailing how air quality will be managed and reported upon during construction of the Proposed Scheme. Committed mitigation measures include controlling construction site dust emissions in line with the Institute of Air Quality Management best practice guidance; and reducing construction road vehicle and machinery emissions by requiring contractors to comply with the latest Euro emission standards.
- 5.5.4 The nominated undertaker<sup>7</sup> will provide the relevant local authority with monthly reports on noise, dust and air quality. These reports will include a summary of the construction activities occurring, any complaints received, the data recorded over the monitoring period broken down into appropriate time periods, any periods in

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<sup>7</sup> The body or bodies appointed to implement the powers of the hybrid Bill to construct and maintain the Proposed Scheme.

exceedance of the agreed trigger levels and the results of any investigations and identified source. It will also detail where the works have been found to be the source, any action taken to immediately resolve the issue and to prevent a recurrence.

- 5.5.5 The nominated undertaker will also provide information on noise, dust and air quality monitoring to local communities via channels established under the Community Engagement Framework, including but not limited to online publication, presentations at events and printed materials at HS2 events or facilities.

## 5.6 Climate change

### Consultation issues

- 5.6.1 Ingestre and Tixall Against HS2 Action Group and individual consultees raised concerns regarding the climate change assessment presented in the working draft EIA. The key issues include:

- it was noted that the climate change assessment in the working draft EIA Report was incomplete; and
- validity of the data provided within the working draft EIA was questioned, in particular the number of frost days in the region of the Proposed Scheme.

### Response to consultation issues

- 5.6.2 A full assessment of climate change impacts at route-wide level is reported in Volume 3 of the ES.
- 5.6.3 The number of air frost days referred to by the consultee is correct based upon the Met Office definition of an air frost day, which is when the daily minimum temperature is below 0°C<sup>8</sup>. The definition used for the number of frost days to inform the climate baseline data and validation is the daily average air temperature below 0°C. This definition provides an indication of trends in the number of cold weather days, as distinct from an indication of specific air frost events<sup>9</sup>.

## 5.7 Communities

### Consultation issues

- 5.7.1 Consultees, in particular individual consultees, MPs, local authorities, councils and parish councils, have raised issues regarding the impacts of the Proposed Scheme on local communities. The key issues include:
- the impacts on communities generally from the Proposed Scheme and in particular, construction activity;
  - accessibility to community facilities, schools and medical facilities during proposed construction activity; and

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<sup>8</sup> Met Office, *UKCP09: Monthly data sets*. Available online at: <http://www.metoffice.gov.uk/climatechange/science/monitoring/ukcp09/available/monthly.html>

<sup>9</sup> If the Met Office definition of air frost had been used, the number of annual days of air frost would reflect those referred to by the consultee. Met Office, *The climate of the United Kingdom and recent trends: Days of air frost*. Available online at: <http://ukclimateprojections.metoffice.gov.uk/media.jsp?mediaid=87928&filetype=pdf>

- impacts on leisure activities through diversions of bridleways and footpaths.

### Response to consultation issues

- 5.7.2 HS2 Ltd is committed to reducing impacts to communities along the route of the Proposed Scheme. The Proposed Scheme has sought to mitigate impacts to local communities through the design, assessment and development of key project strategies, including the draft CoCP. Implementation of the draft CoCP will be of particular importance in managing impacts on individual communities and residents.
- 5.7.3 The development of the Proposed Scheme has sought to keep the route alignment as low as reasonably practicable and away from main communities. These avoidance measures have protected, in many instances, communities from potential significant visual, noise or vibration effects, as well as impacts upon community amenities and open space.
- 5.7.4 Community impacts arising from both the construction and operation of the Proposed Scheme are considered to be of predominantly local significance and have accordingly been assessed and reported in the relevant CA reports in Volume 2 of the ES. Where there are likely to be in-combination effects from more than one environmental topic, these are reported for both construction and operation in the community sections of the individual Volume 2 reports.
- 5.7.5 Further explanation on how the Proposed Scheme will be implemented and measures to reduce or mitigate impacts upon local communities is set out in HS2 Ltd Phase 2a Information Papers:
- E1: Control of environmental impacts;
  - D10: Maintaining access to residential and commercial property during construction;
  - E22: Mitigation of significant community effects on public open space and community facilities;
  - E3: Management of traffic during construction;
  - G1: Consultation and engagement; and
  - G2: Community relations.
- 5.7.6 Substantial mitigation has been embedded into project design and the EIA has identified additional mitigation to be applied as part of the implementation of the Proposed Scheme.
- 5.7.7 The draft CoCP includes provisions to mitigate community effects during construction, including appointment of community relations personnel; a community helpline to handle enquiries from the public; sensitive layout of construction sites to reduce nuisance; and maintenance of public roads, cycleways and PRow around construction sites, where reasonably practicable, to avoid their deterioration due to construction traffic.
- 5.7.8 The specific measures within the draft CoCP for the mitigation of individual noise, air quality, visual and construction traffic effects will also serve to reduce effects,

including isolation effects on community facilities, residential properties and open space.

5.7.9 HS2 Ltd will continue to engage with communities and with owners and operators of community facilities to identify reasonably practicable measures to help mitigate the residual significant effects identified in the assessment.

5.7.10 There is a continuing opportunity for members of the community to provide comments through the HS2 Ltd Helpdesk. The HS2 Residents Charter sets out HS2 Ltd commitments to ongoing engagement with residents in communities along the route. This Charter can be found on the HS2 Ltd website<sup>10</sup>.

## 5.8 Cultural heritage

### Consultation issues

5.8.1 Local authorities, technical consultees, parish councils, action groups and individual consultees identified the general need to protect the cultural heritage and historic environment along the route of the Proposed Scheme. Issues relating to specific cultural heritage assets, such as Shugborough Hall, were also raised by consultees. Of particular note, was the request to afford such assets adequate protection, reflecting the importance such assets have to local communities and beyond.

### Responding to consultation issues

5.8.2 The Proposed Scheme design has sought to avoid impacts to cultural heritage, recognising the importance of such assets to communities, locally and nationally.

5.8.3 Heritage assets can be affected through physical change or through changes to their setting. Impacts upon designated and non-designated heritage assets have been assessed. Effects arising from both construction and operation of the Proposed Scheme have been considered (e.g. effects arising from the requirement for land during construction or from visual intrusion on the setting of assets).

5.8.4 The loss of individual heritage assets and effects resulting from setting change are considered to be most appropriately assessed on a case by case basis and are, therefore, reported in the relevant CA reports in Volume 2 of the ES. This includes mitigation embedded into the Proposed Scheme and identification of additional mitigation, as appropriate.

5.8.5 Further information on the approach to the protection of archaeological assets, including further archaeological investigation is provided in the HS2 Ltd Information Paper: E24 Archaeology.

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<sup>10</sup> Gov.uk (2015), *HS2 resident's charter*. Available online at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/435912/HS2\\_Residents\\_Charter.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/435912/HS2_Residents_Charter.pdf)

## 5.9 Ecology and biodiversity

### Consultation issues

- 5.9.1 Consultees sought clarification on how the Proposed Scheme would seek to mitigate impacts to ecology and biodiversity from both a strategic perspective, but also in respect of specific locations across the route.
- 5.9.2 Of particular interest to consultees, such as the Woodland Trust, was how the Proposed Scheme would seek to deliver no net loss in biodiversity, and how it would seek to protect woodland, in particular, ancient woodland.
- 5.9.3 Specific locations were identified by consultees, such as Whitmore Wood and Basford Brook, and clarification sought on how predicted impacts would be mitigated.

### Responding to consultation issues

- 5.9.4 An overview of the scope and methodology for the assessment of ecological and biodiversity impacts is set out in the SMR and SMR Addendum. An assessment of ecological impacts at the CA level is reported in the Volume 2 reports of the ES, and a route-wide assessment is reported in Volume 3 of the ES.
- 5.9.5 Since the working draft EIA Report, further ecological surveys and desk based studies of local habitats, including woodland have been completed. These have identified further woodland that meets criteria for designation as ancient woodland. The details of the further woodland has been provided to Natural England for addition to the Ancient Woodland Inventory (AWI).
- 5.9.6 A total of 6.2ha of ancient woodland listed on the AWI will be lost to the Proposed Scheme within two woodlands: Whitmore Wood (6ha) and Barhill Wood (0.2ha). Opportunities to avoid and further limit impacts to these areas will be sought through detailed design.
- 5.9.7 Eight of the additional ancient woodland identified by HS2 Ltd occur within, or partially within, the land required for the Proposed Scheme and a total of 4.3ha of ancient woodland will be lost from these sites. As with existing AWI sites, opportunities to avoid and further limit impacts to these areas will be sought through detailed design.
- 5.9.8 In accordance with the Ecological Principles of Mitigation, included in the SMR Addendum, a route-wide, integrated strategic approach has been developed to compensate for losses of key habitats including woodland and grassland. Habitat creation is required to fulfil the objective of seeking to achieve no net loss in biodiversity as far as possible in the local area, as well as to ensure that the populations of protected and notable species are maintained. With these objectives in mind, where reasonably practicable, the areas of proposed habitat creation have been located so as to increase the size of existing higher quality habitat areas and to increase connectivity.
- 5.9.9 At a later stage in the project design a calculation will be undertaken to compare losses and gains to biodiversity. Due to the irreplaceable nature of ancient woodland, it has been agreed with Natural England that losses of ancient woodland and the compensatory measures adopted in response to these losses will not be included in

this calculation. The loss of ancient woodland habitat will be partly compensated through a range of measures outlined in the HS2 Phase 2a Ancient Woodland Strategy.

- 5.9.10 Monitoring will be undertaken to establish the effectiveness of mitigation measures for protected species where licences were required, as well as for habitat creation and enhancement sites, such as woodlands.
- 5.9.11 Further information on how the Proposed Scheme will seek to manage ecological impacts is set out in the HS2 Ltd Information Paper: E2 Ecology.

## **5.10 Excavation of materials and stockpiles**

### **Consultation issues**

- 5.10.1 Consultees raised issues in regard to waste management, including the volume of waste generated and how such material would be stored and managed.

### **Responding to consultation issues**

- 5.10.2 An integrated design approach has been developed that seeks to reuse excavated material to satisfy the necessary engineering and environmental mitigation earthworks requirements for the Proposed Scheme. This approach seeks to minimise the quantity of surplus excavated material generated and minimise off-site disposal to landfill.
- 5.10.3 Since publication of the working draft EIA report, further work has been undertaken to identify sources of suitable material, particularly for the construction of embankments along the route. In assessing available options, the use of borrow pits was chosen to provide the necessary supply of material, without the need to transport materials from afar, with the associated impact upon the local highway network. HS2 Ltd will use six borrow pits across the route, the locations of which were decided taking account of geological, environmental and transport considerations. These will be excavated to provide granular material (e.g. sand and gravels), mainly for the construction of embankments. The borrow pits will be backfilled with cohesive material (e.g. silt or clay) from HS2 excavations, which is unsuitable for use for railway embankments, within the constraints of the construction programme. The borrow pits will be restored to their former levels and in order to be suitable for their previous uses. This is explained further in the Borrow Pits Restoration Strategy<sup>11</sup>.
- 5.10.4 Overall, there is a balance of excavated material to be used across the Proposed Scheme, avoiding the need for the import or export of materials from or to locations outside the Proposed Scheme. Such material would only be classified as waste if it is surplus to the design requirements of the Proposed Scheme.
- 5.10.5 The traffic and transport impacts and effects from construction traffic associated with the movement of excavated material, demolition material and construction waste are reported for each CA in Volume 2 of the ES and the Transport Assessment in Volume 5 of the ES.

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<sup>11</sup> HS2 Ltd (2017), Environmental Statement, *Borrow Pit Restoration Strategy*, Volume 5: Appendix CT-009-000.

- 5.10.6 Further information on the strategy for sustainable management of waste and the use of borrow pits in the Proposed Scheme, is set out in the HS2 Ltd Information Papers: E17: Excavated material and waste management and D12: Borrow pits.

## **5.11 Landscape and visual**

### **Consultation issues**

- 5.11.1 Consultees raised a number of landscape and visual issues in respect to the scheme presented in the working draft EIA Report, including:

- the general integration of the scheme into the landscape;
- mitigation used; and
- the impact of the scheme on specific landscapes and local communities.

### **Response to consultation issues**

- 5.11.2 The integration of the Proposed Scheme into the landscape across the route has been progressed through a design approach which includes consideration of engineering requirements, environmental considerations, and best practice design. Landscape proposals incorporate mitigation measures for landscape, noise, ecology, agriculture, cultural heritage and open space.

- 5.11.3 Landscape design and mitigation has been considered at a strategic scale to integrate the Proposed Scheme into the surroundings. Specific measures include:

- design of earthworks to achieve visual screening, integration of the route by reflecting the character of local topography, and to facilitate the restoration of agricultural land;
- provision of new planting to connect with existing planting areas, reinstate lost historic planting, reconnect locally fragmented planting areas, as well as habitat creation;
- design of earthworks and large scale planting to integrate new structures such as bridges, viaducts and buildings;
- design of new, diverted or realigned roads and PRow to reconnect lost routes, integrate into wider access networks and promote walking and cycling initiatives;
- design of noise mitigation, including earthworks and noise fence barriers to ensure good fit with the local landscape and townscape;
- design and appearance of fencing, including boundary and security fencing to reflect landscape character; and
- design of diverted watercourses, balancing ponds and ecological ponds to ensure integration with the local landscape and the promotion of green infrastructure.

- 5.11.4 Landscape issues raised in relation to specific locations are considered in the CA sections, Sections 7 to 11.

## 5.12 Local businesses and employment

### Consultation issues

5.12.1 Consultees raised a number of issues around the impacts of the scheme set out in the working draft EIA Report on local businesses and employment, including:

- impacts to local business generally within communities;
- impacts to specific businesses;
- the importance of local procurement;
- the array of employment opportunities available; and
- whether opportunities would be specialist only.

### Responding to consultation issues

5.12.2 The Proposed Scheme will result in the displacement of some existing businesses. The majority of businesses displaced by the Proposed Scheme are expected to be able to relocate within the Staffordshire and Cheshire East area, given the availability of alternative premises and the payment of compensation. Based on previous research on major construction projects, the socio-economic assessment estimates that approximately existing 140 jobs (including agricultural jobs) will be displaced across the route as a whole due to direct impacts on local businesses.

5.12.3 Businesses displaced by the Proposed Scheme will be compensated in accordance with the existing statutory compensation arrangements. HS2 Ltd recognises the importance of displaced businesses being able to relocate to suitable alternative premises and will offer additional support to facilitate this.

5.12.4 Further information on how HS2 Ltd seeks to assist businesses which are impacted by the Proposed Scheme is set out in HS2 Ltd Information Paper: C7 Business Relocation.

5.12.5 Overall, it is estimated that the construction phase will generate the equivalent of 2,240 permanent full time construction jobs, ranging from unskilled and low skilled jobs to technical and managerial roles. A further 840 jobs could be created as a result of additional demand for goods and services, through the business supply chain and expenditure effects of workers.

5.12.6 It is anticipated that direct construction jobs will potentially offer a range of occupations and skillsets, such as: skilled construction workers, labourers, tunnelling specialists, mechanical fitters, steel fixers, electricians, engineering professionals, and management and planning professionals. HS2 Ltd has committed to providing a minimum of 2,000 apprenticeships over the lifetime of the entire project, which includes HS2 Phase 2a. This will provide a broad range of employment opportunities beyond key skills or specialist areas.

5.12.7 The potential overall changes to employment levels that arise from the construction and operation of the Proposed Scheme) are reported at a route-wide level in Volume 3 of the ES. Significant localised effects on employment are reported in Volume 2 of the ES.

- 5.12.8 Further information on the approach to training and employment is set out in HS2 Ltd Phase 2a Information Paper H2: Skills and Employment and H3: Education programme.

## **5.13 Local road networks and Public Right of Way (PRoW)**

### **Consultation issues**

- 5.13.1 A wide range of consultees raised issues around the impact of the Proposed Scheme on local road networks along the line of route. The predominance of issues focused on three key topics and the range of issues which are associated with these:

- temporary and permanent road diversions and closures , and the impact upon both road users and the communities within which these are located;
- the selection of construction routes and impact of construction traffic on the local road network, including impacts to accessibility of community amenities, sporting, leisure and equestrian users; and
- the safety of road users, motorised and non-motorised, on local road network used for construction traffic.

### **Responding to consultation issues**

#### *Road diversions and closures*

- 5.13.2 The Proposed Scheme seeks to maintain existing pedestrian, cycle and vehicular access on roads and PRoW as far as reasonably practicable during construction and operation.
- 5.13.3 The design of the Proposed Scheme has sought to reduce the need for diversions and closures, with offline construction, time-restricted closures and realignments of roads and PRoW sympathetic to local users and residents. Where such diversions and closures cannot be avoided, it is recognised that these will affect local communities.
- 5.13.4 In response to consultee comments, changes have been made to the Proposed Scheme to prevent or reduce the time required for road closures, where possible. This includes roads such as Yarnfield Lane, identified by consultees as a key access route to local community facilities.
- 5.13.5 The local highway authority will be consulted on temporary changes to the roads and PRoW networks during construction of the Proposed Scheme, and permanent alterations will be designed to fit into their surroundings.
- 5.13.6 Where several nearby public rights of way are affected during construction, any temporary closures will be phased, where reasonably practicable, to help maintain public access. As part of the detailed design process, HS2 Ltd will work with highway authorities, local access forums, user groups (e.g. the Ramblers) and communities to identify the best way of maintaining PRoW during construction. Design will also continue to be informed by guidance produced by organisations such as the British Horse Society.
- 5.13.7 Further information is set out in the HS2 Ltd Phase 2a Information Paper E5: Roads and Public Rights of Way.

### *Selection and safety of construction routes*

- 5.13.8 The Proposed Scheme has involved a detailed assessment of the construction routes required to support the construction of the scheme. Where reasonably practicable, HS2 Ltd has sought to utilise the strategic road network and local 'A' roads for construction traffic. The use of borrow pits will also remove a significant number of heavy goods vehicle (HGV) movements from the highway network. Reducing the amount of HGVs also reduces the need to widen roads and improve junctions, further reducing environmental impacts.
- 5.13.9 Prior to the commencement of the works, the nominated undertaker will ensure that a route-wide traffic management plan (RTMP) is produced in consultation with the highway and transport authorities and the emergency services and other relevant key stakeholders.
- 5.13.10 The draft CoCP also requires contractors to produce local traffic management plans including measures to address road safety and reduce the risks to non-motorised users from construction vehicles on the roads. Contractors will be required to gain accreditation from the Fleet Operator Recognition Scheme (FORS), or equivalent, in order to demonstrate that all drivers have appropriate training in pedestrian, equestrian and cycle awareness and specific issues relating to driving on rural roads.
- 5.13.11 Further details on management of construction routes, the RTMP and local traffic management plans is provided in Section 12 of this report and in the draft CoCP.
- 5.13.12 Issues raised by consultees in relation to specific roads and PRow have been addressed in the CA sections of this report, Sections 7 to 11.

## **5.14 Property**

### **Consultation issues**

- 5.14.1 Consultees including, local authorities, parish councils, action groups and individual consultees raised issues around the impact of the scheme presented in the working draft EIA Report on property holdings generally and in relation to specific locations. The key issues include:
- consideration and assessment of impacts to properties adjacent to the route;
  - process and eligibility for compensation;
  - ease of use and stated need for review of the use of the Compensation Code; and
  - requests for further information of how consultees could discuss property issues with HS2 Ltd.

### **Responding to consultation issues**

- 5.14.2 The ES reports the likely significant effects of the Proposed Scheme on residents, communities and businesses, but does not specifically address the issue of compensation. Detail on the compensation value of such properties is not within the scope of the ES.
- 5.14.3 HS2 Ltd recognises that home-owners along the route will be affected by the Proposed Scheme. HS2 Ltd has worked to reduce uncertainty by consulting with local

communities. However, notwithstanding the measures in place to reduce the impacts of the Proposed Scheme, there is a potential for home-owners to be affected by generalised blight in the period leading up to and including construction.

- 5.14.4 The Government has developed a package of non-statutory measures to address generalised blight resulting from the promotion of the Proposed Scheme. These include express purchase, a need to sell scheme, rent back and an extended homeowner protection zone, safeguarding properties where changes to the route occur. Eligibility for these depends on the location of the affected property.
- 5.14.5 Those who have a qualifying interest in land to be acquired for construction of the Proposed Scheme will be able to claim compensation in line with the provisions of the Compensation Code. Where no land is to be acquired but a right in property is taken away or interfered with, compensation may also be claimed. Compensation may also be claimed, once the Proposed Scheme is in operation, by those who have had no land acquired but can demonstrate that a reduction in the value of their land has been caused by the operation of the scheme.
- 5.14.6 Further information on the compensation schemes, eligibility criteria and how consultees can discuss issues relating to their property and compensation, is set out on the HS2 Ltd website.
- 5.14.7 Further information can also be found in the HS2 Ltd Phase 2a Information Papers: C Series.

## **5.15 Sound noise and vibration**

### **Consultation issues**

- 5.15.1 A wide range of consultees raised issues around the impact of noise associated with the construction and operation of the Proposed Scheme on local residents, community facilities, places of worship and businesses. The predominance of issues focused on the following key themes:
- potential noise disturbance associated with construction works and mitigating the impact on residents and facilities; and
  - the appropriate provision of noise mitigation, such as noise barriers and noise insulation to mitigate the impact of noise from operating trains.

### **Responding to consultation issues**

- 5.15.2 A detailed assessment of sound, noise and vibration during both construction and operation has been undertaken on receptors identified as potentially susceptible to such impacts, across the line of route and are reported for each CA in Volume 2 of the ES. These receptors have been identified using technical judgement but also in response to issues raised by stakeholders.
- 5.15.3 The Proposed Scheme has integrated noise mitigation measures where it has been appropriate and feasible to do so. Noise effects will be reduced at many locations along the route by engineering structures, such as cuttings, and by landscape earthworks. Mitigation has also been embedded in scheme design through the use of noise bunds or noise fencing, to reduce residual noise effects in specific locations.

- 5.15.4 The measures that will be put in place to control construction noise and vibration are set out in HS2 Ltd Information Paper: E13 Control of construction noise and vibration and in the draft CoCP. Site specific details of how potential construction related impacts will be managed (such as noise and dust) will be a matter for the Local Environmental Management Plans (LEMP), which will be developed during the Parliamentary process and detailed design stage, in consultation with the relevant stakeholders.
- 5.15.5 Buildings qualifying for noise insulation or residents qualifying for temporary re-housing will be identified early enough so that noise insulation can be installed, or temporary re-housing provided, before the start of the construction works predicted to exceed noise insulation or temporary re-housing criteria. Where noise insulation is predicted to be required to avoid a significant adverse effect on a dwelling caused by operational noise, this will be confirmed and installed after the Proposed Scheme comes into operation.

## **6 Introduction to Sections 7 – 11**

### **6.1 Introduction**

6.1.1 The route of the Proposed Scheme has been divided into five CA, for environmental impact assessment and community engagement purposes. These are shown in Figure 1 and comprise:

- Fradley to Colton area (CA1);
- Colwich to Yarlet area (CA2);
- Stone and Swynnerton area (CA3);
- Whitmore Heath to Madeley area (CA4); and
- South Cheshire area (CA5).

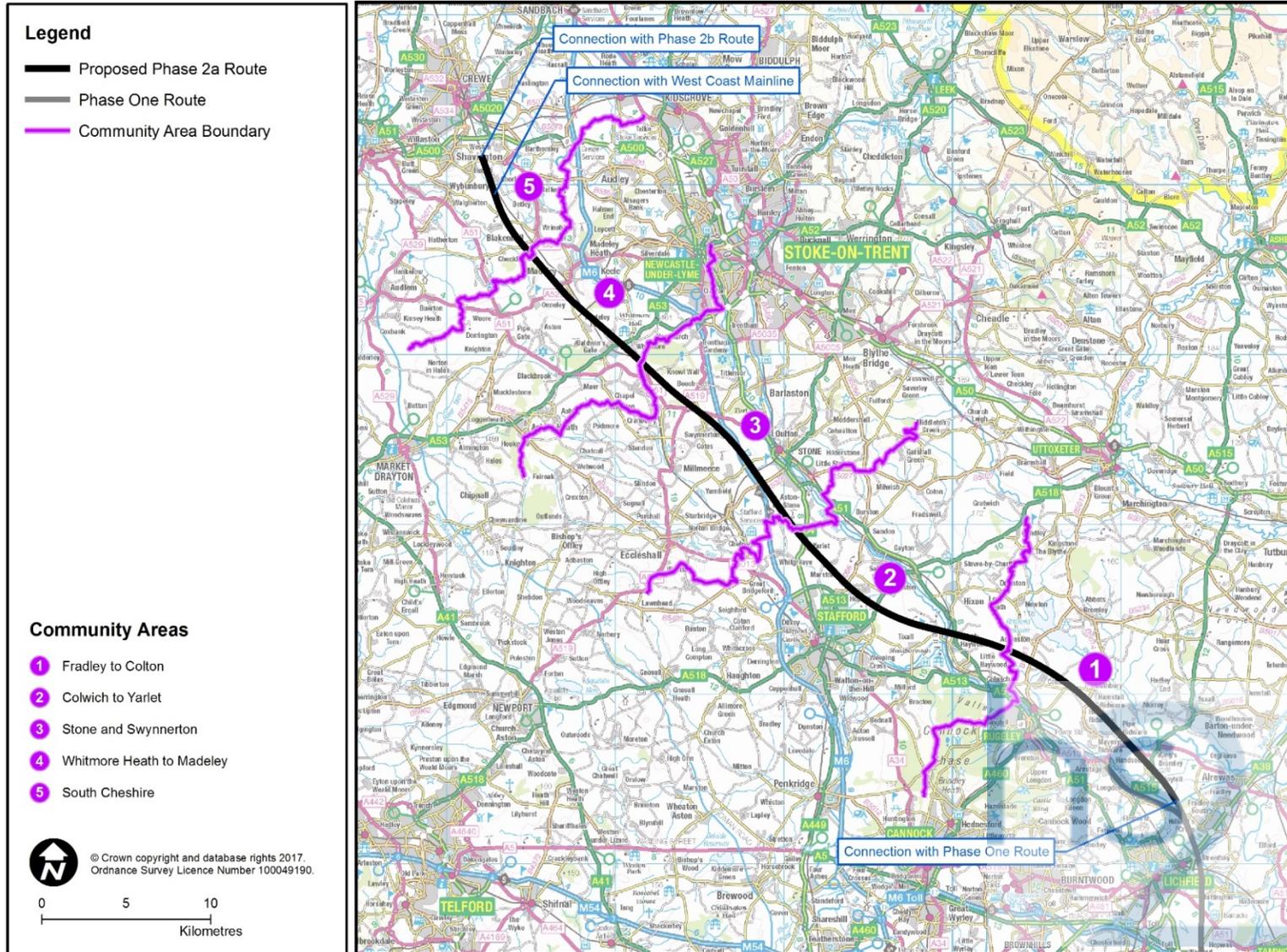
6.1.2 As set out in Section 3, the analysis of consultation responses revealed key locations within CA that were the subject of responses from both a scheme design and environmental perspective. These responses were reviewed on the basis of their location to understand local constraints and opportunities.

### **6.2 Structure of Sections 7 to 11**

6.2.1 The following sections provide a summary of the issues raised by consultees in respect of each of the CA, and how these have been considered to inform the Proposed Scheme and environmental impact assessment.

6.2.2 Unless otherwise specified, any environmental assessment referenced in Sections 7 to 11 is from Volume 2 of the ES.

Figure 1: The route of the Proposed Scheme and community areas



# 7 Consultation issues relating to the Fradley to Colton area

## 7.1 Introduction

7.1.1 The following section sets out the key locations within the Fradley to Colton area identified during the review of consultation responses and issues raised in respect of these. These locations comprise:

- the interface with Hs2 Phase One: London to West Midlands;
- Pyford Brook;
- Common Lane;
- Shaw Lane;
- River Trent;
- Pipe Lane;
- Pipe Ridware;
- Blithbury; and
- Stockwell Heath and Colton.

7.1.2 Unless otherwise specified, the assessment referenced in this section, is from the Volume 2 CA1 report of the ES.

## 7.2 Interface with Phase One

### Consultation issues

7.2.1 Fradley and Streethay Parish Council and Kings Bromley Parish Council raised the issue of cumulative traffic impacts of concurrent Phase One and Phase 2a construction works. Kings Bromley Parish Council specifically raised the issue of the impact of construction traffic on routes passing through the Kings Bromley area.

### Response to consultation issues

7.2.2 The Fradley to Colton area begins approximately 3km north-east of Lichfield, where the route of the Proposed Scheme will join the Phase One route. Initial works on Phase One initial have commenced whilst construction of Phase 2a is anticipated to begin in 2020. There is, therefore, the potential for a period during which construction of Phase One and the Proposed Scheme will both be under way. The cumulative effects of the Phase One and Phase 2a schemes have been assessed and are reported in the ES.

7.2.3 The selection of construction traffic routes for the Proposed Scheme has been informed by the relevant highways authorities and also by the need to avoid, where reasonably practicable, construction traffic routes already identified for Phase One. This will reduce the potential for concurrent Phase One and Phase 2a traffic movements on the road network supporting Kings Bromley, and any cumulative

impacts this could give rise to. Engagement will continue with the relevant highway authorities and parish councils.

- 7.2.4 Reflecting consultee feedback from Fradley & Streethay and Kings Bromley Parish Councils, construction traffic routes have been revised to avoid construction traffic passing through Kings Bromley.

## 7.3 Pyford Brook

### Consultation issues

- 7.3.1 Comments made by consultees with regard to the scheme and the existing agricultural land use beneath the Pyford Brook viaduct included:
- the land required for the Proposed Scheme and the location of the Pyford Brook satellite compound is unsuitable given the existing agricultural use of the land at this location; and
  - the proposed balancing ponds and wetland habitat creation beneath Pyford Brook viaduct should be relocated to protect agricultural use at this location.
- 7.3.2 Consultees who raised the above issues included: G Baskerville and Co; Joint Action Group; and individuals.

### Response to consultation issues

- 7.3.3 The location of the Pyford Brook viaduct satellite compound was assessed prior to publication of the working draft EIA Report. The potential location for the compound was significantly restricted by the proximity of existing woodland, hedgerow and wetland habitats (which in turn may support protected species such as great crested newt) and the boundary of the floodplain alongside Pyford Brook. As a result of these restrictions, the location of the compound is constrained.
- 7.3.4 Since publication of the working draft EIA Report the area of land required for the Pyford North and Pyford South embankments has been reduced, as a result of the lowering of the track alignment. Detailed hydraulic modelling of the Pyford Brook floodplains has led to changes in the length of the Pyford Brook viaduct from approximately 100m to approximately 180m and a consequent reduction in the area of land required for the Pyford North and Pyford South embankments.
- 7.3.5 In response to consultee issues, two balancing ponds north of the route of the Proposed Scheme and adjacent to Pyford Brook have been relocated. One balancing pond is now located to the south-west of the Pyford Brook viaduct and the second to the north-west of the Pyford Brook viaduct.
- 7.3.6 The wetland habitat to be created at this location has also been moved in response to comments received during consultation and is now located to the south of the Pyford Brook viaduct. These changes have been to protect better quality agricultural land.

## 7.4 Common Lane

### Consultation issues regarding Common Lane satellite compound

7.4.1 Consultees raised a number of issues in relation to the proposed closure of Common Lane and Pyford North embankment satellite compound (referred to in the working draft EIA Report as the Common Lane satellite compound). Comments included:

- the land required for the Proposed Scheme at Common Lane should be reduced;
- the location of Common Lane satellite compound, stockpile and transfer node should be revised to reduce impacts on residents and businesses of Common Lane; and
- traffic, noise, light and dust associated with the construction of the Proposed Scheme will be disruptive to residents and businesses on Common Lane.

7.4.2 Consultees who raised the above issues included: Kings Bromley Parish Council; Bromley Hayes Cattery; G Baskerville and Co; Joint Action Group; and individual consultees.

### Response to consultation issues

7.4.3 The location and land required for the Pyford North embankment satellite compound was further assessed following publication of the working draft EIA Report. This assessment concluded that the compound was constrained due to the Bourne Brook floodplain and proximity to Kings Bromley village.

7.4.4 It has not been possible to reduce the area of land required for the Pyford North embankment satellite compound, as the area of land identified is based on the construction works predicted to be managed from the compound.

7.4.5 The transfer node and materials stockpile in this location is required for the storage of top soil and subsoil for embankments and reinstatement. This material will be managed in accordance with the measures set out in the draft CoCP.

7.4.6 Common Lane (South) will only be used for construction traffic during initial site set up of the Pyford North embankment satellite compound. After this the compound will be accessed from the A515 Lichfield Road.

7.4.7 The sound noise and vibration assessment, reported in Volume 2 of the ES, identified impacts from construction noise on a small number of properties near Common Lane, Rileyhill. The measures that will be put in place to control construction noise and vibration are set out in HS2 Ltd Phase 2a Information Paper: E13 Control of construction noise and vibration and in the draft CoCP.

7.4.8 Site specific details of how potential construction related impacts will be managed (such as noise and dust) will be a matter for the LEMP, which will be developed during the Parliamentary process and detailed design stage in consultation with the relevant stakeholders.

## Consultation issues regarding the closure of Common Lane

7.4.9 Consultees raised a number of issues with regard to the permanent closure of Common Lane and potential effect on access to homes and businesses. Issues included:

- construction traffic and reduced access will affect the function of businesses located on Common Lane;
- the provision of access for properties located on Common Lane is insufficient;
- the continued use of Common Lane as a popular route for non-vehicular road users, such as dog walkers, horse riders, pedestrians and cyclists; and
- the potential for antisocial behaviour such as drug-use, illegal camping and fly-tipping at the section of Common Lane (South) which will be closed.

7.4.10 Consultees who commented on the above issues included: Staffordshire local authorities; Kings Bromley Parish Council; Bromley Hayes Cattery; G Baskerville and Co; Joint Action Group; The Inland Waterways Association; and individual consultees.

## Response to consultation issues

7.4.11 Common Lane (South) will only be used as a construction route during site set up of the Pyford North embankment satellite compound, for approximately three months. After this the compound will be accessed via the A515 Lichfield Road.

7.4.12 The use of site haul routes and borrow pits at this location will help to reduce the impact of construction HGV traffic on public roads including Common Lane. Other effects arising from the use of borrow pits in the Proposed Schemes are reported in the ES.

7.4.13 Since the publication of the working draft EIA Report the Proposed Scheme has developed to include improved access for agricultural businesses along Common Lane, however Common Lane (South) will be permanently closed to public access due to headroom restrictions beneath the Kings Bromley viaduct. Agricultural access for Common Farm will be provided via an access road beneath the Kings Bromley viaduct, minimising the need for farm vehicles to be diverted via the A515 Lichfield Road. Common Lane however, will remain permanently closed for public use on the northern side of the Proposed Scheme.

7.4.14 Access to properties north and south of the route will be retained via diverted traffic routes along Crawley Lane and the A515 Lichfield Road. Access during construction will be maintained in line with the revised road layout and local residents will be informed of changes as appropriate. Liaison with local residents will be maintained throughout the construction period to reduce disruption, in accordance with the requirements of the draft CoCP.

7.4.15 General traffic, pedestrians, cyclists and equestrians travelling between the A515 Lichfield Road and Common Lane (South) on the northern side of the route, will need to be diverted, as described in the traffic and transport section in Volume 2 of the ES. Non-vehicular road users will also be affected by the permanent closure of Common

Lane (South) in this location with increased journeys for non-vehicular road users increasing of up to 2.5km.

- 7.4.16 It is not anticipated the permanent closure of Common Lane (South) will lead to any illegal or antisocial behaviour either during or after construction. During construction, works will be managed under the requirements of the CoCP and local residents will be able to raise any issues during the construction period via community liaison officers.

## 7.5 Shaw Lane

### Consultation issues

- 7.5.1 Consultees noted that Shaw Lane is frequently used by agricultural vehicles and the proposed closure could lead to increased journey times and congestion on alternative routes such as the A515 Lichfield Road. Consultees also requested clarification on whether a line of trees alongside Shaw Lane was within the land required for the Proposed Scheme and would be lost.

- 7.5.2 Consultees who raised the above issue included: Kings Bromley Parish Council; Joint Action Group; and individual consultees.

### Response to consultation issues

- 7.5.3 Reflecting stakeholder feedback on the importance of Shaw Lane for agricultural access, this road will no longer be permanently closed. Shaw Lane will be utilised as a construction traffic route but will only be used for the set-up of the Bourne embankment satellite compound.
- 7.5.4 The Bourne embankment satellite compound has been moved from south of Shaw Lane to the north. As a result, the trees that line Shaw Lane will not now be affected by construction.

## 7.6 A515 Lichfield Road

### Consultation issues

- 7.6.1 Consultees raised a number of issues with regard to the land required for the Proposed Scheme between Shaw Lane and the A515 Lichfield Road, these included:
- sufficient access for the land either side of the realigned A515 Lichfield Road, underneath the Bourne Brook viaduct, was not provided in the design published in the working draft EIA Report; and
  - the realigned section of the A515 Lichfield Road would permanently require valuable agricultural land.

- 7.6.2 Consultees who commented on the above issues included: Staffordshire local authorities; Kings Bromley Parish Council; Joint Action Group; and individual consultees.

### Response to consultation issues

- 7.6.3 The realignment is dictated by engineering constraints and the requirement for agricultural land in this location cannot be avoided. Suitably located agricultural

access has been included in the Proposed Scheme to replace existing access points from the realigned A515 Lichfield Road to the adjacent fields.

7.6.4 Since publication of the working draft EIA Report, two borrow pits will be required, located on either side of the Kings Bromley viaduct: one located adjacent to the realigned A515 Lichfield Road and another adjacent to the realigned Shaw Lane.

7.6.5 These borrow pits will be excavated over a maximum period of four years and will be progressively restored to a condition suitable for a return to the existing land use. Further information on the need, use and restoration strategy for borrow pits is provided in Volume 1, Section 6 of the ES and a restoration strategy for the borrow pits is provided in Volume 5 of the ES. The effects arising from the use of borrow pits in the Proposed Schemes are also reported in the ES.

## 7.7 River Trent

### Consultation issues

7.7.1 Consultees raised the following issues with regard to the scheme where it crosses the River Trent:

- it was stated that the height of the River Trent viaduct and the Pipe Ridware embankment will create visual and noise effects associated with operating trains which will disturb local residents; and
- the River Trent floodplain is prone to flooding.

7.7.2 Consultees who commented on the above issues included: Kings Bromley Parish Council; Joint Action Group; Staffordshire local authorities; Lichfield District Council; The Inland Waterways Association; and individual consultees.

### Response to consultation issues

7.7.3 With the removal of the maintenance loops (see Section 7.8), the height at the northern end of the River Trent viaduct and the southern end of the Pipe Ridware embankment in the Proposed Scheme has been reduced from 15.8m to 8.6m.

7.7.4 The alignment has been lowered at Pipe Ridware and the Blithbury Central cutting has reduced in depth. The alteration in the alignment also changed the height of the Kings Bromley viaduct, Bourne embankment and River Trent viaduct.

7.7.5 Woodland planting and grading along the south western edge and the lower elevations of the Pipe Ridware embankment will integrate the embankment with the existing landscape and will reduce visual effects from operating trains upon the settlement of Pipe Ridware. However, where views extend to the north, beyond existing garden and roadside vegetation, the River Trent viaduct will remain prominent.

7.7.6 A noise fence barrier located on the northern side of the River Trent viaduct will reduce noise impacts from the Proposed Scheme at Pipe Ridware.

7.7.7 Lengthening of the Kings Bromley viaduct has reduced the amount of floodplain affected and the impacts of the Proposed Scheme on flood risk on nearby agricultural

land. This will also reduce flood risk for properties at Shaw Lane and on the A515 Lichfield Road.

## 7.8 Pipe Ridware (Pipe Ridware maintenance loops)

### Consultation issues

7.8.1 The following issues were raised with regard to the proposed maintenance loops at Pipe Ridware:

- the location of the Pipe Ridware maintenance loops, and associated noise and visual impacts on local communities;
- impacts on congestion of local roads associated with the construction of the maintenance loops; and
- impacts on local businesses from construction of the maintenance loops.

7.8.2 Consultees who commented on the above issues included: the Joint Action Group; Kings Bromley Parish Council; Lichfield District Council; the Staffordshire local authorities; Staffordshire Wildlife Trust; Inland Waterways Association; Bentley Hall Farm; Church Buildings Council; and individual consultees.

### Response to consultation issues

7.8.3 Since publication of the working draft EIA Report, development of the design of the Proposed Scheme has led to the relocation of the permanent maintenance facility from Crewe, in the South Cheshire area, to near Stone, in the Stone and Swynnerton area, in the form of the Infrastructure Maintenance Base – Rail (IMB-R).

7.8.4 The relocation of the permanent maintenance facility means that maintenance loops at Pipe Ridware will no longer be required, allowing the route alignment in this area to be lowered, nor will the maintenance loop satellite compound.

7.8.5 Removal of the maintenance loops has addressed consultees issues in relation to:

- construction activity and associated construction vehicular movements in the area;
- the amount of physical infrastructure in the area; and
- temporary and permanent visual effects including night time visual effects arising from lighting of the maintenance loops.

## 7.9 Pipe Lane

### Consultation issues

7.9.1 Consultees raised a number of issues with regard to construction traffic and access provision along Pipe Lane and Quintons Orchard, including:

- the current width and conditions of Pipe Lane and Quintons Orchard are unsuitable for construction traffic;
- inadequate agricultural access has been provided at Quintons Orchard; and

- farms, residents and businesses located on these roads will be negatively impacted by construction traffic.

7.9.2 Consultees who commented on the above issues included: Kings Bromley Parish Council; Staffordshire local authorities; Joint Action Group and local residents.

### **Response to consultation issues**

7.9.3 Quintons Orchard will not be used for construction traffic.

7.9.4 Since publication of the working draft EIA Report the Pipe Lane satellite compound has been removed from the design and the Pipe Ridware embankment satellite compound has been introduced. The construction facilities at this location have changed as a result of removing the maintenance loops at Pipe Ridware.

7.9.5 Construction traffic will initially access the Pipe Ridware embankment satellite compound area using Pipe Lane. Pipe Lane will be used for construction traffic however, traffic volumes associated with this will be low and HGVs will comprise approximately one third of construction vehicular traffic. There are planned key road upgrades on diversion and retained routes in this area which will improve current road conditions and allow for construction traffic to be accommodated.

7.9.6 Following initial site set up, access to Pipe Ridware embankment satellite compound will be via the site haul route, and thereafter to the B5014 Uttoxeter Road, the A513 Rugeley Road and on to the A515 Lichfield Road, thus reducing the number and impact of HGVs on local roads in the area.

7.9.7 Access provision will be maintained via a temporary access route during construction of the Mavesyn Ridware Footpath 38 accommodation overbridge. The reinstatement of the main farm access to Pipe Lane from Quintons Orchard Farm will ensure that the farm can continue to access its land.

## **7.10 Blithbury**

### **Consultation issues**

7.10.1 Consultees raised a number of issues with regard to impacts of construction of the Proposed Scheme on Blithbury and the surrounding area, including:

- the local road network at this location is not suitable for construction traffic;
- the use of key local roads for construction traffic at Blithbury, such as the B5014 Uttoxeter Road and Blithbury Road, will increase congestion and journey times for residents and agricultural businesses at Blithbury;
- the increase in congestion on these roads could also restrict communities accessing amenities at Rugeley; and
- the B5014 Uttoxeter Road should be realigned closer to the existing alignment to reduce the land required for the Proposed Scheme.

7.10.2 Consultees who commented on the above issues included: residents of Blithbury; Colton Parish Council; Staffordshire local authorities; the Joint Action Group; Bentley

Hall Farm and the Parochial Church Councils and Benefice Council of Great Haywood, Colwich, Colton, Blithfield and Abbots Bromley.

## **Response to consultation issues**

- 7.10.3 Although Blithbury Road and the B5014 Uttoxeter Road will remain as construction routes in the Proposed Scheme, some refinements have been made to the agricultural access and diversions of these roads, as well as improvements to the B5014 Uttoxeter Road/Blithbury Road junction to assist traffic turning between the two routes (and hence avoiding the village centre), and localised improvements along them to accommodate heavier traffic, all of which will help to reduce the impacts of construction traffic through Blithbury.
- 7.10.4 The use of site haul roads and the borrow pit, located south of Pipe Lane east of Pipe Ridware, will help to reduce the impact of construction HGV traffic on public roads including the B5014 Uttoxeter Road and Blithbury Road. Other effects arising from the use of borrow pits in the Proposed Scheme is reported in the ES.
- 7.10.5 The Proposed Scheme will result in construction traffic flows routing along the B5014 approaching Blithbury. This temporary increase in traffic will increase traffic severance and affect pedestrians and cyclists crossing Blithbury Road (between the B5014 Uttoxeter Road and Hollow Lane). Further information on construction traffic is set out in the Transport Assessment in Volume 5 of the ES.

## **7.11 Stockwell Heath and Colton**

### **Consultation issues**

- 7.11.1 Consultees raised a number of issues with regard to Stockwell Heath and Colton, including:
- residents of Stockwell Heath could become isolated as a result of reduced connectivity between Stockwell Heath and Colton and the proposed road diversions and construction traffic;
  - Moor Lane and Newlands Lane are unsuitable for use of construction traffic;
  - the proximity of the Proposed Scheme and associated construction facilities, in particular Newlands Lane auto-transformer feeder station (ATFS) and the Newlands Lane satellite compound, to residents of Stockwell Heath and Colton would be detrimental to the quality of life for residents of both communities;
  - the potential ecological impacts in the Stockwell Heath area and whether all sites of importance have been identified; and
  - a bespoke compensation package should be made available for residents of Stockwell Heath.
- 7.11.2 Consultees who commented on the above issues included: Staffordshire local authorities; Joint Action Group; Colton Parish Council and residents of Stockwell Heath and Colton.

## Response to consultation issues

- 7.11.3 Since publication of the working draft EIA Report the proposed realignment of Newlands Lane at Stockwell Heath has been modified. The existing alignment of Newlands Lane will now be retained and widened to pass under the route via the Newlands Lane underbridge. This change will reduce the duration of construction works and remove the need for demolitions at Stockwell Heath.
- 7.11.4 Construction traffic in the Stockwell Heath area will mainly be associated with the Stockwell Heath cutting satellite compound and this is expected to be operating for four years and three months starting in January 2021.
- 7.11.5 During construction of the Newlands Lane underbridge, access to High Street (for connections to Colton) from the north of the village will be maintained via a diverted Moor Lane to the west, then back (south of the route of the Proposed Scheme) by a new Moor Lane diversion route.
- 7.11.6 The route of the Proposed Scheme introduces a physical barrier between the settlements of Stockwell Heath and Colton. During operation, connectivity will be retained via the diverted Moor Lane, 500m south of its existing alignment, to connect with Newlands Lane on the southern side of the route of the Proposed Scheme, increasing the length of journey by 170m. Moor Lane will be closed where it crosses the route, with a section of Moor Lane to the northern side of the route retained to allow access to properties. Connectivity between Colton and Stockwell Heath will be maintained via the Newlands Lane underbridge and the diverted Moor Lane.
- 7.11.7 There are planned upgrades on diversion and retained routes in this area, which will allow construction traffic to be accommodated and also improve on current road conditions.

### *Newlands Lane and construction impacts*

- 7.11.8 Reflecting issues raised by consultees, the Newlands Lane ATFS and the Newlands Lane construction compound have been relocated approximately 450m south of the location set out in the working draft EIA Report.
- 7.11.9 Due to the relocation of the Newlands Lane ATFS, the noise and visual impacts associated with this facility at Colton and Stockwell Heath will be reduced as a result of the ATFS being located within the cutting.

### *Ecology*

- 7.11.10 The baseline developed to inform the ecological assessment has incorporated existing information available from a range of local organisations including Staffordshire County Council and the Staffordshire Wildlife Trust. It has also been informed by ecological surveys undertaken where access has been made available. Volume 2 of the ES reports the findings of the assessment on designated sites including sites such as Newlands Lane Local Wildlife Site (LWS) and the various Biological Alert Sites (BAS), including Moor Lane Colton Hedge BAS and Stockwell Heath Pond BAS. The ES also reports significant effects on protected and notable species that have been recorded within the area.

*Compensation*

- 7.11.11 Issues relating to compensation and property blight are beyond the scope of the ES. Section 5.14 of this report describes where further information on property compensation can be obtained.

## 8 Consultation issues relating to the Colwich to Yarlet area

### 8.1 Introduction

8.1.1 The following section sets out the key locations within the Colwich to Yarlet area identified during the review of consultation responses and issues raised in respect of these. These locations comprise:

- Upper Moreton Farm;
- Moreton;
- Great Haywood Marina;
- Trent and Mersey Canal Conservation Area;
- Shugborough Park;
- Cannock Chase AONB;
- Hoo Mill Lane;
- Lionlodge Covert;
- Mill Lane;
- Ingestre and Tixall community;
- Ingestre Park Golf Club;
- Ingestre sites of historical interest;
- Staffordshire County Showground;
- Hopton, Mount Edge and Spode Avenue;
- Marston; and
- Yarlet School.

### 8.2 Upper Moreton Farm

#### Consultation issues

- 8.2.1 Consultees raised issues regarding the predicted impacts from the land required for the Proposed Scheme upon the business of Upper Moreton Farm. Specifically, the care farming activities were identified as being affected by the Proposed Scheme.
- 8.2.2 Consultees also stated the potential for ecological impacts to roosting areas and feeding habitats for bats (present at Upper Moreton Farm).

- 8.2.3 Consultees who raised these issues included: Upper Moreton Rural Activities;<sup>12</sup> Staffordshire local authorities; and individual consultees.

### **Response to consultation issues**

- 8.2.4 The care farm operations at Upper Moreton Farm will be affected by the construction and operation due to the proportion of the holding required by the Proposed Scheme. During construction, the noise and visual effects will result in an in-combination effect on the amenity of visitors to Upper Moreton Farm for up to one year and nine months in total. Noise barriers and landscape screening have been introduced to reduce operational impacts in the Moreton area.
- 8.2.5 Just over three hectares of land at Upper Moreton Farm, approximately 13%, will be required for the construction of the Proposed Scheme, with the majority of this being retained for operation. In addition, a total of approximately 7.7ha (54%) of wildflower meadow at Lount Farm LWS, used by Upper Moreton Farm for its care farming activities, will be permanently required by the Proposed Scheme.
- 8.2.6 HS2 Ltd is continuing to engage with owners and operators of this facility to identify reasonably practicable measures to help mitigate the effects on Upper Moreton Farm.
- 8.2.7 The landscape mitigation planting, together with woodland habitat creation areas around Moreton (between Moreton North embankment and Moreton cutting) will replace foraging habitat for bats, and the planting will create new woodland edge habitat for commuting and foraging. Alternative bat roosting structures will also be provided to compensate for the loss of maternity and non-breeding roost sites.
- 8.2.8 In addition, the Colwich Bridleway 23 accommodation overbridge will be 'greened' which will provide ecological connectivity and reduce the effects of ecological severance.

## **8.3 Moreton cutting**

### **Consultation issues**

- 8.3.1 Consultees raised issues regarding the visual impact associated with the depth of the Moreton cutting (named the Coley cutting in the working draft EIA Report) and the potential noise impacts of passing trains on residents and businesses located close to the cutting.
- 8.3.2 Consultees who raised these issues included: Jeremy Lefroy MP; Upper Moreton Rural Activities; and individual consultees.

### **Response to consultation issues**

- 8.3.3 The depth of the Moreton cutting and horizontal alignment as it passes through the Moreton area has remained largely the same since the publication of the working draft EIA Report. Residents and businesses at Moreton will experience close range views of the Moreton cutting and some will experience significant noise effects associated with passing trains at this location.

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<sup>12</sup> Upper Moreton Rural Activities submitted a consultation response addressing Upper Moreton Farm.

- 8.3.4 To mitigate potential adverse operational noise impacts at the Moreton cutting, the design has developed to include noise fence barriers along the northern and southern sides of the Moreton embankment, together with short sections along both sides of the Moreton cutting. These noise fence barriers will provide acoustic screening to properties at Moreton, however noise levels at Moreton will remain significant. Noise insulation will be offered to qualifying properties, which will reduce the internal noise levels within buildings so that occupants will not be significantly affected by noise.
- 8.3.5 In addition to this, landscape screening in the form of woodland planting, located immediately north of the Moreton cutting, has been added to the design to reduce the visual impact of the Moreton cutting and trains passing on local properties. Over time, during operation, views of the cutting will be lessened by the gradual screening provided by the maturing woodland planting.
- 8.3.6 HS2 Ltd is continuing to engage with consultees to identify reasonably practicable measures to further reduce the wider effects associated with the Moreton cutting during both construction and operation of the Proposed Scheme.

## **8.4 Great Haywood Marina**

### **Consultation issues**

- 8.4.1 Consultees raised issues with regard to the noise and visual impacts associated with the construction and operation of the Proposed Scheme on the Great Haywood Marina and its viability as a business.
- 8.4.2 Consultees also highlighted the height of Trent South embankment and Great Haywood viaduct, and the proximity and scale of the construction facilities at this location.
- 8.4.3 Consultees who commented on the above issues included: Inland Waterways Association; Canal & River Trust; Ingestre and Tixall Against Hs2 Action Group; Staffordshire local authorities; and individual consultees.

### **Response to consultation issues**

- 8.4.4 Approximately 2.5ha of land within the north and east part of the Great Haywood Marina, which comprises amenity grassland and an area of parking for approximately 20 vehicles, will be required for approximately three years and three months during construction. Construction will, however, not reduce the number of moorings available nor change the ability of recreational visitors to use Great Haywood Marina for mooring boats.
- 8.4.5 Once the Proposed Scheme is operational, the piers of the viaduct will not physically affect the marina moorings or interfere with passage along the Trent and Mersey Canal. Land at Great Haywood Marina will be required permanently for the piers of the Great Haywood viaduct to the north of the main basin, but this will not impact on the ability of the marina to be used for recreation, and access will remain to all parts of the site.
- 8.4.6 It is recognised that the height of the Great Haywood viaduct will result in a permanent impact on views from Great Haywood Marina. Mitigation at this location includes planting to provide partial landscape integration of the Trent South and Trent

North embankments. In addition, materials and finishes used to construct the viaduct will be sympathetic to the surroundings.

- 8.4.7 Noise fence barriers will be located along the viaduct continuing from the Trent South embankment. A noise fence barrier on the southern side of the Great Haywood viaduct will provide acoustic screening to Great Haywood and Great Haywood Marina. With this mitigation, the noise impact of operational trains on Great Haywood Marina is not considered to be significant.
- 8.4.8 HS2 Ltd will continue to engage with the operators of the Great Haywood Marina to identify reasonably practicable measures to mitigate the significant effects identified in the ES.

## **8.5 Trent and Mersey Canal Conservation Area**

### **Consultation issues**

- 8.5.1 Consultees raised issues regarding the noise and visual impacts associated with the height and length of the Great Haywood viaduct on the historic and rural setting of the Trent and Mersey Canal Conservation Area.
- 8.5.2 Consultees who raised these concerns included: Historic England; Natural England; Canal & River Trust; Inland Waterways Association; Ingestre and Tixall Against Hs2 Action Group; Jeremy Lefroy MP; Staffordshire local authorities; and individual consultees.

### **Response to consultation issues**

- 8.5.3 Since publication of the working draft EIA Report, there has been a reduction in the height of the central section of the Great Haywood viaduct. It is acknowledged that, within the Trent and Mersey Canal Conservation Area, the Great Haywood viaduct will result in a significant visual impacts, notably on properties located to the north of Hoo Mill Lane and recreational users of the towpath/marina. The visual impact on the properties north of Hoo Mill Lane will reduce as screening provided by existing vegetation matures and, by year 15, the visual effects will not be significant. It is recognised, however, that the Great Haywood viaduct will dominate the view at locations closer to the structure, with significant visual effects for users of the towpath and marina remaining beyond year 15 of operation. The viaduct will also result in a permanent effect on the character of the Trent and Mersey Canal Conservation Area.
- 8.5.4 The Great Haywood viaduct has been designed to reduce the impact upon the River Trent floodplain. The arrangement of the viaduct piers has been designed to allow for clearance of the existing railway (Macclesfield to Colwich Line), the Trent and Mersey Canal and the River Trent.
- 8.5.5 The viaduct piers will be set back from the canal-side. The continuity of the canal environment beneath the viaduct will be maintained and the existing canal boundary vegetation will be preserved as far as is reasonably practicable, to reduce the visual impact of the new pier structures on the canal.
- 8.5.6 Noise fence barriers located on both sides of the viaduct will mitigate the noise impacts of trains on the Trent and Mersey Canal Conservation Area. While the barriers

are effective in reducing the railway noise experienced by noise sensitive receptors, they do add to the perceived visual depth of the viaduct structure.

## 8.6 Shugborough Park

### Consultation Issues

- 8.6.1 Consultees raised issues relating to the impacts of construction and operation of the Proposed Scheme and specifically the Great Haywood viaduct, on the landscape setting and historic character of Shugborough Park.
- 8.6.2 Consultees also stated that access to Shugborough Hall could be adversely affected by congestion associated with construction traffic on the surrounding local road network.
- 8.6.3 Consultees who commented on the above issues included: Historic England; Natural England; the National Trust; Cannock Chase Area of Outstanding Natural Beauty Partnership; Jeremy Lefroy MP; Ingestre and Tixall Against Hs2 Action Group; Canal & River Trust; Staffordshire local authorities; and individual consultees.

### Response to consultation issues

- 8.6.4 Views of the Proposed Scheme will be limited to elevated positions within Shugborough Park, which is a Grade I Registered Park and Garden. Significant landscape and visual effects, together with the effects upon the historic character of Shugborough Park are not anticipated due to the distance from the Proposed Scheme, the local topography and the enclosed nature of the park.
- 8.6.5 The potential for noise impacts on Shugborough Park were considered in the environmental assessment, however, by virtue of the distance between Shugborough Park and the Proposed Scheme, the effects were determined not to be significant.
- 8.6.6 Due to its elevated position within Shugborough Park, the Grade I listed Triumphal Arch will be subject to a permanent change in its setting as a result of the Proposed Scheme.
- 8.6.7 Mitigation measures during the construction of the Proposed Scheme include planting and landscaping on the Trent South embankment to reduce changes to the settings of the Great Haywood and Shugborough Conservation Area and Shugborough Park.
- 8.6.8 Holdiford Road, which provides the main access to Shugborough Hall, is not a proposed construction traffic route within the Proposed Scheme. Construction traffic in this area will travel along Tixall Road and Great Haywood Road (with off-route highway modifications proposed) from the A518 Weston Road, leaving routes to Shugborough Hall from the M6, the north and west via Weeping Cross free of construction traffic. It is, therefore, not anticipated that construction will impact access to Shugborough Hall.

## 8.7 Cannock Chase Area of Outstanding Natural Beauty (AONB)

### Consultation issues

- 8.7.1 Consultees raised a number of issues in relation to the Cannock Chase AONB, including:

- recognition of the significance of the AONB and its setting as a nationally designated landscape;
- that the height of Great Haywood viaduct and embankments will adversely affect the views of the landscape from the Cannock Chase AONB and that the viaduct needs to be of the highest quality design in order to create an elegant feature of interest, complementary to the character of the nearby Cannock Chase AONB; and
- request that the design of noise mitigations should be sympathetic to the visual landscape in this area.

Consultees who commented on the above issues included: Natural England; National Trust; Cannock Chase AONB Partnership; Jeremy Lefroy MP; Staffordshire local authorities; Natural England; Ingestre and Tixall Against HS2 Action Group; Ingestre with Tixall Parish Council; the Forestry Commission; and individual consultees.

### **Response to consultation issues**

- 8.7.2 The Cannock Chase AONB Management Plan defines the special qualities of the landscape. These have specific relevance to landscape character and experience of the area. Construction and operation of elements of the Proposed Scheme such as the Great Haywood viaduct, associated embankments and Brancote South cutting will give rise to localised landscape impacts in relation to the AONB and its setting at Tixall and Ingestre. The setting of the AONB as a whole will largely be unaffected by the Proposed Scheme because the impacts are localised in relation to the scale of the AONB. There will also be a degree of visual screening afforded by intervening vegetation and topography.
- 8.7.3 From an ecological perspective, the ES reports that the designated features of the Cannock Chase SAC and SSSI, which are lowland heathland and ancient woodland, will not be significantly affected by the construction of the Proposed Scheme. The closest point of the construction in this area will be construction traffic using the A51 Lichfield Road, approximately 830m south-west of the SAC and SSSI.

## **8.8 Hoo Mill Lane**

### **Consultation Issues**

- 8.8.1 Consultees raised issues about the likely impacts associated with construction work from the Trent North embankment satellite compound (referred to as the Mill Lane satellite compound in the working draft EIA Report) on residents of Hoo Mill Lane.
- 8.8.2 Ingestre with Tixall Parish Council commented that Hoo Mill Lane cannot be used to connect directly to the A51 Lichfield Road over the Trent and Mersey Canal, and that it is not a PRoW.
- 8.8.3 Consultees who raised these issues included: Ingestre with Tixall Parish Council; Ingestre and Tixall Against HS2 Action Group; Inland Waterways Association; Canal & River Trust; and individual consultees.

## Response to consultation issues

- 8.8.4 The Trent North embankment satellite compound will be in operation for five years. However, during the final one year and three months of that period, the scale of construction activities at this compound will be reduced.
- 8.8.5 Hoo Mill Lane will be diverted over a distance of approximately 100m, just north of its existing alignment. The road will join Ingestre Park Road and maintain access to properties along Hoo Mill Lane.
- 8.8.6 For the construction period, a temporary roundabout will be provided at the junction of Hoo Mill Lane and Ingestre Park Road to manage construction and residential traffic. The changes to the road network at the junction of Hoo Mill Lane and Ingestre Park Road and the presence of additional construction vehicles using this junction are not likely to cause substantial disruption or delays to journeys for residents during the construction period.
- 8.8.7 With regards to issues raised in relation to the direct connection with the A51 Lichfield Road over the Trent and Mersey Canal, Hoo Mill Lane will not be connected with the A51 Lichfield Road or be used as a construction route.
- 8.8.8 Impacts arising from construction activities at the Trent North embankment satellite compound, such as noise and air quality, will be controlled by the measures set out in the draft CoCP.

## 8.9 Lionlodge Covert

### Consultation Issues

- 8.9.1 Consultees raised the following issues with regard to Lionlodge Covert:
- Lionlodge Covert has been missed from the assessments detailed in the working draft EIA Report; and
  - the potential impact of the balancing ponds on the drainage system at Lionlodge Covert LWS.
- 8.9.2 Consultees who raised these issues included Ingestre with Tixall Parish Council and individual consultees.

### Response to consultation issues

- 8.9.3 Volume 2 of the working draft EIA Report acknowledged the potential loss of both broadleaved woodland and inland saltmarsh habitats at Lionlodge Covert LWS and proposed that options to mitigate these losses would be investigated and developed.
- 8.9.4 Substantial areas of woodland habitat creation have since been developed to the south and west of the remaining area of Lionlodge Covert LWS and are included within the Proposed Scheme.
- 8.9.5 Since publication of the working draft EIA Report, the balancing pond originally sited on the north side of the Proposed Scheme and north of Hoo Mill Lane, has been moved slightly further north of both Hoo Mill Lane and the Proposed Scheme. This refinement was made to avoid interference with an existing gas pipeline.

- 8.9.6 A detailed assessment will be required of the hydrogeology of the area around the existing saltmarsh at the south-western end of Lionlodge Covert. This will help to determine the feasibility of creating or restoring nearby groundwater dependant saltmarsh habitat. At the same time, in consultation with Staffordshire Wildlife Trust and local landowners, HS2 Ltd will seek to identify appropriate off-site enhancement measures to help compensate for any permanent loss of saltmarsh habitat at Lionlodge Covert LWS.

## **8.10 Mill Lane**

### **Consultation Issues**

- 8.10.1 Consultees noted potential restrictions on the use of Mill Lane by HGVs due to the restricted headroom height of the bridge supporting the Macclesfield to Colwich Line over Mill Lane.
- 8.10.2 Consultees who raised these issues included: Ingestre with Tixall Parish Council; Ingestre and Tixall Against HS2 Action Group; Jeremy Lefroy MP; and individual consultees.

### **Response to consultation issues**

- 8.10.3 Mill Lane has been identified as a route for some but not all types of construction vehicles because of the headroom restrictions relating to the underbridge beneath the Macclesfield to Colwich Line.

## **8.11 Ingestre and Tixall community**

### **Consultation issues**

- 8.11.1 Consultees raised a number of issues with regard to the impact of the Proposed Scheme on the residents and communities in the Ingestre and Tixall area, these included:
- construction of the Proposed Scheme could isolate the residents and villages in the Ingestre and Tixall area;
  - the potential impact on the setting and ambiance of the village of Ingestre and surrounding area; and
  - impact on the setting in this area could reduce the value of local properties.
- 8.11.2 Consultees who raised these issues included: Ingestre with Tixall Parish Council; Ingestre; Tixall Against HS2 Action Group; and individual consultees.

### **Response to consultation issues**

- 8.11.3 A temporary roundabout will be provided at the junction between Ingestre Park Road, Hoo Mill Lane, Great Haywood Road and Mill Lane during construction. The roundabout will be in place for four years and three months. The changes to the road network and the presence of additional construction vehicles using this junction are likely to cause negligible delays to journeys for residents during the construction period.

8.11.4 Construction within Ingestre Park Golf Club and south of Lionlodge Covert will be screened by retained trees and woodland, although it is recognised that a material stockpile, located 30m to the east of the golf club house, will be visible.

8.11.5 As part of the Proposed Scheme, the following measures will be put in place to help mitigate noise and visual impacts and changes to the general setting of the Ingestre and Tixall area:

- noise fence barriers along the Trent North embankment and Brancote South cutting to provide acoustic screening for residents of Ingestre;
- compensatory woodland planting will be provided at Ingestre and Lionlodge Covert and to provide enhanced landscape and a green overbridge which will also provide connectivity of historic designed landscape features where reasonably practicable; and
- the establishment of mitigation planting will provide partial screening and landscape integration. Mitigation hedgerows will partially screen overhead line equipment and noise fence barriers. Mitigation planting immediately east of the Ingestre Park Golf Club house will provide integration of the Trent North embankment into the landscape.

8.11.6 For residents of Little Ingestre, views will change permanently. However, the existing woodland framing and backdrop of the view will be reflected by the mitigation woodland planting on the Trent North embankment. Whilst there will be an initial significant visual effect, during operation of the Proposed Scheme in years 15 and 60 vegetation will have matured and the effect will not be significant.

8.11.7 Issues relating to compensation and property blight are beyond the scope of the ES. Section 5.14 of this report details where further information on property compensation can be located.

## **8.12 Ingestre Park Golf Club**

### **Consultation issues**

8.12.1 Consultees raised issues regarding the impact of the Proposed Scheme on Ingestre Park Golf Club. Consultees noted the golf club as a valued recreational and community facility and objected to the severance caused by the Proposed Scheme at this location.

8.12.2 Consultees who raised these issues included: Ingestre with Tixall Parish Council; Ingestre and Tixall Against HS2 Action Group; and individual consultees.

### **Response to consultation issues**

8.12.3 Construction of the Proposed Scheme will require a total of approximately 24.5ha (approximately 47%) of Ingestre Park Golf Club to be either lost or severed from the club house during construction. This will result in the loss of seven holes of the course. Ingestre Park Golf Club will be unable to function in its current arrangement during the construction and operation of the Proposed Scheme.

8.12.4 HS2 Ltd will continue to engage with the operators of Ingestre Park Golf Club to identify reasonably practicable measures to mitigate the significant effects.

## 8.13 Ingestre sites of historical interest

### Consultation issues

- 8.13.1 Consultees noted issues regarding the potential impact of construction and operation of the Proposed Scheme on the historical setting of local archaeological sites and historical buildings, including The Pavilion, Lionlodge Covert, St Mary's Church and The Stables.
- 8.13.2 Consultees who raised these issues included: Jeremy Lefroy MP; the Staffordshire local authorities; Ingestre with Tixall Parish Council; Ingestre and Tixall Against HS2 Action Group; Natural England; Historic England; The Landmark Trust; Commonwealth War Graves Commission; and individual consultees.

### Response to consultation issues

- 8.13.3 The setting of the Ingestre Conservation Area will be altered as a result of the construction and operation of the Proposed Scheme.
- 8.13.4 The route will run between the historic parklands of Ingestre and Tixall, where The Pavilion, Lionlodge Covert, St Mary's Church and The Stables are located. It is acknowledged that the setting of this area is likely to be subject to change during the construction and operation of the Proposed Scheme, in particular from the Trent North embankment and the Brancote South cutting.
- 8.13.5 Areas directly affected by the construction of the Proposed Scheme include the southern end of Lionlodge Covert which will be severed by the Trent North embankment. The route of the Proposed Scheme will pass immediately south of the tree-lined road that leads from Ingestre House to the Lion Lodges. The Proposed Scheme will be visible from the historic assets identified by consultees.
- 8.13.6 Design refinements since the publication of the working draft EIA Report, include the introduction of the Ingestre green overbridge to facilitate ecological connectivity between the separated habitats. The Ingestre green overbridge will also provide benefit to the setting of the Ingestre and Tixall parklands, maintaining a key feature of the historic landscape.
- 8.13.7 Mitigation in this area includes noise fence barriers along the northern side of the Trent North embankment and Brancote South cutting to provide acoustic screening for properties within Ingestre. Landscape mitigation planting, to screen views of the Trent North embankment and the Brancote South cutting, will help to integrate the Proposed Scheme into the surrounding landscape as the planting matures.
- 8.13.8 The core area around Ingestre Hall, St Mary's Church and The Stables will remain largely unaffected during construction and operation, as only limited distant views of the Proposed Scheme will be apparent and a likely significant noise effect has not been identified.

## 8.14 Staffordshire County Showground

### Consultation issues

- 8.14.1 Jeremy Lefroy MP, Ingestre and Tixall Against HS2 Action Group and Staffordshire local authorities all provided comments with regard to the land required for the

Proposed Scheme and the associated impacts of this on Staffordshire County Showground.

### **Response to consultation issues**

- 8.14.2 Since publication of the working draft EIA Report, a number of refinements have been made to the design in respect of the land required for the Proposed Scheme and the impact on the existing functionality and use of Staffordshire County Showground, these include:
- A518 Weston Road realignment changed to tie back into the existing road immediately to the south of the showground underpass, thus avoiding any works to the underpass;
  - a new connection to the north-east of the A518 Weston Road overbridge to provide access to the showground's southern entrance road from the realigned A518 Weston Road; and
  - a new access to the north-west of the A518 Weston Road overbridge added to maintain access to the southern end of the overflow car park.
- 8.14.3 Works to construct the Hopton South cutting and the A518 Weston Road realignment will require approximately 9.6ha (22%) of land from the Staffordshire County Showground for up to two years and nine months, however the majority of the site will continue to function and will remain accessible to visitors
- 8.14.4 A total of approximately 5.4ha of the Staffordshire County Showground will be permanently required for the Hopton South cutting. It is estimated that the Proposed Scheme will remove approximately 800 parking spaces permanently. The Proposed Scheme will also remove an area which is often used as a camping ground during larger events and a permit parking area located to the south-west of the site. The loss of parking has the potential to partly impair the use of the site for the Staffordshire County Show and has been identified as a significant effect.
- 8.14.5 HS2 Ltd is continuing to engage with operators of Staffordshire County Showground to identify reasonably practicable measures to mitigate the significant effects.

## **8.15 Hopton, Mount Edge and Spode Avenue**

### **Consultation issues**

- 8.15.1 Consultees raised a number of issues with regard to Hopton, Mount Edge and Spode Avenue, including:
- preference for the incorporation of a green tunnel option on the basis that this would reduce the visual and noise impacts of the Proposed Scheme on residents of Hopton;
  - the proximity of residents at Hopton and Mount Edge to the construction and operation of the Proposed Scheme, specifically in relation to noise and visual impacts;

- the impact of construction traffic on the residents of Mount Edge and the predicted congestion on key construction traffic routes such as the B5066 Sandon Road and Hopton Lane;
- footpaths should be protected to maintain accessibility for pedestrians at Hopton, Mount Edge and Spode Avenue. A preference was stated for an access path to Hopton village;
- access and safe use of the bus stop at the entrance to Mount Edge by school children and residents; and
- a request that the open space around Hopton be maintained as much as possible.

8.15.2 Consultees who raised these issues included: Jeremy Lefroy MP; Hopton and Coton Parish Council; Staffordshire local authorities; Ingestre and Tixall Against HS2 Action Group; Church Building Council; and individual consultees.

### **Response to consultation issues**

#### *Green tunnel*

8.15.3 A number of alternatives at Hopton have been considered, which has included the option of a green tunnel. Whilst there were some benefits to the use of a green tunnel in this location, namely noise, a variety of other considerations indicated that this would not be the preferred option for the Proposed Scheme in this area.

8.15.4 These considerations for a green tunnel included the need for the formation of a cut-and-cover tunnel, porous portals and associated infrastructure to support the green tunnel, which would result in significantly more land temporarily required than the Proposed Scheme. It would also result in significant temporary landscape, visual and noise effects during construction. The tunnel depth, at 10m, would not be enough to allow reinstatement of the existing ground level and creation of an artificial mound would be necessary.

8.15.5 A green tunnel would also increase the risk to groundwater resources and an inverted siphon at a tributary of the Kingston Brook would be required, resulting in increased maintenance requirements. The volume of material to be removed for the cut and cover tunnel and the corresponding traffic movements required would be greater than the Proposed Scheme.

8.15.6 The green tunnel option would introduce significantly greater technical and construction complexities when compared to the proposed cutting, and also increases the construction risks and lengthens the construction programme. It would also be significantly more expensive to construct, and to maintain, than the Proposed Scheme.

#### *Residential properties*

8.15.7 The Hopton North cutting will cross Hopton Lane, between Hopton village and properties at both Mount Edge and the MoD Stafford Barracks. During construction residents at Hopton and Mount Edge will experience impacts associated with the construction of the Proposed Scheme.

- 8.15.8 Construction traffic is likely to cause adverse noise effects on residential receptors along the B5066 Sandon Road. Construction noise from traffic and other construction-related activities will be controlled through the draft CoCP.
- 8.15.9 There will be two landscape bunds<sup>13</sup> both featuring mitigation planting, on the northern and southern sides of the route of the Proposed Scheme, 100m south of Hopton. These will provide visual screening for the residents of Hopton and MoD Stafford Barracks respectively and help to integrate the Proposed Scheme into the surrounding landscape.
- 8.15.10 Since the publication of the working draft EIA Report, there has been a series of design refinements to the landscaping along the Hopton South and Hopton North cuttings, changing the land cover from open grassland to woodland, to mitigate the visual impacts in this location. Modifications to landscape earthworks at the northern end of the Hopton South cutting will ensure that gardens, associated with properties on Lower Lane at Hopton, are retained.
- 8.15.11 During construction, approximately 10 dwellings in Hopton to the west and east of the Proposed Scheme will be subject to a significant adverse effect due to construction noise when considered on a community basis. Taller screening is identified at some locations in Hopton as described in the ES.
- 8.15.12 During operation of the Proposed Scheme, noise fence barriers, up to 4m and 5m in height, will be located along the northern side of the Hopton North cutting and along the southern side of the Hopton South cutting respectively. These noise fence barriers will help to provide acoustic screening for properties at Hopton, the MoD Stafford Barracks and Mount Edge but it is recognised that a residual significant noise effect remains.

#### *Access by road*

- 8.15.13 The route of the Proposed Scheme will pass through two areas of the village and there will be permanent changes to the local road network, with the diversion of Hopton Lane, extension of Mount Edge to the B5066 Sandon Road, and a new footbridge linking the Hopton Lane and Mount Edge areas. For the construction phase the use of site haul routes alongside the route of the Proposed Scheme will reduce the volume of construction-related HGV traffic on the surrounding network, and neither Mount Edge nor Hopton Lane will be used a construction route. Following the construction of the B5066 Sandon Road overbridge and the Hopton and Coton new footpath overbridge, the site haul routes will be re-routed so that disruption to the public is reduced.

#### *Access by foot*

- 8.15.14 Since publication of the working draft EIA Report, the Hopton and Coton new footpath overbridge has been introduced provide a new pedestrian route between Mount Edge and Hopton Lane. This will provide a more direct route between Hopton village, from the diverted Hopton Lane to the north-east of the Proposed Scheme, to the existing Hopton Lane at Mount Edge to the south-west.

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<sup>13</sup> A landscape bund is an earthworks structure designed to provide either visual screening or noise attenuation to receptors in close proximity.

- 8.15.15 The footpath overbridge will not be directly connected to the PRoW network, but will re-instate a connection to Hopton Lane. This will provide a useful link for pedestrians using Hopton Lane from one side of the Proposed Scheme to the other.

### *Mount Edge bus stop*

- 8.15.16 Construction of the Hopton and Coton new footpath overbridge will be completed before the closure of Hopton Lane. Where necessary, temporary pedestrian diversions will be provided, so as to maintain access from north of the Proposed Scheme to the school pick up point at Mount Edge/Spode Avenue. All work areas will be fully fenced, in accordance with the measures set out in the draft CoCP, and safe access to dwellings, bus stops and pick-up points will be provided during construction. It is anticipated that school children on the north side of the Proposed Scheme will be able to access the bus stop via the Hopton and Coton new footpath overbridge.

## **8.16 Marston**

### **Consultation issues**

- 8.16.1 Consultees raised a number of issues with regard to the impacts of the Proposed Scheme on Marston, including:
- the location of Marston South embankment satellite compound (referred to as the Marston Lane satellite compound in the working draft EIA Report) and the impacts of construction activities on local residents;
  - the impacts of construction and isolation of residents on Marston Lane caused by the closure and creation of two cul-de-sacs and the use of Marston Lane by construction vehicles; and
  - permanent impacts of the route alignment at Marston, particularly around the potential noise effects associated with operating trains.
- 8.16.2 Consultees who raised these issues included: Jeremy Lefroy MP; Staffordshire local authorities; Marston against HS2; and individual consultees.

### **Response to consultation issues**

- 8.16.3 It is recognised that residents of Marston Lane and the wider Marston community will be affected during the construction of the Proposed Scheme.
- 8.16.4 Marston South embankment satellite compound (formerly referred to as the Marston Lane satellite compound) will be operational for a period of three years and nine months and will be used to manage the construction works associated with the Marston Lane underbridge and Marston Lane realignment.
- 8.16.5 Since the publication of the working draft EIA Report, the location of the Marston South embankment satellite compound has moved from 10m north-west to 50m north-west of properties on Marston Lane. It is, however, recognised that there are residential properties on both sides of the Marston South embankment which will be affected by construction activities.
- 8.16.6 Noise effects arising from construction activities will be controlled and reduced by the management processes set out in the draft CoCP.

- 8.16.7 The demolition of one commercial property on Marston Lane will be required, along with the need for temporary rights of small areas of land and diversion of PRoW. Eleven residential properties in Marston will experience an in-combination community effect resulting from noise, visual and traffic (HGV) effects. The noise and traffic effects will be controlled through measures set out in the draft CoCP.
- 8.16.8 The Proposed Scheme will result in significant noise and visual effects at approximately 30 residential properties, in Marston and Yarlet, during operation. Two noise fence barriers, up to 3m in height, will be located along the northern and southern sides of the Marston South embankment to provide acoustic screening for properties on Marston Lane and Yarlet Lane. There will be close range views of planted landscape earthworks. Views would be increasingly filtered by planting as it matures, but views will remain significant. The significant noise and visual effects will result in a permanent in-combination effect on the residents at these properties. Additional mitigation measures, such as noise insulation, will be provided as required at those properties affected on Marston Lane and Yarlet Lane.
- 8.16.9 Marston Lane will be realigned to cross the route of the Proposed Scheme via the Marston Lane underbridge. Access will be maintained throughout the construction phase (including for cyclists using the National Cycle Network Route 5), either by the existing route or on the new realigned route of Marston Lane once complete.

## 8.17 Yarlet School

### Consultation issues

- 8.17.1 Consultees raised a number of issues in relation to Yarlet School, including:
- request for a substantial reduction in the width of the Yarlet South cutting;
  - Yarlet Wood, the woodland beside the A34 Stone Road and the adjacent ancient oak should be protected from the construction activities;
  - adequate screening of the Marston North embankment satellite compound, Yarlet South cutting satellite compound (referred to as the A34 East and West satellite compounds in the working draft EIA Report) and Yarlet South cutting transfer node should be provided;
  - potential impacts upon the health and wellbeing of all school users from construction and operation of the Proposed Scheme; and
  - reliable road access to and from the school should be maintained and not affected by construction activities.
- 8.17.2 Consultees who raised these issues included: Yarlet School; Jeremy Lefroy MP; and individual consultees.

### *Response to consultation issues*

- 8.17.3 There has been no change to the Yarlet South cutting since the working draft EIA Report due to constraints on the alignment of the route where it crosses the A34 Stone Road.

- 8.17.4 The design of the Proposed Scheme has, however, been developed to reduce the impacts of the cutting on Yarlet School. Areas of woodland habitat creation to the north of Yarlet South cutting will be provided for ecological enhancement and ecological connectivity. This woodland will have the added benefit of providing visual screening to residents adjacent to the A34 Stone Road and Yarlet School, and to help integrate the Proposed Scheme into the surrounding landscape.
- 8.17.5 As the route passes to the south of Yarlet School, acoustic screening will be provided by the Yarlet South cutting as a result of the cutting depth in this location. As the route continues north-west of the A34 Stone Road, the depth of the cutting is reduced, which will reduce its acoustic screening capability. To mitigate the effects here, a noise fence barrier, up to 3m in height, will be installed along the top of the northern side of the Yarlet South cutting to maintain the acoustic screening for properties in Yarlet and along the A34 Stone Road, including Yarlet School. This noise mitigation will ensure an appropriate teaching environment is maintained.
- 8.17.6 During construction, in accordance with the draft CoCP, hoardings to provide screening and measures to control noise and dust emissions will be provided.
- 8.17.7 Ancient woodland at The Grove will be permanently lost due to the land required for the Yarlet South cutting, including a veteran oak tree. The loss of these resources will be partly compensated through a range of measures, including translocation of ancient woodland soils and planting of native broadleaved woodland. Approximately 3.2ha of woodland planting with native broadleaved trees and shrubs will be provided at two locations on the south side of Yarlet South cutting, which will enhance ecological connectivity between retained woodland at Yarlet Wood. On the north side of the cutting, a further 1.6ha of woodland planting (as well as grassland and pond creation) will be provided on either side of the A34 Stone Road to buffer retained areas of The Grove and the woodlands adjacent to Yarlet School.
- 8.17.8 Since publication of the working draft EIA Report, the Marston North embankment satellite compound has been reduced in size and moved approximately 50m further away from the school. The Yarlet South cutting transfer node has also been reduced in size and moved away from the school. However, the Yarlet South cutting satellite compound has been relocated and is now approximately 100m closer to Yarlet School in order to accommodate the temporary diversion of the A34 Stone Road.
- 8.17.9 In order to facilitate the realignment of existing major utilities and for construction of the A34 Stone Road overbridge, the A34 Stone Road will be diverted temporarily off-line and a speed restriction of 40mph applied through this section with access to existing properties maintained. This temporary diversion is expected to be required for one year and will maintain dual-carriageway capacity on the A34 Stone Road. The temporary diversion will not have a substantial impact on traffic flows and delays for vehicle occupants. All temporary traffic measures will be designed and constructed in accordance with the draft CoCP. On completion, the A34 Stone Road will be reinstated on its existing alignment, crossing the route of the Proposed Scheme on the A34 Stone Road overbridge.
- 8.17.10 Access to a balancing pond has been modified to provide access from the north of Marston Lane, instead of from the A34 Stone Road adjacent to Yarlet School, which

will reduce the disruption and impacts on Yarlet School. Access will be maintained to Yarlet School from the A34 Stone Road throughout the works. During construction of Yarlet South cutting and the A34 Stone Road overbridge, approximately 0.4ha of outdoor land within the main grounds of Yarlet School will be required temporarily to allow safe access for school traffic along the temporary realignment of the A34 Stone Road.

## 9 Consultation issues relating to the Stone and Swynnerton area

### 9.1 Introduction

9.1.1 The following section sets out the key locations within the Stone and Swynnerton area identified during the review of consultation responses and issues raised in respect of these. These locations comprise:

- temporary Stone railhead facility and the potential for this to become a permanent maintenance facility;
- Yarnfield Lane;
- Yarnfield community;
- M6 maintenance access junction;
- A51 Stone Road and the A519 Newcastle Road; and
- Swynnerton and local surroundings.

### 9.2 Stone railhead and Stone Infrastructure Maintenance Base - Rail

#### Consultation issues

9.2.1 Responses to the Design Refinement Consultation included both approval and disapproval of the proposal for the Stone railhead to become a permanent maintenance facility (now known as the Stone IMB-R in the Proposed Scheme) to replace the Infrastructure Maintenance Depot (IMD) located at Crewe.

9.2.2 Consultee comments in favour of the relocation are addressed in Section 11.2. This section focuses on those who registered their disapproval and raised issues with regard to the proposed relocation.

9.2.3 Issues raised by consultees included:

- potential noise, dust and light associated with the temporary Stone railhead and the consulted Stone IMB-R;
- the impact of the Stone railhead and the proposed Stone IMB-R on the general attractiveness of the area and the potential effect on property prices;
- the impact of the proposed closure of Yarnfield Lane on accessibility for residents in Stone and the surrounding area; and
- the potential impact of the Stone railhead and Stone IMB-R on the future expansion of housing developments at Yarnfield, Eccleshall and Walton.

9.2.4 Consultees who commented on this included: the Environment Agency; Jeremy Lefroy MP; Stone Town Council; Chebsey Parish Council; Swynnerton Parish Council; Staffordshire local authorities; Stop HS2; Cllr Jeremy Pert; and individual consultees.

## Response to consultation issues

- 9.2.5 It is recognised that any construction activity will give rise to some disturbance for local residents.
- 9.2.6 It is not anticipated that there will be any significant noise effects associated with the Stone railhead and the Stone IMB-R, given the existing ambient noise levels resulting from the proximity of the M6, the duration of the works and their distance from communities.
- 9.2.7 Construction plant associated with the Stone railhead main compound and associated lighting will contribute to significant effects on the landscape character and visual receptors in proximity to the site during the construction phase.
- 9.2.8 The nominated undertaker and contractors will be responsible for managing construction activity and implementing mitigation measures to reduce impacts to local residents, where reasonably practicable, in accordance with the measures set out in the draft CoCP.
- 9.2.9 During operation of the Proposed Scheme, the presence of the IMB-R and associated lighting will contribute to significant effects on the landscape character and visual receptors in proximity to the area. The permanent lighting installation will be kept as low as possible and the planting and habitat creation in this area will help to integrate the permanent maintenance facility into the surrounding landscape. Issues relating to property blight are beyond the scope of the ES. Section 5.14 of this report details where further information on property compensation can be found.
- 9.2.10 Issues relating to the proposed closure of Yarnfield Lane are addressed in Section 9.3.
- 9.2.11 The Proposed Scheme will not affect, in a substantial way, any of the proposed housing developments in and around Stone. There is a small area of land required for the Proposed Scheme, which will be within the northern boundary of an approved outline permission (13/19002/OUT) that covers the adopted allocation Policy Stone 2 West and South of Stone for 500 houses. The area affected is shown on the approved masterplan as being for green infrastructure. While the Proposed Scheme may result in a reduction in that proposed green infrastructure, it is considered that this development remains viable.

## 9.3 Yarnfield Lane

### Consultation issues

- 9.3.1 Consultees raised a number of issues with regard to the closure of Yarnfield Lane, including:
- the closure would lead to congestion and increased journey time for road users and would have a knock on effect on the wider road network including Stab Lane, Tittensor Road, the B5026 Eccleshall Road, the A34/The Fillybrooks and the A34 Stafford Road;
  - Yarnfield Lane is a key emergency service route and the closure of this road could have an impact on emergency service response times;

- impacts on road safety as a result of the proposed permanent and temporary realignments, construction traffic and diversions in the Stone and Yarnfield area, in particular the proposed realignment of Yarnfield Lane; and
- Yarnfield Lane and the surrounding road network cannot accommodate HGV construction traffic.

9.3.2 Consultees who raised the above issues included: Chebsey Parish Council; Swynnerton Parish Council; Staffordshire local authorities; Stone Town Council; Stone Rural Parish Council; Stop HS2; Highways England; North Staffordshire Bridleways Association; Wellbeing Park; and individual consultees.

### **Response to consultation issues**

9.3.3 Since publication of the working draft EIA Report, further design work has been undertaken to allow Yarnfield Lane to remain open during construction and operation of the Proposed Scheme. The revised Yarnfield Lane realignment will cross over the M6 on the Yarnfield Lane M6 overbridge replacement, which will be built offline.

9.3.4 During construction, temporary closures of Yarnfield Lane will be required for short durations to allow for the construction of connections to either end of the Yarnfield Lane realignment works, requiring two weekend closures to complete within a period of three months.

9.3.5 Temporary restrictions will also be required on Yarnfield Lane for the construction of a temporary construction access roundabout to the north-east of the route of the Proposed Scheme, which will take three months to complete.

9.3.6 New temporary northbound and permanent southbound accesses off the M6, located to the north of the existing Norton Bridge to Stone Railway, will be constructed as part of the Proposed Scheme to aid the construction of the Stone railhead and the Stone IMB-R. Both junctions will be open to the emergency services and Highways England vehicles, with the temporary northbound junction being converted to a permanent emergency access junction once construction is complete. The southbound junction will be permanent and will facilitate access to the Stone IMB-R during the operation phase. There will be no change to journey length as a result of the realignment of Yarnfield Lane and therefore no impact to access for emergency services.

9.3.7 As the existing carriageway width is not sufficient to allow for safe passing of construction HGVs, certain sections of Yarnfield Lane will be widened between the A34 Stafford Road/The Fillybrooks and the M6. These temporary modifications will remain in place for the duration of the construction of the Proposed Scheme.

9.3.8 All temporary traffic measures will be designed and constructed in accordance with the draft CoCP.

9.3.9 The design of the temporary works at this location will take account of the safety of non-motorised road users and provide suitable protection and segregation from motorised users where appropriate.

## 9.4 Yarnfield community

### Consultation issues

- 9.4.1 The closure of Yarnfield Lane and the potential reduced accessibility to local amenities such as schools, GP surgeries and shops for residents and businesses at Yarnfield Lane was raised during consultation.
- 9.4.2 Consultees who raised these issues included: Swynnerton Parish Council; Staffordshire local authorities; Stone Town Council; Wellbeing Park; Springfields First School; and individual consultees.

### Response to consultation issues

- 9.4.3 Since publication of the working draft EIA Report, further design work has been undertaken to allow Yarnfield Lane to remain open during construction and operation of the Proposed Scheme.
- 9.4.4 The realignment of Yarnfield Lane, with short-term temporary closures to facilitate specific works, will reduce impacts on the accessibility of community facilities and key amenities such as schools and shops, and mitigate the loss of access between nearby communities.

## 9.5 M6 access

### Consultation issues

- 9.5.1 Consultees requested provision of a new full standard motorway junction between junctions 14 and 15 of the M6, to accommodate construction traffic.
- 9.5.2 Consultees who raised this issue included Staffordshire local authorities and individual consultees.

### Response to consultation issues

- 9.5.3 A new maintenance access junction will be constructed to provide access to the Stone railhead and IMB-R from the M6. During construction, access will be via a new permanent southbound junction and a temporary northbound junction. The southbound junction will provide a permanent access to the Stone IMB-R during operation for the use of HS2 and emergency vehicles only.
- 9.5.4 The temporary northbound slip road will be removed following the construction phase and replaced with an access for emergency use. This will be restricted to Highways England and emergency use and not for use of the general public. As the motorway is infrastructure provided and managed by Highways England, it is not appropriate for HS2 Ltd to seek to provide a new junction for general public use.

## 9.6 A51 Stone Road, Stab Lane and the A519 Newcastle Road

### Consultation issues

- 9.6.1 Consultees raised a number of issues with regard to the A51 Stone Road, Stab Lane and the A519 Newcastle Road, including:
- diverted traffic from the temporary closure of the A51 Stone Road will lead to congestion on the A519 Newcastle Road and Stab Lane;

- Stab Lane is not suitable to facilitate high volumes of traffic and HGV vehicles; and
- a roundabout was requested to replace the proposed T-junction at the junction of the A51 Stone Road and the A519 Newcastle Road.

9.6.2 Consultees who raised the above issue included: Chebsey Parish Council; Swynnerton Parish Council; and individual consultees.

### **Response to consultation issues**

9.6.3 Since the publication of the working draft EIA Report, design refinements include the provision of a new roundabout to join the A51 Stone diversion to the A519 Newcastle Road.

9.6.4 Stab Lane will be closed to the west of the route of the Proposed Scheme and it will not be used to accommodate high levels of traffic or HGV vehicles. Access and connectivity between Swynnerton and the A51 Stone Road will be maintained via the diverted Tittensor Road.

9.6.5 To facilitate the realignment of existing major utilities and for construction of the A519 Newcastle Road overbridge, the A519 Newcastle Road will be diverted temporarily off-line adjacent to the existing alignment. The A51 Stone Road diversion will be fully constructed off-line, and both will require intermittent lane restrictions or overnight and weekend closures to tie the new diversions back in with the existing alignments.

9.6.6 The construction works associated with the roundabout at the A51 Stone Road and the A519 Newcastle Road junction, the temporary diversion of the A519 Newcastle Road, closure of Stab Lane and the diversion of Tittensor Road will not result in any increases in queuing or delays to traffic at this location. The closure of Stab Lane will, however, increase traffic flows on the diverted Tittensor Road, resulting in a minor adverse significant effect on traffic-related severance for non-motorised users of the diverted Tittensor Road.

## **9.7 Swynnerton and local surroundings**

### **Consultation issues**

9.7.1 Issues were raised with regard to the impact of construction and operation of the Proposed Scheme on the wildlife, ancient woodland, hedgerows and wetland in Swynnerton and the local area.

9.7.2 Consultees who raised the above issues included: Swynnerton Parish Council; Chebsey Parish Council; Staffordshire Wildlife Trust; and individual consultees.

### **Response to consultation issues**

9.7.3 The baseline developed to inform the ecological assessment has incorporated existing information available from a range of local organisations including Staffordshire County Council and the Staffordshire Wildlife Trust. It is also informed by ecological surveys undertaken where access has been made available. The ES reports the likely significant effects on habitats found in the Stone and Yarnfield area and protected and notable species, and describes the mitigation that will be put in place. Important sites in the area that have been considered include Clifford's Wood and Swynnerton

Old Park Local Wildlife Sites. Where significant effects are identified, the ES describes the appropriate mitigation and compensatory measures that will be put in place, and identifies areas of habitat creation.

## 9.8 Swynnerton village

### Consultation issues

- 9.8.1 Consultees raised issues with regard to the general accessibility and potential isolation of residents at Swynnerton village as a result of construction activities and alterations to the local road network and footpaths.
- 9.8.2 Issues were also raised with regard to the impact of construction and alterations to the local environment, on the general attractiveness and setting around Swynnerton village.
- 9.8.3 Consultees who raised the above issues included: Swynnerton Parish Council; Chebsey Parish Council; Rector and PCC St. Mary's Church; North Staffordshire Bridleways Association; and individual consultees.

### Response to consultation issues

- 9.8.4 Issues regarding Stab Lane and its impact upon Swynnerton have been addressed in Section 9.6.
- 9.8.5 A number of changes have been made to the Proposed Scheme since publication of the working draft EIA Report, which will generally improve connectivity around Swynnerton. These changes include:
- provision is made for users of the existing section of Swynnerton Bridleway 54, a short section of which will be closed, alongside the diverted A51 Stone Road;
  - provision of the Swynnerton New Bridleway to replace a connection lost as a result of the closure of Tittensor Road. A diversion of Tittensor Road will be provided to maintain vehicular connectivity;
  - provision of the Swynnerton New Bridleway 2 to provide a connection from 100m south of the Tittensor Road overbridge for 300m in a south-east to north-west direction to re-join Stab Lane;
  - provision of the Swynnerton Footpath 15 green overbridge, allowing the Swynnerton Footpath 15 to be maintained along its existing alignment as well as providing ecological connectivity across the route of the Proposed Scheme;
  - the development of mitigation, such as noise and landscape earthworks, the Swynnerton Estate North green overbridge, compensatory planting and replacement ponds and wetlands throughout the Stone and Swynnerton area to reduce effects on receptors and enhance the local environment;
  - Hanchurch Hills Circular Walk, Staffordshire Cakes and Ales Trail and the Stone Circles Challenge footpaths will be accessible throughout the construction period; and

- Rowe Farm overbridge provided, approximately 600m north of Swynnerton Footpath 15 overbridge. The Rowe Farm overbridge is for agricultural access only to allow vehicular access to both sides of the route of the Proposed Scheme.

9.8.6 In the Swynnerton area, for example, along the Swynnerton embankment, noise barriers will be provided as part of the Proposed Scheme to avoid or reduce adverse effects due to operational train noise.

9.8.7 It is acknowledged that the setting of Swynnerton may be affected by construction activity and by the presence of site haul routes and materials stockpiles, altering the undulating rural landscape. During operation, landscaped earthworks will integrate the Proposed Scheme into the surrounding landscape as the planting matures.

# 10 Consultation issues relating to the Whitmore Heath to Madeley area

## 10.1 Introduction

10.1.1 The following section sets out the key locations within the Whitmore Heath to Madeley area identified during the review of consultation responses and issues raised in respect of these. These locations comprise:

- Meece Brook Valley;
- A53 Newcastle Road;
- Baldwin's Gate;
- Whitmore Heath;
- Whitmore Heath Tunnel;
- Snape Hall Road;
- Whitmore Wood;
- Lea Valley (River Lea viaduct and Lea North embankment);
- Manor Road;
- Bar Hill (A525 Bar Hill Road); and
- Madeley Bridleway 1 (Red Lane).

## 10.2 Meece Brook Valley

### Consultation issues

10.2.1 Consultees raised a number of issues in relation to the design of the Meece Brook viaduct and Meece embankments, including:

- the height of the scheme over the Meece Brook viaduct and Meece embankment;
- the potential visual impact of the elevated scheme, in particular, to residents of Whitmore; and
- potential noise disturbance from trains passing over the viaduct and embankment at this location.

10.2.2 Consultees who commented on the above issues included: Whitmore Parish Council; Sir William Cash MP; Manor Road HS2 Action Group; Whitmore Heath Action Group; Whitmore and Baldwin's Gate HS2 Action Group; Chapel Hill Chorlton; Maer & Aston and Whitmore Neighbourhood Development Plan Group; and individual consultees.

## Response to consultation issues

- 10.2.1 The height of Meece Brook viaduct and accompanying embankment is primarily determined by constraints on the alignment at Stableford and Whitmore Heath tunnel.
- 10.2.2 While the height has not been lowered since the design presented in the working draft EIA Report, further visual mitigation measures will now be included in the Proposed Scheme. Landscaped earthworks are proposed to the north and south of the Meece embankment, with slopes graded out to integrate the Proposed Scheme into the surrounding landscape. The earthworks will help to mitigate visual impacts of the Proposed Scheme at this location, but it is recognised that the Meece Brook viaduct will still be prominent.

## 10.3 A53 Newcastle Road overbridge

### Consultation issues

- 10.3.1 Consultees raised a number of issues with regard to the permanent realignment of the A53 Newcastle Road and provision of an overbridge, including:
- requesting that the route be lowered so that it could pass under the A53 Newcastle Road without the need to raise the road; and
  - the visual impact associated with the A53 Newcastle Road overbridge.
- 10.3.2 Consultees who commented on the above issues included: Maer and Aston Parish Council, Whitmore; Madeley and Chorlton parishes; Whitmore Parish Council; Loggerheads Parish Council; Sir William Cash MP; Neighbours Action Group; Whitmore Heath Action Group; Whitmore and Baldwin's Gate HS2 Action Group; Manor Road HS2 Action Group; Chapel Hill Chorlton; Maer & Aston and Whitmore Neighbourhood Development Plan Group; and individual consultees.

### Response to consultation issues

- 10.3.3 The vertical alignment of the route in this location is primarily determined by constraints at Stableford and Whitmore Heath tunnel. Since the working draft EIA Report, the Proposed Scheme design at the A53 Newcastle Road has developed further but still requires the A53 Newcastle Road to be raised due to these constraints. The A53 Newcastle Road horizontal alignment has been moved slightly to the south, since the working draft EIA Report, in order to reduce the visual impacts and intrusion on properties on the north side of the A53 Newcastle Road.
- 10.3.4 The likely visual impact of the A53 Newcastle Road overbridge has been reported in the ES. In summary, it is recognised that views of the overbridge will be prominent but will largely be screened by the earthworks and planting as it matures.

## 10.4 A53 Newcastle Road construction traffic

### Consultation Issues

- 10.4.1 Consultees raised a number of issues with regard to the proposal to provide a temporary diversion of the A53 Newcastle Road during the construction period, including:

- the proposed temporary closure and use of the A53 Newcastle Road as a construction route could potentially lead to increased journey times and general disruption for road users accessing places of work, homes and other community amenities; and
- it was noted that the existing A53 Newcastle Road is a dangerous and busy road and that construction traffic could exacerbate road safety issues at this location.

10.4.2 Consultees who commented on the above issues included: Maer and Aston Parish Council; Whitmore, Madeley and Chorlton parishes; Whitmore Parish Council; Loggerheads Parish Council; Sir William Cash MP; Neighbours Action Group; Whitmore Heath Action Group; Whitmore and Baldwin's Gate HS2 Action Group; Manor Road HS2 Action Group; Chapel Hill Chorlton; Maer & Aston and Whitmore Neighbourhood Development Plan Group; and individual consultees.

### **Response to consultation issues**

10.4.3 A temporary diversion will be provided while the realignment of the A53 Newcastle Road is constructed. The temporary diversion will be adjacent to the existing alignment and is expected to be in use for approximately one year and nine months. It will serve to maintain access to key community facilities in the area during construction of the realignment of the A53 Newcastle Road. This will not create significant traffic or severance effects.

10.4.4 The A53 Newcastle Road will be used as a construction route for approximately five years and nine months. Likely traffic volumes are reported in the ES. This will result in a substantial increase in peak hour traffic flows, which will result in traffic related severance for non-motorised users of the A53 Newcastle Road between the A51 London Road and the A5182 Trentham Road.

10.4.5 The proposed temporary roundabout on the A53 Newcastle Road will alleviate congestion. Temporary traffic measures will be designed and constructed in accordance with the draft CoCP and will take account of the safety of non-motorised road users and provide suitable protection and segregation from motorised users.

## **10.5 Baldwin's Gate**

### **Consultation issues**

10.5.1 The village of Baldwin's Gate is located approximately 1km west of the Proposed Scheme, adjacent to the section of the route of the Proposed Scheme which passes in the Whitmore South cutting, under the realigned A53 Newcastle Road, and enters the southern porous portal of Whitmore Heath tunnel.

10.5.2 The following issues were raised with regard to the impacts of the route on residents of Baldwin's Gate:

- it was stated the general tranquillity and the quality of life of the residents of Baldwin's Gate could be reduced during construction of the Proposed Scheme;
- the potential disturbance from construction traffic travelling through Baldwin's Gate on the A53 Newcastle Road; and

- the realignment and temporary closure of footpaths in the area, in particular Whitmore Footpath 4, could reduce pedestrian accessibility around Baldwin's Gate. Consultees requested further information around the closure of Whitmore Footpath 4.

10.5.3 Consultees who commented on the above issues included: Whitmore and Baldwin's Gate HS2 Action Group; Whitmore Heath Action Group, Whitmore Parish Council; Staffordshire local authorities; Sir William Cash MP; Madeley HS2 Action Group; Chapel Hill Chorlton; Maer & Aston and Whitmore Neighbourhood Development Plan Group; North Staffordshire Bridleways Association; and individual consultees.

### **Response to consultation issues**

10.5.4 Changes have been made since the publication of the working draft EIA Report to the proposed construction activities associated with the southern porous portal of the Whitmore Heath tunnel and the A53 Newcastle Road alignment.

10.5.5 Construction works at the entrance to the Whitmore Heath tunnel will be carried out below ground level, reducing the effects of construction activities on Baldwin's Gate.

10.5.6 As described in Section 10.4, temporary traffic measures, including a roundabout on the A53 Newcastle Road, will reduce the impact of construction activities on local traffic, without resulting in any significant severance effect on non-motorised users.

10.5.7 The arrangement of the temporary diversion of Whitmore Footpath 4 has been refined since the working draft EIA Report. For the first six months of construction, users will be diverted around the extent of the area required to construct the Whitmore Heath cut and cover tunnel. Users will then be temporarily diverted for a period of three years and six months south around the satellite compound, via realigned A53 Newcastle Road before re-joining current alignment at A53/Common Lane junction.

## **10.6 Whitmore Heath**

### **Consultation issues**

10.6.1 Consultees raised the following issues with regard to the ground conditions at Whitmore Heath, including:

- Whitmore Heath is unsuitable for tunnelling due to the geological conditions of the heath; and
- ground investigation work should be conducted to confirm whether tunnelling at Whitmore Heath is feasible.

10.6.2 Consultees who commented on the above issues included: Whitmore Parish Council; Whitmore and Baldwin's Gate HS2 Action Group; the Environment Agency; Neighbours Action Group; Sir William Cash MP; and individual consultees.

### **Response to consultation issues**

10.6.3 Data available from the British Geological Survey (BGS) and other borehole information has been used to inform the design development at this stage. HS2 Ltd remains of the opinion that tunnelling is viable, based on this information. Further

ground investigation will be carried out to inform the development of the Proposed Scheme design in this area and to refine the tunnelling methodology.

## 10.7 Whitmore Heath tunnel

### Consultation issues

- 10.7.1 Consultees raised a number of issues with regard to the potential impact of construction and operation of the Whitmore Heath tunnel, including:
- sound, noise and vibration arising from 24/7 tunnelling activities and associated construction works would degrade the general quality of life and tranquillity for residents of Whitmore Heath; and
  - the potential sound, noise and vibration related to operational trains travelling through Whitmore Heath tunnel could be disruptive for residents of Whitmore Heath.
- 10.7.2 Consultees who commented on the above issues included: Staffordshire local authorities; Madeley Parish Council; Madeley HS2 Action Group; Manor Road HS2 Action Group; Whitmore and Baldwin's Gate HS2 Action Group, Whitmore Heath Action Group; Neighbours action group; and individual consultees.

### Response to consultation issues

- 10.7.3 Residents of Whitmore Heath will be located closer to the northern portal of the Whitmore Heath tunnel, whereas construction activities associated with the Whitmore Heath tunnel are concentrated at the southern porous portal of the tunnel.
- 10.7.4 At the northern porous portal, construction activities will take place during the daytime and will be limited during evenings and at night. There will be night-time construction activity at the southern portal and noise barriers will be provided to screen this activity.
- 10.7.5 Nonetheless it is recognised that despite mitigation, there will still be significant effects on residents. The ES reports significant visual, noise and vibration effects arising from the tunnelling works undertaken at Whitmore Heath.
- 10.7.6 At Whitmore Heath, noise mitigation including noise fence barriers and earth bunds have been included into the Proposed Scheme. Additionally, the design of the tunnel portal structures will reduce airborne noise levels. However, during operation of the Proposed Scheme, an airborne noise effect is identified at the residential dwellings on Whitmore Heath, close to the northern tunnel portal, in the vicinity of Snape Hall Road and Birch Tree Close. A significant operational airborne noise effect is not identified at the properties close to the southern portal.
- 10.7.7 Using worst-case assumptions regarding ground conditions at Whitmore Heath, ground-borne noise effects from the operation of HS2 have been identified at a small number of dwellings which are directly above the proposed tunnels. HS2 Ltd will continue to seek reasonably practicable measures to further reduce or avoid these effects.

## 10.8 Snape Hall Road

### Consultation Issues

10.8.1 Consultees raised the following issues with regard to Snape Hall Road:

- it was noted that severance of Snape Hall road at the northern porous portal of Whitmore Heath and the proximity of the land required for the Proposed Scheme, would lead to isolation of residents at Whitmore Heath;
- it was stated that 24/7 construction activities and associated traffic movements along Snape Hall Road would be disruptive and degrade the quality of life for residents of Snape Hall Road and Whitmore Heath; and
- Snape Hall Road was stated as unsuitable to facilitate HGV vehicles; and suitable access has not been provided for properties located on Snape Hall Road.

10.8.2 Consultees who raised these issues included: Neighbours Action Group; Whitmore Parish Council; Staffordshire local authorities; Sir William Cash MP; and individual consultees.

### Response to consultation issues

10.8.3 Since publication of the working draft EIA Report, changes have been made to the scheme at Snape Hall Road. A section of Snape Hall Road will be closed resulting in a diversion up to 950m for non-motorised users. This closure is not expected to have a significant effect on motorised users.

10.8.4 Construction access on Snape Hall Road will be required for a period of up to five years in total. Initially, access from Snape Hall Road will also be required to set-up the Whitmore North cutting satellite compound and to undertake permanent improvement works to Snape Hall Road (and Common Lane) to be permanently widened to 5.5m. The upgrade works will be undertaken early in the construction programme and take up to six months with traffic management on Snape Hall Road to minimise any disruption to existing residential dwellings. Once Whitmore North cutting satellite compound has been set-up construction HGVs will access the compound via site haul route from the A53 Newcastle Road.

10.8.5 On completion of the main construction works, access on Snape Hall Road will be required for the Whitmore Heath tunnel north portal satellite compound and Whitmore North auto-transformer station satellite compound for rail systems use and this will be for the final 15 months of the construction period.

10.8.6 During the construction period it is recognised that there will be some noise disturbance on residential properties along Snape Hall Road caused by construction traffic. Further information on construction traffic numbers are detailed in the Transport Assessment in Volume 5 of the ES.

10.8.7 Access to Whitmore Heath will be maintained via the retained sections of Snape Hall Road to the east and west of the route, Heath Road and Common Lane. Widening of Snape Hall Road will not be undertaken on the side of the road where there are residential properties. Access to residential properties on Snape Hall Road will be kept

open at all times other than limited closures overnight or by arrangement with the owners.

## 10.9 Whitmore Wood Ancient Woodland

### Consultation issues

10.9.1 Consultees raised the following issues with regard to impact of the Proposed Scheme on Whitmore Wood:

- Whitmore Wood is an ancient woodland habitat and any loss of this habitat resulting from the construction of the Proposed Scheme cannot be fully mitigated or compensated for; and
- the local white deer population is valued by the local community and deer could be harmed by trains at this location.

10.9.2 Consultees who commented on the above issues included: Natural England; Woodland Trust; the Environment Agency; Sir William Cash MP; Staffordshire local authorities; Staffordshire Wildlife Trust; Whitmore Parish Council; the Forestry Commission; Neighbours action group; and individual consultees.

### Response to consultation issues

10.9.3 A partially retained cutting was introduced into the Proposed Scheme as a response to consultation on the design announced by the Secretary of State in November 2015<sup>14</sup>. Prior to this, a cutting over 100m wide was proposed. The width of the cutting was reduced to approximately 60m through the use of a retained cut on the north-east side.

10.9.4 Following a review of alternatives, the tunnel portal building and rescue area has been moved to the south of the route of the Proposed Scheme. This has reduced the requirement for rail infrastructure to the north of the route, close to the woodland planting near Whitmore Wood and allowed the maximum width of Whitmore North cutting to be limited to approximately 50m.

10.9.5 There will still be a loss of ancient woodland at this location. HS2 Ltd acknowledges that ancient woodland habitat is irreplaceable. To partially compensate for the loss of woodland habitat, a significant amount of new woodland will be planted within the Whitmore Heath to Madeley area, enhancing linkages between the retained area of Whitmore Wood and Hey Sprink ancient woodland. Ancient woodland soil will be translocated with its associated seed bank where appropriate. In addition, woodland enhancement will be undertaken in the remaining area of Whitmore Wood that will not be required for the Proposed Scheme.

10.9.6 Mitigation measures to avoid harm to wildlife from train strikes (including the local fallow deer populations) will include the use of fencing alongside the Proposed Scheme in the vicinity of areas such as Whitmore Wood.

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<sup>14</sup> Gov.uk (2016), *Collection: HS2 Phase Two: from the West Midlands to Leeds and Manchester*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-two-from-the-west-midlands-to-leeds-and-manchester>

- 10.9.7 The construction and operation of the Proposed Scheme is not anticipated to have an effect on the local deer population.

## **10.10 Lea Valley**

### **Consultation issues**

- 10.10.1 Consultees raised the following issues with regard to the height of the route over the Lea Valley:
- it was stated that the height of the Proposed Scheme at this location could alter the visual landscape of the Lea Valley and negatively affect views for local receptors, in particular the residents of Madeley Park Wood; and
  - it was stated that the noise from operational trains traveling over the viaduct and embankment at this location would negatively affect residents of Manor Road and Madeley Park Wood.
- 10.10.2 Consultees who commented on the above issues included: Staffordshire local authorities; Maer & Aston Parish Council; Whitmore Parish Council; Sir William Cash MP; Staffordshire Wildlife Trust; Manor Road HS2 Action Group; and individual consultees.

### **Response to consultation issues**

- 10.10.3 The Proposed Scheme will be integrated into the surrounding landscape as far as reasonably practicable, but the height of the River Lea viaduct is constrained by the clearance required over the WCML and Stoke to Market Drayton Railway (also known as the Silverdale line of the Stoke to Market Drayton Railway). The River Lea viaduct has increased in length from 485m to 785m following further floodplain modelling undertaken since publication of the working draft EIA Report. As proposed landscape planting matures and becomes further integrated with the landscape, the visual impact of the Proposed Scheme will be reduced. However, the impact of the Proposed Scheme in this location will lead to significant visual effects, which cannot be fully mitigated.
- 10.10.4 A noise fence barrier up to 4m in height will extend from the Whitmore Heath northern tunnel portal and along the top of the Whitmore North cutting. This noise barrier will provide acoustic screening for properties to the east of the route on Snape Hall Road, and in Whitmore Heath and Madeley Park Wood.

## **10.11 Manor Road**

### **Consultation issues**

- 10.11.1 Manor Road is a main local route which serves the village of Baldwin's Gate and Bower End Lane as well as residents at Madeley Park Wood. A section of Manor Road runs adjacent to the west of the Proposed Scheme until it crosses the route via the Manor Road overbridge and continues to the north east of the scheme.
- 10.11.2 Consultees raised the following issues with regard to Manor Road including:
- the realignment of Manor Road and associated construction traffic on this route will be disruptive in terms of congestion and journey times for local road users;

- increased traffic on Manor Road associated with construction activities;
- construction work on Manor Road could isolate residents of Madeley Park Wood from the amenities at Madeley, such as schools, doctors and shops;
- access to properties on Manor Road could be affected during construction;
- potential disruption to local residents from the noise of construction traffic along Manor Road, particularly for residents at Madeley Park Wood; and
- safety of non-vehicular road users of Manor Road who would share the route with construction traffic.

10.11.3 Consultees who commented on the above issues included: Staffordshire local authorities; Maer and Aston Parish Council, Sir William Cash MP; Manor Road HS2 Action Group; Neighbours action group; North Staffordshire Bridleways Association; residents of Madeley Park Wood; and other individual consultees.

### **Response to consultation issues**

10.11.4 Manor Road is expected to be used for four years and six months for construction traffic accessing the River Lea viaduct satellite compound.

10.11.5 At Manor Road, localised lane diversions to facilitate the construction of the Manor Road overbridge will be required. Localised diversions are expected to be required for approximately three months and some short term lane closures will be required to facilitate construction of the tie-ins with the existing road.

10.11.6 The off-line construction of the Manor Road overbridge and realignment will have no adverse effect on road users other than during intermittent lane closures and overnight and weekend closures for the tie-ins with the existing road. It is not anticipated that construction activities at Manor Road will lead to isolation of residential properties at Madeley Park Wood from amenities at Madeley.

10.11.7 There is one borrow pit in the Whitmore Heath to Madeley area, which is located west of Netherset Hey Farm. The use of site haul routes and the borrow pit at this location will help to reduce the impact of construction HGV traffic on public roads, including Manor Road. Other effects arising from the use of borrow pits in the Proposed Schemes are reported in the ES. Prior to commencement of works, a route-wide traffic management plan (RTMP) will be produced in consultation with the highway authority. This will include measures to provide for road safety for all modes for the public and construction staff during traffic management works and temporary traffic control measures.

## **10.12 Bar Hill**

### **Consultation issues**

10.12.1 In the Bar Hill area, the route of the Proposed Scheme would be in the Madeley cutting, continuing under the A525 Bar Hill overbridge, before entering a porous portal and Madeley tunnel, to the west of Madeley.

10.12.2 Consultees raised the following issues in relation to Bar Hill:

- issues were raised regarding potential noise and visual disturbance, and general disruption for residents, associated with construction work, construction traffic and construction activities for residents at Bar Hill;
- the A525 Bar Hill Road is unsuitable to accommodate HGVs and construction traffic; and
- construction and operation of the Proposed Scheme could impact local drainage in relation to the reservoir and LWS located on Bar Hill.

10.12.3 Consultees who commented on the above issues included: Staffordshire local authorities; Whitmore Parish Council; Madeley Parish Council; Whitmore and Baldwin's Gate HS2 Action Group; Whitmore Heath Action Group; Madeley HS2 Action Group; Madeley Conservation Group; North Staffordshire Bridleways Association; and individual consultees.

### **Response to consultation issues**

10.12.4 The off-route highway modifications proposed for the A525 Bar Hill Road will help facilitate access for HGVs and accommodate construction traffic, while minimising conflict with other road users. The use of site haul routes alongside the route of the Proposed Scheme and borrow pits will reduce the amounts of material moved by HGVs carrying excavated material to and from construction sites and help to reduce the amount of construction traffic on the A525 Bar Hill Road.

10.12.5 It is anticipated that the A525 Bar Hill Road will be used for construction traffic for approximately four years and six months. During this period, the road will be diverted to facilitate construction of a new over overbridge. Localised diversions and traffic management are expected to be required for approximately three months to facilitate installation of the proposed overbridge. These diversions will not have a substantial impact on road users in relation to traffic flows and delays.

10.12.6 Construction works and the presence and operation of the Proposed Scheme will have significant temporary and permanent effects on the landscape character and upon visual receptors in proximity to the A525 Bar Hill Road. Landscape mitigation planting will be provided between properties alongside the A525 Bar Hill Road and the route of the Proposed Scheme.

10.12.7 During construction, the permanent design drainage outfalls and balancing ponds, in addition to temporary pollution control, will be used to prevent pollution of the existing groundwater.

10.12.8 In accordance with the draft CoCP, appropriate measures will be adopted further to protect the ecology of the South Cheshire area, including the potential for indirect impacts to key sites such as Basford Brook LWS from other nearby works. Further information on how the HS2 Ltd will seek to manage ecological impacts is set out in HS2 Ltd Information Paper: E2 Ecology.

## 10.13 Madeley Bridleway 1 (Red Lane)

### Consultation issues

10.13.1 Consultees raised a number of issues in relation to the Madeley Bridleway 1 (Red Lane), including:

- the permanent realignment of Red Lane and Madeley Bridleway 1;
- the longer route which users of the Bridleway would have to take to the A525 Bar Hill overbridge where it would join the road;
- this route is a key pedestrian link from Madeley to Onneley, valued by residents at both locations and that Red Lane is an historic cart way;
- realigning Red Lane and Madeley Bridleway 1 to join the A525 Bar Hill Road would provide a less safe passage for equestrians, cyclists and pedestrians if users were on the route with vehicles; and
- Red Lane and Madeley Bridleway 1 should remain as a separate route to the A525 Bar Hill Road.

10.13.2 Consultees who commented on the above issues included: Madeley Parish Council; Staffordshire local authorities; North Staffordshire Bridleways Association; Madeley HS2 Action Group; and individual consultees.

### Response to consultation issues

10.13.3 Since publication of the working draft EIA Report, the Madeley Bridleway 1 (Red Lane) accommodation green overbridge has been provided as part of the Proposed Scheme and will maintain the link between Madeley and Onneley. The overbridge will retain the existing alignment and connection of Madeley Bridleway 1 to the A525 Bar Hill Road.

10.13.4 Madeley Bridleway 1 accommodation overbridge was widened to become a green bridge to maintain the historic alignment of the lane, retain some of the landscape character and provide ecological connectivity across the route of the Proposed Scheme.

10.13.5 The widening of the western section of Madeley Bridleway 1 (Red Lane) will involve retaining the existing southern hedgerow and widening north to create a 3.5m wide bridleway with 1.5m verges on either side. The level and horizontal alignment is designed to reflect the existing as closely as possible, with the exception of the approach to the proposed bridge structure. Where the widened section of Madeley Bridleway 1 (Red Lane) meets the A525 Bar Hill Road, a priority junction is provided.

10.13.6 During construction, Madeley Bridleway 1 (Red Lane) will be temporarily diverted, at different times, either to the south of the proposed overbridge to re-join the existing alignment of Madeley Bridleway 1 or along the western side of the proposed Madeley cutting satellite compound and Madeley cutting transfer node to re-join the A525 Bar Hill Road.

# 11 Consultation issues relating to the South Cheshire area

## 11.1 Introduction

11.1.1 The following section sets out the key locations within the South Cheshire area identified during the review of consultation responses and issues raised in respect of these. These locations comprise:

- Crewe IMD;
- Crewe tunnel extension;
- Basford Brook;
- Newcastle Road;
- Chorlton;
- Chorlton Lane;
- Den Lane; and
- Meres and Mosses Nature Improvement Area (NIA).

## 11.2 Crewe IMD

### Consultation issues

11.2.1 As part of the Design Refinement Consultation, consultees were invited to comment on the potential for a permanent maintenance facility to be located near Stone, on the footprint of the proposed railhead, to replace the IMD at Crewe.

11.2.2 In summary, many consultees stated their support for the relocation of the IMD from Crewe to Stone. They noted that the previous location of the Crewe IMD, described in the Phase 2a scheme announced by the Secretary of State in November 2015, would have taken part of the land required for the Basford East and Basford West planned developments and the existing Freightliner Group Limited facilities at Basford Hall. The proposed developments at Basford East and West are part of a regional and strategic employment site in the Crewe and Nantwich Local Plan. It was also noted that work has commenced on various road and housing improvements at Basford West.

11.2.3 Consultees who raised the above issues included Cheshire East Council: Crewe Town Council; Freightliner Group Limited; Weston and Basford Parish Council; Hough and Chorlton Parish Council; TSSA Crewe & Cheshire General Branch; Cllr Janet Clowes; The Inland Waterways Association; Highways England; Cheshire Wildlife Trust; Dean Lewis Estates Limited; Taylor Wimpey UK Limited; and individual consultees.

### Response to consultation issues

11.2.4 The Proposed Scheme now reflects the removal of the IMD, reception tracks and associated highway and modifications from Crewe. An IMB-R will now be located near

Stone. A range of further refinements have followed from the change in scheme design at Crewe.

- 11.2.5 The Basford West site (proposed for 370 residential properties), Mill Lane allotments and a number of residential properties will no longer be within the land required for the Proposed Scheme. Land is still required at the Basford East site to facilitate works to the WCML.
- 11.2.6 The relocation of the IMD will avoid the disruption to the local road network in this area, including the need to reconstruct the A500 Shavington Bypass and Weston Lane and to permanently close the B5071 Jack Mills Way. It avoids the need to affect approved planning permissions for commercial and residential development and avoids the need to demolish up to 40 residential properties (identified as under construction at the time of the working draft EIA Report) at the Basford West development site, off the B5071 Jack Mills Way. This design refinement will also reduce the impacts on the Hough area as the reception tracks are no longer required.

### **11.3 Relocation of spurs**

#### **Consultation issue**

- 11.3.1 As part of the Design Refinement Consultation, consultees were invited to comment on the revised location of the HS2 spurs compared to that presented in the 2015 route announcement. Consultees generally supported moving the spurs further south of Crewe to reduce construction activity in the area and to avoid disruption to the WCML though it was stated by some that there would be impacts to specific locations, as noted in this section.
- 11.3.2 Consultees who raised the above issues included Cheshire East Council; Crewe Town Council; Freightliner Group Limited; Weston and Basford Parish Council; Hough and Chorlton Parish Council; The Inland Waterways Association; Dean Lewis Estates Limited; Taylor Wimpey UK Limited; and individual consultees.

#### **Response to Consultation issues**

- 11.3.3 The Proposed Scheme reflects the design and location of the HS2 spurs that were outlined in the Design Refinement Consultation document. This reflects consultee support for the relocation of the spur lines further south of Crewe.

### **11.4 Crewe tunnel extension**

#### **Consultation issues**

- 11.4.1 As part of the Design Refinement Consultation, consultees were invited to comment on a Crewe tunnel extension design refinement, compared to that described in the Phase 2a scheme announced by the Secretary of State in November 2015. Consultees supported extending the Crewe tunnel to the south.
- 11.4.2 One of the main reasons given by consultees was the likely reduction of construction activity in the Weston and Basford area, which would accompany the extension of the Crewe Tunnel to the south. Consultees also noted that this would also avoid the need to reconstruct a number of highways such as the A500 Shavington Bypass overbridge, Weston Lane overbridge, Casey Lane, Newcastle Road, Croatia Mill Road and Crewe

Road provided that the IMD and associated reception tracks were also removed. It was also noted this refinement would reduce disruption to the existing Freightliner Group Limited facilities at Basford Hall.

- 11.4.3 Consultees who commented on the above issue included: Network Rail; the Environment Agency; Weston and Basford Parish Council; Freightliner Group Limited; Cheshire East Council; Cllr Janet Clowes; Hough and Chorlton Parish Council; Crewe Town Council; Inland Waterways Association; Dean Lewis Estates Limited; TSSA Crewe & Cheshire General Branch; Wardell Armstrong; Taylor Wimpey UK; and individual consultees.
- 11.4.4 Comments received from consultees on the impacts of the Crewe tunnel extension on Chorlton are discussed in Section 11.7.

### **Response to consultation issues**

- 11.4.5 Disruption to the surrounding road network and the proximity of the Proposed Scheme to Chorlton were important considerations in the Crewe tunnel extension design refinement. In the Proposed Scheme, the Crewe tunnel portal has been moved further south by approximately 340m, compared to the design in the working draft EIA Report. Any further relocation to the south is constrained given the requirement to connect to the existing WCML. These include requirements for a number of power supply, signalling, operational and safety systems that are needed to enable safe routing of trains from HS2 to the WCML and vice versa.
- 11.4.6 These changes to the Proposed Scheme will reduce impacts on a number of highways such as the A500 Shavington Bypass, Weston Lane, Crotia Mill Road and the B5071 Crewe Road in comparison to the design described in the Phase 2a scheme announced by the Secretary of State in November 2015. Impacts to Newcastle Road and Casey Lane have been reduced and the Proposed Scheme includes appropriate mitigation arrangements for the proposed developments at Newcastle Road and Casey Lane.

## **11.5 Basford Brook**

### **Consultation issues**

- 11.5.1 Cheshire Wildlife Trust, Cheshire East Council and the Environment Agency raised issues in relation to the impact on the Basford Brook LWS from an ecological perspective. Specifically, it was noted that the construction of the proposed culvert on the A500 Shavington Bypass could affect white-clawed crayfish pools at this location. Consultees requested appropriate mitigation should be included within the design.

### **Response to consultation issues**

- 11.5.2 Following removal of the IMD at Crewe, a review of the design in the working draft EIA Report was undertaken. As a result of this review, the re-alignment of the A500 Shavington Bypass and associated works are no longer required. The land required for the Proposed Scheme has therefore been significantly reduced in this area. Any potential impact on the Basford Brook LWS and its white-clawed crayfish population, as a result of these works has also been reduced.

- 11.5.3 In accordance with the draft CoCP, appropriate measures will be adopted further to protect the ecology of the South Cheshire area, including the potential for indirect impacts to sites such as Basford Brook LWS from other nearby works.

## **11.6 Newcastle Road**

### **Consultation issues**

- 11.6.1 Consultees stated that the realignment of Newcastle Road would permanently isolate 10 residential properties on Newcastle Road. Consultees and residents of Newcastle Road also requested the temporary material stockpile and auto-transformer feeder station adjacent to Newcastle Road be moved.
- 11.6.2 Consultees who commented on the above issues included: Cllr Janet Clowes; Cheshire East Council; Weston and Basford Parish Council; Hough and Chorlton Parish Council; and individual consultees.

### **Response to consultation issues**

- 11.6.3 In the Proposed Scheme, realignment of Newcastle Road to the north of its existing alignment was chosen, as it will affect fewer properties and also provides opportunities to integrate the Proposed Scheme into the landscape through the use of landscape bunds and planting.
- 11.6.4 During construction of the Proposed Scheme, properties along Newcastle Road on both sides of the route of the Proposed Scheme will be affected by the realignment of Newcastle Road and presence of other construction activities and infrastructure. Access to existing local amenities in this area will be maintained throughout the construction period to ensure that accessibility and journey times are not affected substantially.
- 11.6.5 The South Crewe ATFS presented in the working draft EIA Report has been removed following further analysis of the power connections required for the Proposed Scheme. The South Crewe mid-point auto-transformer station (MPATS) has been included instead, sited approximately 200m north of Gonsley Green Farm and approximately 2.5km south of Newcastle Road.
- 11.6.6 A number of temporary material stockpiles adjacent to Newcastle Road and Casey Lane have been removed, including a stockpile that would have been adjacent to properties along Newcastle Road to the west of the HS2 main line. This follows the reduction in the extent of works in this area, including the removal of the IMD and the South Crewe ATFS.

## **11.7 Chorlton**

### **Consultation issues**

- 11.7.1 During the Autumn 2016 Design Refinement Consultation, consultees were invited to comment on the revised location of the HS2 spurs compared to the design presented in the 2015 route announcement. Consultees stated that moving the HS2 spurs further south and extending the Crewe tunnel would increase disruption from construction and operation of HS2 on the residents of Chorlton. The potential noise and visual

impacts of operating trains passing over the HS2 spurs and Chorlton viaduct was raised.

- 11.7.2 Consultees who commented on the above issues included: Weston and Basford Parish Council; Cllr Janet Clowes; Hough and Chorlton Parish Council; and individual consultees.

### **Response to consultation issues**

- 11.7.3 As part of the Proposed Scheme, the HS2 spurs have been moved further south when compared to the design described in the 2015 route announcement. The location of the HS2 spurs are constrained by the requirements for a number of power supply, signalling, operational and safety systems that are needed to enable safe routing of trains from HS2 to the WCML and vice versa.
- 11.7.4 When combined with the relocation of the Crewe tunnel portal further south, moving the spurs connecting HS2 lines to the WCML to the south has the advantage of reducing complexity and disruption during construction.
- 11.7.5 It is not anticipated the construction of the Crewe South tunnel portal will create any additional noise impacts at this location. Noise impacts are, however, predicted at Chorlton due to wider construction activities associated with the Proposed Scheme. These will be limited to those residential properties in proximity to the Proposed Scheme and will be managed in accordance with the draft CoCP.
- 11.7.6 Landscape bunds with planting will be provided around Chorlton to reduce the visual effects of the Proposed Scheme on residential properties. In addition, areas of landscape planting along the eastern side of the existing WCML (and the new section of the WCML) will further reduce visual effects on residential properties. Views of the Proposed Scheme will reduce as the landscape planting matures and helps integrate the Proposed Scheme into the existing landscape.
- 11.7.7 Noise fence barriers will be included as part of the Proposed Scheme. The noise fence barriers will be located alongside the HS2 main line and HS2 spurs, including on Chorlton viaduct, to provide acoustic screening and avoid a significant noise effect from trains on residential receptors in proximity. It is however recognised that significant noise effects associated with the operation of the Proposed Scheme are reported in the ES for the residents of Lane End Court.

## **11.8 Chorlton Lane**

### **Consultation issues**

- 11.8.1 Consultees raised a number of issues with regard to Chorlton Lane, including that:
- permanent severance of Chorlton Lane and local footpaths could lead to isolation of residents, particularly at Lane End Court where the Proposed Scheme will pass;
  - Chorlton Lane is unsuitable as a construction route as it is a single-track road; and
  - construction traffic would result in increased journey times and congestion issues along Chorlton Lane.

- 11.8.2 Consultees who commented on the above issues included: Cllr Janet Clowes; Cheshire East Council; Hough and Chorlton Parish Council; Weston and Basford Parish Council; Peak and Northern Footpaths Society; North Staffordshire Bridleways Association; and individual consultees.

### **Response to consultation issues**

- 11.8.3 Chorlton Lane will be permanently closed on the eastern side of the Proposed Scheme. However, access will be provided via the diversion of Chorlton Lane to the west of the Proposed Scheme. The road will be diverted to the north-west to join with Newcastle Road. Initially the junction with Newcastle Road will allow movements east over the WCML and west via either the existing or reinstated Newcastle Road once a new overbridge and alignment changes have been put into place.
- 11.8.4 The closure of Chorlton Lane to the north of the existing WCML is recognised as affecting residential properties in the Chorlton area. Specifically, residents of eight properties along Chorlton Lane west of the existing WCML will be required to use a permanent diversion as a result of the road closure. These properties include Dairy Farm, two properties at New Cottages, Lane End Farm and four properties at Lane End Court. In order to travel from these properties to Chorlton village, road users will need to follow the diverted Chorlton Lane and realigned Newcastle Road before re-joining Chorlton Lane on the east side of the WCML. When compared with the existing journey length to Chorlton village, this permanent diversion will increase the length of the journey by up to 4km for these properties.
- 11.8.5 For pedestrians affected by the Chorlton Lane closure, a diversionary route from Chorlton Lane west of the WCML to Chorlton Lane east of the WCML will be available. The diversion will follow the diverted Chorlton Lane, the realigned Chorlton Footpath 7 via the Chorlton Footpath 7 overbridge, the diverted Chorlton Footpath 9, and diverted Chorlton Footpath 13. The diversion will increase the journey length by 1.7km, while the diversion via Newcastle Road (for the use of cyclists and equestrians), is up to 4km longer. This will result in a significant severance effect on non-motorised users of Chorlton Lane who currently travel through the existing underbridge and beyond the WCML.
- 11.8.6 Chorlton Lane, east of the WCML, will only be used for construction traffic relating to rail installations. Traffic volumes will be relatively low and limited to no more than a 12 month period during the construction programme. The existing Chorlton Lane underbridge will be used to transport the earthwork materials for mitigation bunds on the east side of the WCML after the Chorlton Lane diversion has been constructed. The interaction between construction vehicles and to other road users will be kept to a minimum and managed in accordance with the draft CoCP. In addition, site haul routes will be created adjacent to the route of the Proposed Scheme, to transport construction materials and equipment which will reduce construction vehicle movements on public roads. The construction traffic is not expected to have a substantial impact on other road users in terms of traffic delays or congestion.

## 11.9 Den Lane

### Consultation issues

- 11.9.1 Consultees stated that construction activities at this location will be disruptive to residents of Den Lane, who are particularly concerned about the potential noise and visual impacts of construction work.
- 11.9.2 With regard to the proposal to realign Den Lane to the south-west of its existing alignment, consultees raised the following points:
- congestion issues and the suitability of both Den Lane and Checkley Lane for HGV traffic;
  - construction traffic should enter Checkley Lane from the Woore direction to avoid the height restrictions at the WCML;
  - construction traffic should enter Den Lane from the Wybunbury direction or from the south via Junction 15 of the M6 to avoid traffic passing through the village centre; and
  - consultees requested more information be shared about the compensation available to affected properties at Den Lane, where land is required for the construction of the Proposed Scheme.
- 11.9.3 Consultees who commented on the above issues included: Cheshire East Council; Betley, Balterley and Wrinehill Parish Council; Cllr Janet Clowes; North Staffordshire Bridleways Association; and individual consultees.

### Response to consultation issues

- 11.9.4 Since publication of the working draft EIA Report, planned construction activities in this area have been reduced in the Proposed Scheme. Land required at Den Lane has been reduced as a result of further design of the connection of the Proposed Scheme to the existing WCML. This change will remove the need for the diversion of Den Lane over the WCML, the reconstruction of the Den Lane overbridge over the WCML, associated realignment works and the construction traffic associated with these.
- 11.9.5 Whilst construction activities have reduced in this area, since publication of the working draft EIA Report, an area of land north of Randilow Farm and south of Higher Den House has been identified for use as a borrow pit. The borrow pit will initially be accessed from Checkley Lane for site setup. Following site setup, access to the borrow pit will be maintained via site haul routes, which will reduce the volume of construction vehicles using the public road network, including Checkley Lane and Den Lane. Other effects arising from the use of borrow pits in the Proposed Schemes are reported in the ES.
- 11.9.6 The existing accommodation overbridge that provides access to Lower Den Farm and carries Blakenhall Bridleway 8 will be demolished and a new overbridge will be provided. Construction work will introduce a high magnitude of visual change and a significant effect for some residents of Den Lane. Measures such as fencing and advanced planting will be considered, as appropriate, to mitigate the visual impacts of construction activities in this locality.

- 11.9.7 Residential properties in the vicinity of Higher Den House, located on Den Lane, and Mill Lane End, located on Den Lane and Mill Lane, will experience significant noise effects during construction due to demolitions, earthworks and the movement of construction vehicles. In accordance with the draft CoCP, control measures will be applied to reduce adverse impacts and effects. However, the use of Den Lane for construction traffic will be restricted to site set up and rail compound access and those traffic flows will be low.
- 11.9.8 A site haul road running alongside and close to the route of the Proposed Scheme will be built for the modification works required to the WCML, linking the compounds along the route, and this will be accessed from Newcastle Road, minimising the amount of construction traffic needing to use Wrinehill Road/Den Lane and Checkley Lane.
- 11.9.9 The haul route will be segregated from Blakenhall Bridleway 12 and any crossing with the bridleway will be controlled. The interface with farm access track users will be managed using the traffic management measures outlined in the draft CoCP.
- 11.9.10 There has been a reduction in the need for construction traffic to access from Checkley Lane, east of the Proposed Scheme, when compared to the design in the working draft EIA Report. LGVs and HGVs (required for initial site set-up, surveys, rail systems compounds and maintenance of compounds) along Checkley Lane will be routed from the A51 London Road between Nantwich and Woore, and not via Wybunbury. Checkley Lane will be used for general construction traffic for approximately five years. The main construction compound access will be via the site haul routes from Newcastle Road, which are within the land required for the Proposed Scheme, on both the east and west sides of the proposed railway. These connect to the A500 Shavington Bypass and to M6 Junction 16.
- 11.9.11 Issues relating to compensation and property blight are beyond the scope of the ES, Section 5.14 sets out where further information on property compensation can be found.

## **11.10 Meres and Mosses Nature Improvement Area**

### **Consultation issues**

- 11.10.1 A section of the Proposed Scheme, between Checkley Lane and Gonsley Green Farm, passes through the Meres and Mosses Nature Improvement Area (NIA<sup>15</sup>). This is a wetland area characterised by mere deposits, formed on poorly draining basins, known as meres and mosses. The Cheshire Wildlife Trust is concerned that the Proposed Scheme will impact the integrity of the NIA and its connectivity with the Betley Mere Site of Special Scientific Interest (SSSI).
- 11.10.2 The Cheshire Wildlife Trust has also requested that a green bridge or viaduct be considered in sensitive locations, where the route of the Proposed Scheme crosses the NIA.

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<sup>15</sup> Nature Improvement Areas (NIA) were established to create joined up and resilient ecological networks at a landscape scale.

## Response to consultation issues

- 11.10.3 The core areas of the NIA, which includes protected habitats or other sites that retain features of ecological interest in the context of the NIA, will remain unaffected by the Proposed Scheme. With implementation of the measures set out in the draft CoCP, species groups associated with the wetland and peat habitats (such as amphibians and invertebrates) will not be significantly impeded by the Proposed Scheme. In accordance with the NIA objectives, opportunities to enhance wetland habitat in the vicinity of the Proposed Scheme will be considered.
- 11.10.4 As part of the design process, careful consideration has been given to appropriate engineering solutions to provide routes across the Proposed Scheme. The design has been informed by ecological sensitivities, the existing landscape and landform, access requirements, and other engineering constraints. The Proposed Scheme has incorporated ecological mitigation and enhancement, where appropriate, to reduce or compensate for any significant ecological effects. This includes viaducts, underbridges, and culverts to facilitate the passage of wildlife and maintain ecological connectivity.

## **12 Consultation issues relating to the draft CoCP and its implementation**

### **12.1 Introduction**

12.1.1 The draft CoCP for Phase 2a is based upon the same principles adopted in the CoCP for Phase One. This includes key principles and commitments which were agreed with stakeholders during the passage of the Phase One Bill through Parliament. Consultation on the draft CoCP for Phase 2a is, therefore, being undertaken in the context of this established framework.

12.1.2 This section provides a summary of the key route-wide issues raised by consultees specifically in relation to the working draft CoCP and how these have been used to inform the draft CoCP for the Proposed Scheme.

12.1.3 As with other sections, this summary also draws upon relevant responses submitted on all sections of the working draft EIA response form, and not solely those ascribed to the section of the form inviting commentary on the draft CoCP.

12.1.4 The key issues raised by consultees on the draft CoCP include:

- engagement with local communities regarding construction works;
- duration of construction works;
- construction working hours;
- management of construction compounds;
- construction routes and management of construction movements;
- management of the construction workforce; and
- the amount of dust likely to be caused by the works and the impact on businesses, farms, humans and animals.

12.1.5 The remainder of this section addresses these issues and sets out specifically how the draft CoCP has been prepared to consider these issues. Further information on the draft CoCP can be found in the HS2 Ltd Phase 2a Information Paper: D3 Code of Construction Practice.

### **12.2 Engagement with local communities**

#### **Consultation issues**

12.2.1 Consultees emphasised the need for up-front engagement with local authorities and local communities, amongst others, by contractors responsible for construction works. Consultees noted the importance of careful scheduling to avoid other planned construction works locally and to minimise impacts to key local community events.

#### **Response to consultation issues**

12.2.2 The draft CoCP includes a commitment to engage with key stakeholders in advance of construction works. The nominated undertaker will establish up-front engagement

through dedicated community liaison officers and local helplines. Ongoing engagement will update stakeholders on the progress of work against the planned programme, including through community newsletters, as appropriate.

## **12.3 Duration of construction works**

### **Consultation issues**

12.3.1 Consultee comments highlighted a perception that construction activity would be continuous for the full duration of the Phase 2a construction period of approximately seven years.

12.3.2 Consultees also requested clarification around the proposed duration of construction works and specifically, the duration of tunnelling works proposed in the two key locations of Whitmore Heath and Madeley. This included consideration of what mitigation would be put in place and the nature of vehicular movements to support this, in particular during the night-time.

### **Response to consultation issues**

12.3.3 An indicative programme of construction activities for the Proposed Scheme is set out for each CA in the Volume 2 reports of the ES. This sets out the projected duration of construction activities at particular locations.

12.3.4 To ensure safe working and to maintain the safe operation of existing roads and railways, as well as enabling the shortest possible construction period for tunnelling, there will be occasions when night time, weekend and 24 hour working will be required.

12.3.5 With respect to two key locations identified by consultees, the following paragraphs set out the expected durations for tunnelling construction works, drawn from the relevant Volume 2 reports of the ES.

12.3.6 The construction work associated with the Whitmore Heath tunnel will be mainly managed from Whitmore Heath tunnel satellite compound, which will remain operable for four years and six months from late 2020 until early 2025. The overall tunnel works including porous portals, cut and cover plus tunnel earthworks is projected to last three years and three months from late 2021 to late 2024. Continuous 24 hour working is projected to last nine months from early to late 2023. Reception of the tunnelling equipment will occur at the Whitmore North embankment satellite compound where the tunnelling equipment will be partially dismantled and transported back to the entrance of the tunnel at the Whitmore Heath tunnel satellite compound, at the completion of the two tunnelling drives.

12.3.7 The construction work associated with the Madeley tunnel will mainly be managed from Madeley tunnel (south) satellite compound, which will remain operable for five years from late 2020 to autumn 2025. The overall tunnel works running from this location, shown as tunnel earthworks, on the indicative construction programme, are projected to last two years and three months from early 2022 until early 2024. All day (24/7) works, shown as the Madeley tunnel on the indicative construction programme, are projected to last twelve months from early 2022 until early 2023. Reception of the tunnelling equipment will occur at the Madeley tunnel (north) satellite compound

where the tunnelling equipment will be partially dismantled and transported back to the Madeley tunnel (south) satellite compound tunnel entrance at the completion of the two tunnelling drives.

- 12.3.8 It is proposed that excavated materials will not be transported off site outside core working hours, as far as reasonably practicable.

## 12.4 Construction working hours

### Consultation issues

- 12.4.1 Issues were raised by MPs, local authorities, parish councils, action groups and individual consultees, amongst others, in regard to proposed construction working hours. Specific commentary was provided in respect of proposed construction working hours in relation to tunnelling, and more generally on the impact of such construction working hours on local residents and communities.

### Response to consultation issues

- 12.4.2 It is anticipated that most construction activities will be undertaken during core working hours<sup>16</sup>. The nominated undertaker and its contractors will ensure that local residents, occupiers, businesses, local authorities and parish councils affected by the proposed construction works are informed in advance of the works taking place.
- 12.4.3 Guidance on site-specific variations to core hours and/or additional hours likely to be required will be included within the LEMP, which will be prepared for each local authority area, following deposit of the hybrid Bill. The LEMP will be produced with input from the relevant local authority and statutory bodies. In an emergency, the relevant local authority will be informed as soon as reasonably practicable, if any work is required outside core hours.
- 12.4.4 Work within existing stations, track laying activities and work requiring the possession of major transport infrastructure (such as railways, roads or canals) may be undertaken during the night or on Saturday afternoons, Sundays and/or bank holidays. This is a safety and operational necessity and may often involve work over consecutive weekend nights as well as longer durations on occasion. Activities outside core working hours that could disturb people will be kept to a reasonably practicable minimum.

## 12.5 Management of construction compounds

### Consultation issues

- 12.5.1 Consultees, in particular, individual consultees, raised issues in regard to the management of construction compounds. These included how compounds were proposed to be managed, whether their operation would impact local residents and livestock, and the security of the compounds.

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<sup>16</sup> The CoCP sets these out as 08:00 – 18:00 Monday – Friday and 08:00 – 13:00 Saturday, excluding bank holidays. There is provision for a one hour start up and shut down period, therefore, workers may be arriving from 07:00 and departing up to 19:00. These timings may be subject to change and are indicative only.

## Responses to consultation issues

- 12.5.2 The nominated undertaker will apply and comply with the requirements of the CoCP to reduce the effect of the construction site on the local environment. The nominated undertaker will also have to comply with the Environmental Minimum Requirements (EMR), which will sit alongside the environmental controls contained in the Bill (see HS2 Ltd Phase 2a Information Paper E1: Control of Environmental Impacts).
- 12.5.3 Contractors will prepare and operate an Environmental Management System certified to BS EN ISO 14001 which is appropriate to the scale and nature of the construction works as part of the LEMP to be prepared in accordance with the CoCP. These will include any specific measures relevant to the local community and to any assurances and undertakings given during the passage of the Bill.
- 12.5.4 The LEMP will set out how the nominated undertaker will deliver the required environmental and community protection measures within each CA. To improve liaison with the regulatory authorities, a contact person will be identified for each construction compound.
- 12.5.5 Following a request by the House of Commons Select Committee for HS2 Phase One, a study of the noise (and vibration) effects on livestock of operating high speed trains was published by HS2 Limited<sup>17</sup>. During the study, HS2 Limited consulted the RSPCA and the British Horse Society on the approach, scope and methodology used in the report to ensure that these were robust. This methodology, as set out in the SMR Addendum, has been applied to assessment of the Proposed Scheme.

## 12.6 Construction routes and management of construction movements

### Issues raised by consultees

- 12.6.1 Consultees raised issues in regard to the selection and appropriateness of construction routes, as set out in the scheme presented in the working draft EIA Report. Commentary on these issues has been provided in Section 6 of this report.
- 12.6.2 Other issues were raised by local authorities, parish councils, action groups and individual consultees in regard to the management of construction traffic, including:
- the safety of other road users on construction routes;
  - volumes of construction traffic;
  - preventing simultaneous closure of adjoining roads within local communities; and
  - forward communication of planned closures.

### Response to consultation issues

- 12.6.3 The draft CoCP provides a key mechanism by which to mitigate impacts on local communities and residents along public roads. The draft CoCP sets out various mitigation measures to reduce the impact of construction traffic for all road users.

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<sup>17</sup> HS2 Ltd (2017), *HS2 Phase One study into noise effects on livestock*. Available online at: <https://www.gov.uk/government/publications/hs2-phase-one-study-into-noise-effects-on-livestock>

This includes measures which include engagement with vulnerable road users (pedestrians, motorcyclists, cyclists, equestrians), to provide for road safety for users of all modes of transport for the public and construction staff during traffic management works and temporary traffic control measures.

- 12.6.4 Other measures such as traffic management plans, use of internal haul routes and workplace travel plans will be employed across the route, including around sensitive receptors such as schools and churches.
- 12.6.5 The draft CoCP also includes additional provisions relating to construction activity near schools including, where reasonably practicable, the avoidance of HGVs operating adjacent to schools during drop off and pick up periods.
- 12.6.6 Commitments to the maintenance of PRow, including diversions, affected by the Proposed Scheme have been made, which will include reasonable adjustments to maintain or achieve inclusive access. Inclusive access (including for people with reduced mobility) will also be maintained to services and buildings where they have been temporarily disrupted during the work, as far as is reasonably practicable. Where the normal means of access has to be diverted or blocked off, alternative safe routes for persons with restricted mobility will be identified, taking into account existing hazards and obstructions such as pavement kerbs and street lighting standards.
- 12.6.7 Further information is provided in HS2 Ltd Phase 2a Information Papers: D3 Code of Construction Practice; E4 Highways and traffic during construction: legislative provisions; and E5 Roads and public right of way.

## **12.7 Management of construction workforce**

### **Consultation issues**

- 12.7.1 Consultees raised issues about the impacts of the construction workforce on local communities, specifically addressing issues around the scale, accommodation and activities of the workforce.

### **Response to consultation issues**

- 12.7.2 Construction worker impacts on community resources are considered at a route-wide level in Volume 5 of the ES. The assessment takes into account the number of workers, the type and location of accommodation, working hours, facilities provided on construction compounds, experience from other similar large projects (such as High Speed One and Crossrail) and the measures contained in the draft CoCP.
- 12.7.3 The nominated undertaker and its contractors will be responsible for recruitment and management of the workforce including behaviour on site. Engagement will be undertaken with local authorities and relevant local stakeholders to communicate proposals regarding workforce numbers and their proposed accommodation. The nominated undertaker will provide helplines in case members of the public need to communicate any issues regarding workforce behaviour. Further information is provided in the HS2 Ltd Phase 2a Information Paper: D9 Worksite Security.

## **13 Concluding Comments**

### **13.1 Ongoing engagement**

13.1.1 Ongoing engagement with stakeholders will be undertaken by HS2 Ltd. This will include meetings with local authorities and wider stakeholders and feedback will be used to inform further opportunities for mitigation.

### **13.2 Parliamentary ES consultation and petitioning**

13.2.1 Parliament is undertaking public consultation on the ES. Consultees will have at least 56 days (eight weeks) to respond to the consultation following the deposit of the Bill documents in Parliament and the first publication of the necessary newspaper notices that follows. Parliamentary officials will appoint an independent assessor who will summarise responses and provide a report to Parliament before Second Reading of the Bill.

13.2.2 As noted in Section 2, there will also be a Select Committee process during which people and organisations whose interests and property are specially and directly affected will have the opportunity to submit petitions to Parliament for consideration by the Select Committee. More information on who may petition against the Bill, and how to do so, is available on Parliament's website (<http://www.parliament.uk>).

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## 15 Glossary of terms

Term	Definition
Baseline	Existing environmental conditions present on, or near a site, against which future changes can be measured or predicted.
bored tunnel	A tunnel constructed using a tunnel boring machine.
borrow pits	Areas excavated to provide material for construction purposes.
code of construction practice	A document setting out the measures and standards to which a developer or contractor must adhere in order to provide effective planning, management and control of potential impacts on individuals, communities and the environment during construction.
community area	Defined areas along the proposed HS2 Phase 2a route (e.g. South Cheshire community area). They are used as a geographical basis for reporting local community and environmental impacts and effects in the environmental statement.
Compensation Code	The collective term for the principles derived from both statute and case law, relating to compensation for compulsory acquisition. It ensures that when land is needed to build an infrastructure project, the owners receive compensation to help them to move house or to relocate a business. The code also ensures that those who experience real, physical events from a scheme once it is in operation, for example vibration or noise, are entitled to compensation.
cut-and-cover tunnel	A tunnel constructed by: excavating a cutting; constructing a box-type structure; and reinstating the ground over the top to its original level.
cutting	A linear excavation of soil or rock to make way for a new railway or road. Cuttings help reduce the noise and/or visual impact of passing trains or road vehicles.
Directive	A legal act of the European Union. Legal obligations imposed on European member states by the European Commission following approval by the European Parliament and European Council.
diversion	Used to refer to a change to the route or direction of a road due to the location of the route of the Proposed Scheme. (See also: 'realignment'.)
East Coast Main Line	The existing rail route connecting London King's Cross, Peterborough, Doncaster, Wakefield, Leeds, York, Darlington, Newcastle, Edinburgh and Aberdeen.
effect	Used throughout this report to refer to the consequence of an impact to the receiving environment (see also: 'impact')
embankment	Artificially raised ground, commonly made of rock or compacted soil, on which a new railway or road is constructed.
environmental impact assessment	A process of systematically assessing the likely environmental effects of proposed development projects. EIA is a legal requirement for certain public and private projects in EU countries under Directive 2014/52/EU.
environmental statement	A suite of documents produced as part of an environmental impact assessment. It must include all information that is reasonably required to assess the likely significant environmental effects of a proposed development.
full-time equivalent (employment)	Combines full- and part-time employment to provide a standard measure of employment by working week. Someone who works 2.5 days a week, for instance, would be counted as 0.5 full-time equivalent.
green tunnel	A cut-and-cover tunnel with soil spread on top to integrate it into the landscape, thus minimising visual impacts and making the presence of a railway less

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Term	Definition
	noticeable. Access tracks and vegetation can be placed on the surface above the tunnel and it can be used for amenity, parkland and agricultural uses etc.
High Speed One	High speed rail line from St. Pancras International Station in London to the Channel Tunnel. Formerly known as the Channel Tunnel Rail Link.
High Speed Two	Proposed high speed rail line between London and the West Midlands (Phase One) and on to Manchester and Leeds (Phase Two). Phase 2a is the section between the West Midlands and Crewe.
hybrid Bill	Hybrid Bills mix the characteristics of public and private bills. The provisions in a hybrid Bill would affect the general public, but would also have particular effects on specific individuals or groups.
infrastructure maintenance depot	A facility providing logistical support for the maintenance and repair of the HS2 railway track and associated infrastructure (excluding trains).
impact	Used throughout this report to refer to changes to the environment that have the potential to occur as a result of the construction and/or operation of the Proposed Scheme.
isolation (community and socio-economic)	Physical and psychological barriers faced by users in accessing socio-economic and community resources, which may affect their tendency to use them.
maintenance loop	<p>Additional track that runs for a short distance alongside the main HS2 rail line, and can be used for the storage of maintenance trains during operation. They also provide a safe stopping location for any HS2 train that develops a fault.</p> <p>Maintenance loops were originally proposed at Pipe Ridware as part of the scheme assessed in the working draft Environmental Impact Assessment Report. As the infrastructure maintenance depot previously proposed at Crewe is now proposed to be located near Stone on the site of the construction railhead, in the form of the Stone IMB-R, maintenance loops are no longer required.</p>
mitigation	The proposed means to avoid, prevent or reduce the likely adverse effects on the environment.
nominated undertaker	The body or bodies appointed to implement the powers of the hybrid Bill to construct and maintain the Proposed Scheme.
overbridge	A bridge crossing over a transport corridor such as a railway line.
Phase One	Phase One of the proposed HS2 network, a high speed railway between London and the West Midlands with a connection via the WCML at conventional speeds to the North West and Scotland. Phase One includes stations at London Euston, Old Oak Common (West London), Birmingham Interchange (near the National Exhibition Centre and Birmingham Airport) and Curzon Street (Birmingham city centre).
Phase Two	Phase Two of the proposed HS2 network extends the Phase One high speed railway beyond the West Midlands to Manchester and Leeds with connections to conventional railway lines via the WCML and the East Coast Main Line.
Phase 2a	The section of the Phase Two route between the West Midlands and Crewe. It will include a connection with Phase One at Fradley, to the north-east of Lichfield, and a connection with the WCML south of Crewe.
Phase 2b	The section of the Phase Two route between Crewe and Manchester and between the West Midlands and Leeds, with connections to the WCML at Golborne and to the East Coast Main Line approaching York. This will complete what is known as the 'Y network'.

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Term	Definition
Proposed Scheme	Proposed high speed rail line between the West Midlands and Crewe (i.e. Phase 2a of HS2).
public right(s) of way	A highway where the public has the right to walk; and, depending on its class, use for other modes of travel. It can be a footpath (used for walking only), a bridleway (used for walking, riding a horse and cycling), a restricted byway (as a bridleway, but use by non-motorised vehicles also permitted) or a byway that is open to all traffic (include motor vehicles).
realignment	Used throughout this environmental statement to refer to a slight change to the route or direction of a road due to the location of the route of the Proposed Scheme. (See also: 'diversion'.)
receptor	A component of the natural or built environment (such as a human being, water, air, a building or a species) affected by an impact of the construction and/or operation of a proposed development.
residual impacts	Those impacts of the development that cannot be mitigated following implementation of mitigation proposals.
Royal Assent	The final step required for any parliamentary Bill to become law.
site haul route	Temporary roads provided within the area of land required for construction to allow for the movement of construction material, construction machinery and/or construction workers between the construction compounds and work sites.
tunnel portal	Tunnel entrances and exits.
underbridge	A bridge crossing under a transport corridor such as a railway line.
viaduct	A type of bridge composed of a series of spans, used to carry roads and railways across valleys or other infrastructure.
West Coast Main Line	Inter-urban rail line connecting London, Birmingham, Manchester, Liverpool and Glasgow.

# 16 List of abbreviations

Abbreviation	Meaning
24/7	24 hours a day, 7 days a week
Ha	Hectare
km	Kilometre
kph	Kilometres per hour
m	Metre
mph	Miles per hour
ALC	Agricultural land classification
AONB	Area of outstanding natural beauty
ATFS	Auto-transformer feeder station
AWI	Ancient Woodland Inventory
BAS	Biological Alert Site
BGS	British Geological Survey
BMV	Best and Most Versatile
CA	Community Area
Cllr	Councillor
CoCP	Code of construction practice
CSR	Consultation Summary Report
Dbyd	Dialogue by Design
DfT	Department for Transport
EDA	Environmental Design Aims
EIA	Environmental Impact Assessment

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EIA SMR	Environmental Impact Assessment Scope and Methodology Report
EMR	Environmental Minimum Requirements
EQIA	Equality Impact Assessment
ES	Environmental Statement
EU	European Union
FORS	Fleet Operator Recognition Scheme
GI	Ground Investigation
HGV	Heavy goods vehicles
HS2	High Speed 2
HS2 Ltd	High Speed 2 Limited
IMB-R	Infrastructure Maintenance Base-Rail
IMD	Infrastructure Maintenance Depot
LEMP	Local Environmental Management Plans
LGV	Large Goods Vehicle
LWS	Local Wildlife Site
MoD	Ministry of Defence
MP	Member of parliament
NCN	NCN Route??
NIA	Nature Improvement Area
NTS	Non-technical summary
PRoWs	Public Right(s) of Way
RTMP	Route Wide Traffic Management Plan

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SAC	Special Area of Conservation
SMR	Scope and Methodology Report
SRR	Summary Response Report
SSSI	Site of Special Scientific Interest
STCC	Stoke-on-Trent City Council
WCML	West Coast Main Line







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