



High Speed Rail
(West Midlands - Crewe)
Supplementary Environmental Statement and
Additional Provision Environmental Statement
Non-technical summary



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Additional Provision Environmental Statement
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1. Introduction to the Supplementary Environmental Statement and the Additional Provision Environmental Statement

1.1 Purpose of this Non-technical summary

This document is the Non-technical summary (NTS) of the Supplementary Environmental Statement (SES) and the Additional Provision Environmental Statement (AP ES), which the Government has submitted to Parliament in support of the High Speed Rail (West Midlands – Crewe) Bill ('the Bill'). Its main purpose is to provide a summary, in non-technical language, of any new or different likely residual significant environmental effects arising from the updates and changes reported in the SES, and the amendments reported in the AP ES. These effects are compared to those contained within the Environmental Statement which accompanied the Bill submitted to Parliament in July 2017 ('the main ES').

1.2 Background to High Speed Two

High Speed Two (HS2) is a new high speed railway proposed by the Government to connect major cities in Britain. HS2 will be built in phases. Phase One comprises the first section of the network and will run between London and the West Midlands. Initial works for Phase One are now proceeding in accordance with the High Speed Rail (London – West Midlands) Act 2017.

Phase Two of HS2 will 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.

Phase Two will be constructed in two phases:

- Phase 2a: the western section of Phase Two between the West Midlands and Crewe, comprising approximately 36 miles (58km) of HS2 main line and two spurs (approximately 4 miles (6km)) south of Crewe that will allow trains to transfer between the HS2 main line and the existing WCML. Construction is planned to commence in 2020 ahead of the rest of Phase Two, with operation planned to start in 2027; and
- Phase 2b: comprising the remainder of Phase Two, between Crewe (where it would connect with Phase 2a) and Manchester, and between the West Midlands and Leeds. Phase 2b will be the subject of a separate hybrid Bill with construction expected to commence in 2023 and operation planned to start in 2033.

The Bill was introduced into Parliament together with the main ES in July 2017. If enacted by Parliament, the Bill will provide the powers to construct, operate and maintain Phase 2a of HS2. The main ES presented the findings of the environmental impact assessment (EIA) for the scheme proposed at the time of deposit of the Bill, outlining the assessment scope and methodology, identifying likely significant environmental effects, mitigation measures to avoid, prevent or reduce likely significant environmental effects, and any residual significant environmental effects that remain after all mitigation has been put in place.

Since deposit of the Bill in July 2017, a number of changes to the design and construction assumptions have occurred. New environmental baseline information has also become available since the production of the main ES and the need for a number of corrections to the main ES has been identified.

Any new or different significant effects that are likely to result from changes to the design and construction assumptions within the existing

Bill powers and limits, and as a result of the new environmental baseline information and corrections, are reported in the SES. In a number of other cases, changes to the Bill are needed in order to make amendments to the original proposals and these require the submission of an Additional Provision ('the AP'). The AP ES reports the likely significant environmental effects of these amendments having taken into account the environmental information in the SES.

The SES and the AP ES are separate environmental statements, but have been produced as combined volumes. Both the SES and AP ES provide an update to the main ES and should be read in conjunction with it. The SES is presented first, and the AP ES follows and bases its comparison upon effects reported in the main ES, as amended by the SES.

The SES and the AP ES will each be the subject of a public consultation in accordance with Parliamentary procedure.

Persons whose property or interests are specially and directly affected by the amendments to the

Bill for which powers are sought under the AP have the right to petition against the AP. Any petitions against these changes will be heard by the Select Committee in due course.

1.3 Terminology used to describe the Proposed Scheme

The following terms are used to differentiate between changes included in the SES and amendments included in the AP ES:

- 'SES design changes' - changes to the scheme design reported in the SES that do not require additional powers;
- 'SES changes' – all changes reported in the SES that do not require additional powers. These may include new baseline information, changes to the design and construction assumptions and corrections; and
- 'AP amendments' - changes to the scheme reported in the AP ES that include requirements for additional powers in the Bill.

In order to differentiate between the original proposals assessed as part of the main ES and subsequent changes, the following terms are used throughout the SES and the AP ES to define the scheme as it relates to the HS2 Phase 2a project:

- ‘the original scheme’ - the Bill scheme submitted to Parliament in July 2017, which was assessed in the main ES;
- ‘the SES scheme’ – the original scheme with any design changes described in the SES that are within the existing powers of the Bill; and
- ‘the AP revised scheme’ – the original scheme as amended by the SES design changes and AP amendments.

1.4 The Supplementary Environmental Statement and the Additional Provision Environmental Statement

Supplementary Environmental Statement

The SES reports any new or different likely significant environmental effects arising from SES changes compared to the main ES. The SES changes include:

- updated and new environmental baseline information that has become available from surveys completed and desk based research undertaken since production of the main ES. This includes additional information concerning the environmental conditions for the following environmental topics:
 - agriculture, forestry and soils;
 - community;
 - ecology and biodiversity; and
 - water resources and flood risk.
- changes to the design or construction assumptions that do not require changes to the Bill, including those resulting from further work on the construction methodology for the implementation of slab track as the track form; and
- corrections to the main ES.

Additional Provision Environmental Statement

The AP ES reports any new or different likely significant environmental effects due to the amendments proposed in the AP. The AP amendments include engineering and minor utility amendments that require a change to

Bill powers and other changes to Bill powers to enable permanent access for maintenance over certain areas of land. The AP ES bases its comparison upon effects reported in the main ES, as amended by the SES. The AP ES reports the main reasonable local alternatives that have been considered, where relevant.

The AP amendments proposed are in community areas 1, 2, 3 and 5. There are no amendments proposed in community area 4. The amendments that require additional land and/or changes to Bill powers include:

- temporary laydown works, diversion works and other works to utilities such as gas mains, water mains, overhead electricity lines and telecommunications cables;
- relocation of balancing ponds;
- construction traffic routes, maintenance access routes and a Network Rail access road;
- highway improvements, including: improving visibility at highway junctions; widening of highway verges; highway realignments; and a roundabout at the junction of the re-aligned Dog Lane, the A51 The Rowe, Bent Lane and the A51 through Stableford;

- the viaduct crossing of the Norton Bridge to Stone Railway and track crossovers along the HS2 route. This includes: the raising of the alignment of the HS2 main line from the B5026 Eccleshall Road to the northern extent of Yarnfield North embankment; amendments to the viaduct crossing of the Norton Bridge to Stone Railway and Filly Brook; and the horizontal realignment of the HS2 main line from the northern extent of Yarnfield North embankment to Tittensor Road overbridge;
- revised flood mitigation measures around the Stone Infrastructure Maintenance Base – Rail (IMB-R) and Norton Bridge to Stone Railway;
- a new junction of the A51 Bury Bank and Stone Rural Byway Open to All Traffic (BOAT) 34; and
- a change to the earthworks on the northern and southern approaches of the Swynnerton Estate North green overbridge.

1.5 Structure of the Supplementary Environmental Statement and the Additional Provision Environmental Statement

The SES and the AP ES are separate documents. However, they are bound together and presented in a number of volumes. Each volume generally

contains an introduction and separate SES and AP ES sections, presented as Part One and Part Two respectively. The introductory sections in each volume apply to both the SES (Part 1) and the AP ES (Part 2) sections.

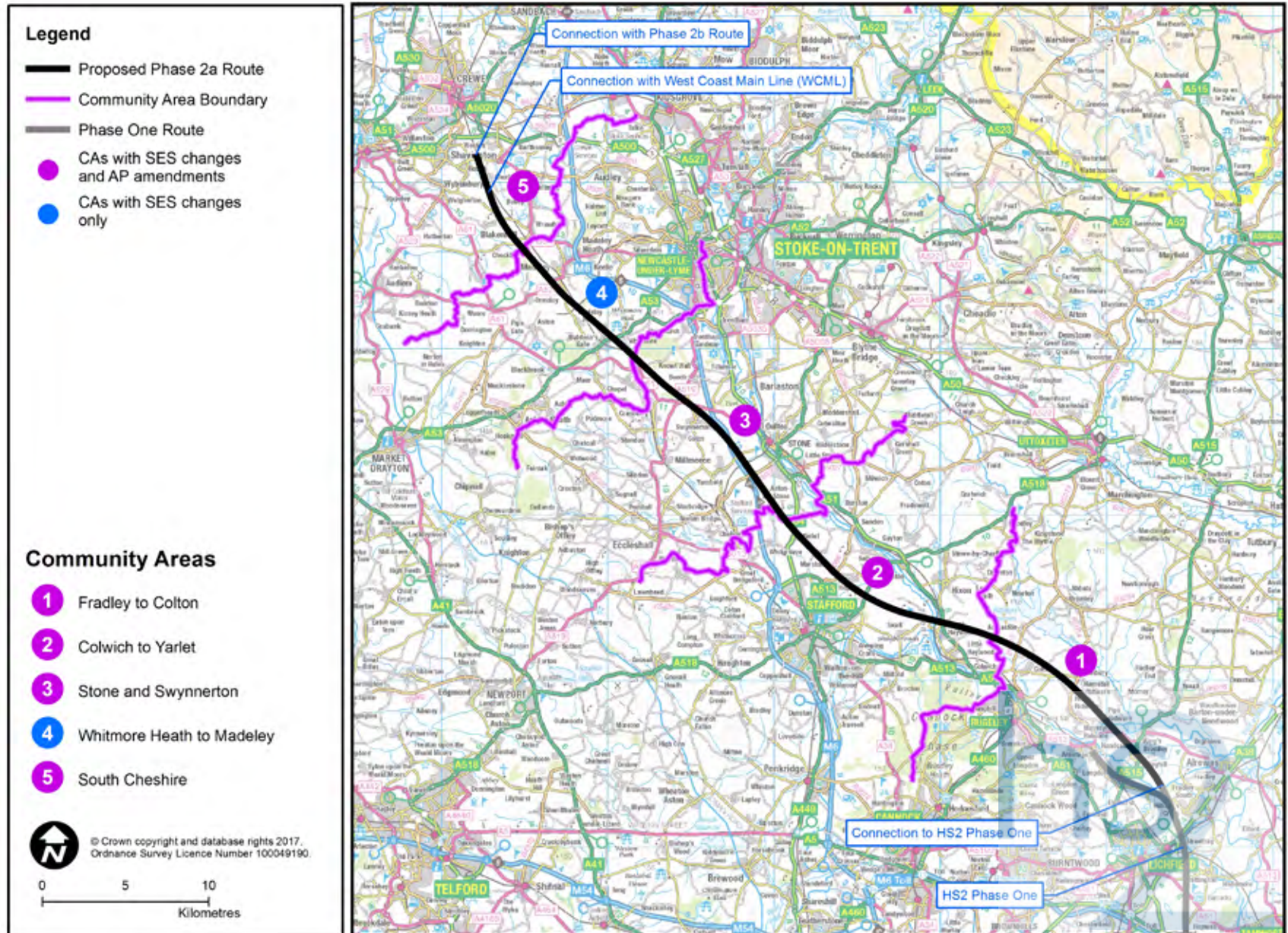
The SES and the AP ES comprise:

- This Non-technical summary (NTS). This provides a summary in non-technical language of the SES (Part 1) and the AP ES (Part 2). It presents a summary of any likely residual significant environmental effects (i.e. effects that are likely to remain after mitigation measures are put in place), both beneficial and adverse, which are new or different to those reported in the main ES, and, where relevant, the SES;
- Glossary of terms and list of abbreviations. This contains any new or different terms and abbreviations used throughout the SES and the AP ES, which are not already explained in the main ES;
- Volume 1: Introduction to the SES and the AP ES. This introduces the supplementary environmental information, changes to the design and construction assumptions included within the SES and amendments

within the AP ES. The report explains the environmental impact assessment (EIA) process that has been applied;

- Volume 2: Community area reports and map books. These report the supplementary environmental information and changes to the design and construction assumptions included within the SES (Part 1), amendments within the AP ES (Part 2) and any new or different likely significant environmental effects that arise from these changes and amendments in each community area. These effects are compared to those reported in the main ES and, where relevant, the SES. Figure 1 shows the phase 2a route and the community areas with SES changes and/or AP amendments. The maps relating to each community area are provided in separate Volume 2 map books and should be read in conjunction with the relevant community area report;
- Volume 3: Route-wide effects. This describes any new or different likely significant environmental effects arising at a route-wide level from the supplementary environmental information and changes to the design and construction assumptions included within the

Figure 1: Phase 2a route showing community areas with SES changes and/or AP amendments



SES (Part 1) and the amendments within the AP ES (Part 2) compared to those reported in the main ES and, where relevant, the SES; and

- Volume 5: Appendices and map book. These contain supporting environmental information and associated maps.

A Volume 4: Off-route effects report was produced as part of the main ES. A separate Volume 4 has not been produced as part of the SES and AP ES as off-route effects are very limited in number and so are reported in the most relevant Volume 2 community area report.

Background information and data

Certain reports and maps containing background information and data (BID) have been produced, which do not form part of the SES and AP ES. These documents are available on the HS2 website. The BID documents and maps present background survey information and other relevant background material.

1.6 Approach to mitigation

The measures that will be used to mitigate likely significant adverse environmental effects during construction and operation of this phase of the

railway are described in the main ES, including the NTS and the draft Code of Construction Practice (CoCP), which sets out measures to manage and control the effects of construction. These were submitted as part of the Bill deposit. The same general mitigation measures described in the main ES still apply. Specific mitigation measures are described within volumes 2 and 3 of the SES and the AP ES, where required.

1.7 Approach to monitoring

The draft CoCP includes commitments to monitoring significant effects during construction. In addition, general monitoring measures to be implemented during construction and operation for each environmental topic are described in the main ES. The same approach to monitoring measures described in the draft CoCP and main ES still applies.

1.8 Consultation

A formal public consultation is required by Parliament on both the SES and the AP ES. Members of the public will have a period of at least 42 days within which to make representations following the deposit of the SES and AP ES in Parliament and the first publication

of the necessary newspaper notices that follows. Parliamentary officials have appointed an independent assessor who will summarise the issues raised in representations received from members of the public and provide a report to Parliament before the Third Reading of the Bill.

There will also be a separate petitioning period. Within this period, persons whose property or interests are specially and directly affected by the amendments to the Bill for which powers are sought under the AP have the right to petition against the AP.

More information on who may petition against the AP, and how to do so, is available on Parliament's website www.parliament.uk.

1.9 Assessment approach

Scope of the assessment

A scoping exercise has been undertaken by environmental technical specialists to determine whether or not the SES changes and the AP amendments have the potential to give rise to any new or different likely significant environmental effects. The scoping exercise considered the construction and operational

effects of the SES changes and AP amendments for the following environmental topics:

- agriculture, forestry and soils;
- air quality;
- climate (assessed at a route-wide level, rather than at the community area level);
- community;
- cultural heritage;
- ecology and biodiversity;
- electromagnetic interference;
- health;
- land quality;
- landscape and visual;
- major accidents and natural disasters (assessed at a route-wide level, rather than at the community area level);
- socio-economics;
- sound, noise and vibration;
- traffic and transport;
- waste and material resources (assessed

at a route-wide level, rather than at the community area level); and

- water resources and flood risk.

Those SES changes and the AP amendments identified as having the potential to result in new or different likely significant environmental effects have been subject to further assessment work.

The proposed SES changes and the AP amendments are described in Volume 2 of the SES and the AP ES and summarised in this NTS.

1.10 Assessment methodology

The EIA process for the SES and the AP ES has followed that used for the main ES, as described in the Scope and Methodology Report (SMR) and the SMR Addendum, both in Volume 5 of the main ES.

Part 1: Supplementary Environmental Statement

2. Introduction to the Supplementary Environmental Statement

This part of the NTS relates to the SES. It reports whether the updates, changes to the design and construction assumptions, or corrections (the SES changes), would result in any new or different likely residual significant environmental effects from those reported in the main ES.

The SES provides additional information to that provided in the main ES. This NTS should be read in conjunction with the main ES NTS.

Part 1 of this NTS is presented on a community area basis, in sections 3 to 7. For each community area, with the exception of community area 4 where there are no changes to the design or construction assumptions, the following information is included:

- new baseline information where it is relevant to the reporting of likely significant residual environmental effects that are new or different to those reported in the main ES;
- a summary list of changes to construction assumptions that can be made within the existing powers of the Bill. These include changes to railway systems compounds as a result of further work on the construction methodology for the implementation of slab track as the track form;
- corrections to the main ES; and
- details of any new or different likely residual significant effects from those reported in the main ES which are a result of the updated or new baseline information, changes or corrections identified in the SES.

The SES changes are not considered to result in any new or different likely residual significant route-wide effects from those presented in Volume 3 of the main ES.

3. Fradley to Colton, Community Area 1

3.1 New environmental baseline information

Since the production of the main ES, additional baseline information has become available that relates to the following environmental topics in the Fradley to Colton area:

- community – additional information on the locations of four walking routes (promoted by the Kings Bromley Horticultural Society) has been received;
- ecology and biodiversity – ecological surveys for Phase 1 habitat, hedgerow, great crested newt, wintering birds, bats, water vole, badger and otter have been completed; and
- water resources and flood risk – additional information relating to a spring located north-east of Rugeley Trent Valley Station and south-west of Old Wood Farm has been received.

3.2 Changes to the design and construction assumptions within the existing powers of the Bill

Since the submission of the Bill, further information relating to the construction methodology for the installation of a slab track formation has required a change to the operational characteristics of one railway systems compound within the Fradley to Colton area. The change to this compound relates to: a change to the operational period (duration and start/end date); a change in the number of railway system workers (peak and/or average); and change in railway systems construction traffic peak numbers (heavy goods vehicles (HGV) and cars/light goods vehicles (LGV)).

In addition, in this area, there is a need for a new railway systems compound at Stockwell Heath which will be located within land included in the Bill for the provision of a civil engineering compound.

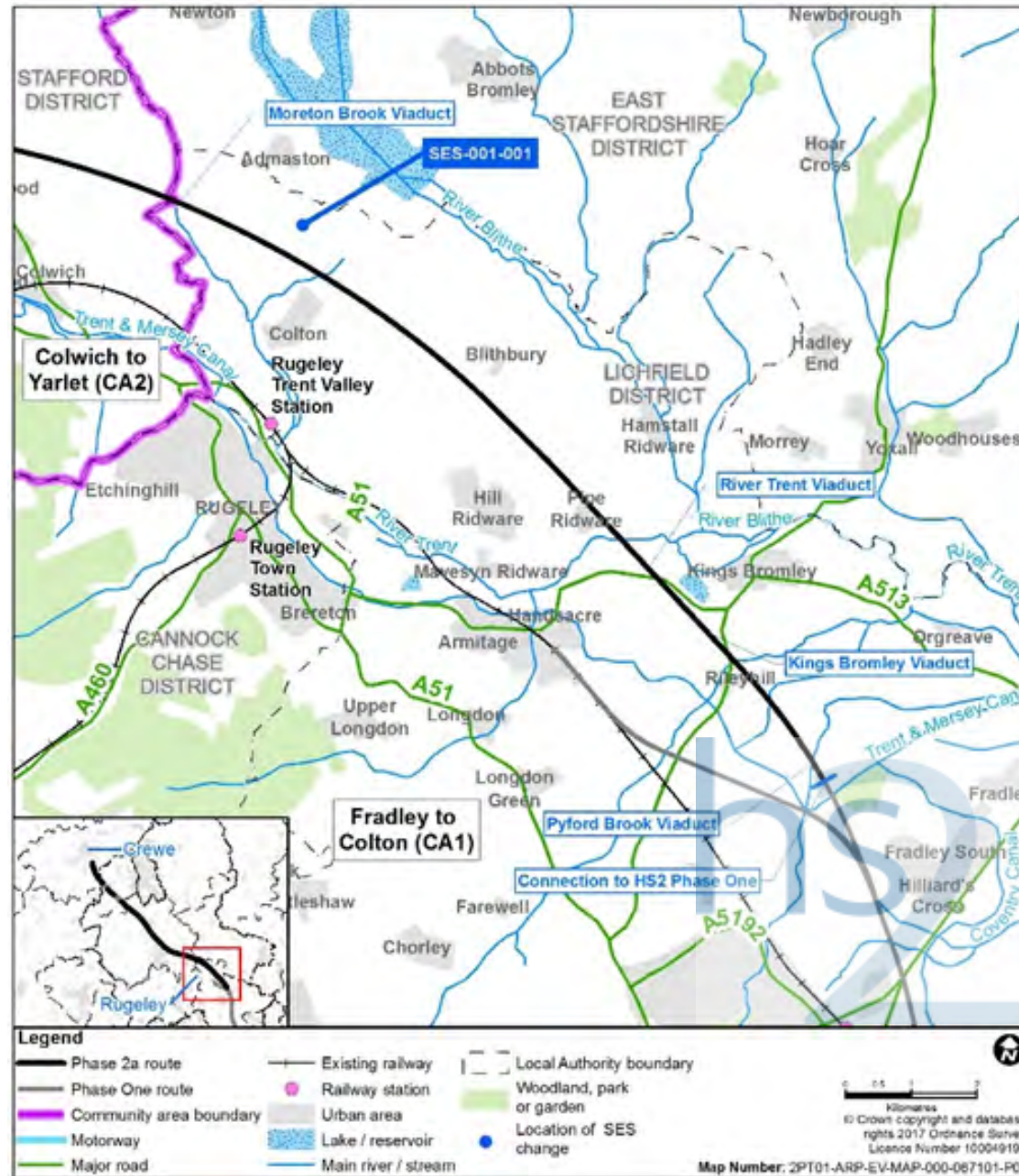
Table 1 presents a summary of the changes to the design and construction assumptions within the Fradley to Colton area and provides a description of the original scheme and the SES scheme.

Figure 2 shows the approximate location of the new railway systems compound within the Fradley to Colton area.

Table 1: Summary of changes to the design and construction assumptions within the Fradley to Colton area

Details of changes to the design and construction assumptions	Description of the original scheme	Description of the SES scheme
<p>Change to the operational duration, railway system worker numbers, and railway systems HGV trips for the Pyford North embankment satellite compound</p>	<p>This compound would be operational for a total of five years, commencing during 2021. Civil engineering works would be managed from this compound for a period of three years and nine months, followed by railway installation works for a period of one year and three months.</p> <p>The compound would support an average of 25 civil engineering workers per day (35 workers at peak times) and an average of 30 railway systems workers per day (45 workers at peak times).</p> <p>The compound would generate 99-111 civil engineering HGV trips per day and up to 10 railway systems HGV trips per day during busy periods and within the peak month of activity.</p>	<p>There are no changes to the operational characteristics for this compound related to civil engineering works.</p> <p>The railway installation works will be undertaken for a period of one year and six months, commencing during 2024. The compound will be operational for a total of five years and three months, an increase in three months from that stated in the main ES.</p> <p>There will be an increase in the number of railway systems workers supported by this compound with an average of 40 railway systems workers per day (60 workers at peak times).</p> <p>There will be an increase in the number of railway systems HGV trips generated by this compound with 82-84 trips per day during the busy periods and within the peak month of activity.</p> <p>This compound will support the implementation of track works.</p>
<p>Provision of a new railway systems compound at Stockwell Heath cutting satellite compound</p> <p>(SES-001-001)</p>	<p>Provision of a civil engineering compound only.</p> <p>This compound would be operational for a total of four years and three months, commencing during 2021, and would be used to manage the civil engineering works only.</p> <p>This compound would support an average of 25 civil engineering workers per day (35 workers at peak times).</p> <p>This compound would generate 66-87 civil engineering HGV trips per day during busy periods and within the peak month of activity.</p>	<p>There are no changes to the operational characteristics for this compound related to civil engineering works.</p> <p>A new railway systems compound will be provided within the footprint of the Stockwell Heath cutting satellite compound, included in the original scheme for civil engineering works. This railway systems compound will:</p> <ul style="list-style-type: none"> - be operational for one year and three months, commencing during 2025; - support an average of 30 railway system workers per day (50 workers at peak times); - be accessed via the B5013 Uttoxeter Road; - generate 158-160 railway systems HGV trips during the busy periods and within the peak month of activity; - generate 23-38 railway systems car/LGV trips during busy periods and within the peak month of activity; - be managed from the Stone railhead main compound (in the Stone and Swynnerton area); and - support the implementation of track works.

Figure 2: Location of change to railway systems compound within the Fradley to Colton area



3.3 Corrections to the main ES

Since submission of the Bill, the need for a number of corrections to the contents of the main ES has been identified. The corrections include instances where there has been a need to correct the Volume 2 community area report for the Fradley to Colton area because of the potential to alter the significant environmental effects reported in the main ES or a factual inaccuracy relating to a significant effect that has been identified. Corrections also clarify elements of the scheme description reported in the main ES.

Each correction has been reviewed to consider whether there is potential for any likely new or different significant environmental effects from those described in the main ES. Where relevant, these corrections have been taken into account in the technical assessments reported within the SES.

3.4 Summary of residual environmental effects for Supplementary Environmental Statement changes

The additional baseline information and changes to the design and construction assumptions have been reviewed and do not give rise to any new or different likely significant residual environment effects within the Fradley to Colton area.

While the changes to the construction methodology for the installation of a slab track formation will increase the number of rail systems HGV movements, these will be generally later in the construction programme than civil engineering HGV movements. Any increase in traffic due to these changes will be relatively small in comparison to the peak level of traffic generated by the civil engineering works. Therefore, it is not expected that there will be any new or different significant effects on the road network to those reported in the main ES.

In a number of cases, new or different residual significant effects have been identified as a result of corrections within the Fradley to Colton area. These are set out according to the environmental topic concerned.

Landscape and visual

Effects arising during construction

The main ES did not include the viewpoint at Woodhouse Farm, Blithbury within the landscape and visual assessment. Residents at Woodhouse Farm will have close range views of construction activity, reducing scenic quality and interrupting views to Cannock Chase Area of Outstanding Natural Beauty (AONB).

This will result in a high magnitude of visual change and a new major adverse effect on this viewpoint, which is significant.

Effects arising from operation

The main ES did not include the viewpoint at Woodhouse Farm, Blithbury within the landscape and visual assessment. Residents at Woodhouse Farm will have close range views of features of the original scheme. These features will appear prominent and incongruous within the rural landscape. Long distance views to Cannock Chase AONB will also be interrupted. This will result in a high magnitude of visual change and a new major adverse effect during operation of the original scheme in year 1, which is significant.

By year 15, the scheme will become less noticeable as the maturing hedgerow and tree planting will help to integrate it within its wider visual context. Operation of the scheme in years 15 and 60 will reduce to a medium magnitude of visual change and moderate adverse visual effect, which is significant.

Sound, noise and vibration

Effects arising during construction

The main ES reported a major adverse construction noise effect on seven proposed dwellings at Woodhouse Farm, Blithbury on the basis that these had planning permission for development as holiday lets. However, the restrictive planning condition allowing the holiday lets to be used as permanent residential properties has been removed, which means these properties could be used as either holiday lets or permanent residential properties. The assessment of these properties as permanent residential properties was not considered within the main ES.

Where a receptor has multiple uses the assessment is based on the most sensitive use. The most sensitive use for the construction assessment is as holiday lets. If they are used as holiday lets, the significant construction noise effects reported in the main ES would remain. If the properties are used as permanent residential properties, no significant construction noise effect would occur.

Effects arising from operation

The most sensitive use for the operation assessment of the seven proposed dwellings at Woodhouse Farm is as permanent residential properties. On this basis, a re-assessment of operational sound, noise and vibration on properties at Woodhouse Farm, Blithbury, based on the potential permanent residential use of the seven properties previously identified as holiday lets, has been undertaken. When considered in conjunction with The Bungalow and Woodhouse Farm, the residential use of the properties will result in a new likely significant operational noise effect on the community and their shared external community spaces. Mitigation of this effect will be provided in the form of a noise fence barrier or landscape earthworks.

Community

Effects arising during operation

The removal of the restrictive planning condition at Woodhouse Farm, Blithbury, means that seven proposed dwellings, assessed as holiday lets in the main ES, may be used as permanent residential properties. This assessment reflects that potential use. Approximately nine residential properties at Woodhouse Farm will be in proximity to the HS2 route. Residents will experience a permanent in-combination effect associated with significant operation noise and visual effects, which will result in a new major adverse community effect, which is significant.

The main ES reported in-combination effects associated with significant operational noise and visual effects for seven residential properties north and south of Blithbury Road and 20 residential properties in Stockwell Heath and Hamley House. The correct number of properties affected is six and 19 respectively. This will result in different significant community effects due to a reduction in the number of properties reported to be affected, but will not change the level of significance of the effects (major adverse) reported in the main ES.

4. Colwich to Yarlet, Community Area 2

4.1 New environmental baseline information

Since the production of the main ES, additional baseline information has become available that relates to ecology and biodiversity only in the Colwich to Yarlet area. Ecology surveys for Phase 1 habitat, hedgerow, great crested newt, wintering birds, bats, water vole, badger and otter have been completed.

4.2 Changes to the design and construction assumptions within the existing powers of the Bill

There are no SES design changes within the Colwich to Yarlet area.

Since the submission of the Bill, further information relating to the construction methodology for the installation of a slab track formation has required a change to the operational characteristics of one railway systems compound in the Colwich to Yarlet area.

The change to this compound relates to: a change to the operational period (duration and start/end date); a change in the number of railway system workers (peak and/or average); and change in railway systems construction traffic numbers (heavy goods vehicles (HGV) and cars/light goods vehicles (LGV)).

Table 2 presents a summary of the changes to construction assumptions for the Colwich to Yarlet area and provides a description of the original scheme and the SES scheme.

Table 2: Summary of changes to construction assumptions within the Colwich to Yarlet area

Details of changes to construction assumption	Description of the original scheme	Description of the SES scheme
<p>Change to the operational duration, railway systems worker numbers, and railway systems HGV trips for the Sandon Road auto-transformer station satellite compound</p>	<p>This railway systems compound would be operational for a total of one year and three months, commencing during 2024.</p> <p>This railway systems compound would support an average of 30 railway systems workers per day (40 workers at peak times).</p> <p>This railway systems compound would generate up to 10 railway systems HGV trips per day during busy periods and within the peak month of activity.</p>	<p>This compound will be operational for a total of one year and six months, commencing during 2024.</p> <p>There will be an increase in the number of railway systems workers supported by this compound with an average of 55 railway systems workers per day (80 workers at peak times).</p> <p>There will be an increase in the number of railway systems HGV trips generated by this compound with 161-164 trips per day during the busy periods and within the peak month of activity.</p> <p>This compound will support the implementation of track works.</p>

4.3 Corrections to the main ES

Since submission of the Bill, the need for a number of corrections to the contents of the main ES has been identified. The corrections include instances where there has been a need to correct the Volume 2 community area report for the Colwich to Yarlet area because of the potential to alter the significant environmental effects reported in the main ES or a factual inaccuracy relating to a significant effect that has been identified. Corrections also clarify elements of the scheme description reported in the main ES.

Each correction has been reviewed to consider whether there is potential for any likely new or different significant environmental effects from those described in the main ES. Where relevant, these corrections have been taken into account in the technical assessments reported within the SES.

4.4 Summary of residual environmental effects for Supplementary Environmental Statement changes

The additional baseline information and changes to construction assumptions have been reviewed

and do not give rise to any new or different likely significant residual environment effects within the Colwich to Yarlet area.

While the changes to the construction methodology for the installation of a slab track formation will increase the number of railway systems HGV movements, these will be generally later in the construction programme than civil engineering HGV movements. Any increase in traffic due to these changes will be relatively small in comparison to the peak level of traffic generated by the civil engineering works. Therefore, it is not expected that there will be any new or different significant effects on the road network to those reported in the main ES.

In a number of cases, new or different residual significant effects have been identified as a result of corrections in the Colwich to Yarlet area. These are set out according to the environmental topic concerned.

Sound, noise and vibration

Effects arising during construction

The main ES reported that approximately 10 properties at Hopton would be subject to a significant construction airborne noise effect.

Since the submission of the main ES, it has been identified that seven (rounded to 10) additional properties at Hopton should have been included in the assessment of construction airborne noise, making a total of approximately 20 residential properties at Hopton predicted to experience significant construction airborne noise effects. This will give rise to a different residual significant effect due to the increase in the number of properties reported to be affected, but will not change the level of significance of the effect reported in the main ES.

The main ES also reported eight residential properties in the Colwich to Yarlet area that are predicted to experience noise above the eligibility criteria as defined in the HS2 noise insulation and temporary rehousing policy. Two additional properties have been identified (Bank Top House, Hopton and Hill Top Farm, Yarlet) as being subject to a significant effect and will also be eligible for noise insulation. Mitigation measures, including noise insulation, will reduce noise inside the residential properties such that it will not reach a level where it would significantly affect residents.

Effects arising from operation

The main ES reported that approximately 10 properties in the vicinity of Moreton/Bishton Lane would experience a significant operational noise effect. Since the submission of the main ES, it has been identified that an additional two properties should have been included in the assessment of operational noise, making a total of approximately 15 residential properties (the sound, noise and vibration assessment rounds numbers of properties up to the nearest 5) at Moreton/Bishton Lane predicted to experience significant operational noise effects. This will give rise to a different residual significant effect due to an increase in the number of properties reported to be affected, but will not change the level of significance of the effect reported in the main ES.

Community

Effects arising during construction

The main ES reported in-combination effects associated with significant construction noise and visual effects for 11 residential properties in Hopton. This should have been reported as nine residential properties on the basis of the construction noise assessment. Since

the submission of the main ES, an additional seven properties have been identified in the construction noise assessment and therefore, the correct number of residential properties affected is 16 (rounded to 20 in the construction noise assessment). This will result in a different significant community effect due to an increase in the number of properties reported to be affected, but will not change the level of significance of the effect (major adverse) reported in the main ES.

Effects arising from operation

The main ES reported in-combination effects associated with significant operation noise and visual effects for 30 residential properties in Marston and Yarlet. Since submission of the main ES, it has been identified that the correct number of residential properties affected in Marston and Yarlet is 28. This will result in a different significant effect due to a reduction in the number of properties reported to be affected, but will not change the level of significance of the effect (major adverse) reported in the main ES.

The main ES also reported in-combination effects associated with significant operational noise and visual effects for 10 residential properties

in Moreton. Since submission of the main ES, it has been identified that the correct number of residential properties affected at Moreton is 12. This will result in a different significant effect due to an increase in the number of properties reported to be affected, but will not change the level of significance of the effect (major adverse) reported in the main ES.

Traffic and transport

Effects arising during construction

The temporary diversion of a Public Right of Way (PRoW) at Yarlet was incorrectly described in the main ES as Marston Footpath 2, but should have been reported as Whitgreave Footpath 2. The temporary diversion of this PRoW was not included in the traffic and transport assessment. This PRoW will be affected temporarily during construction and there will be an increase in travel distance for non-motorised users. This will result in a new minor adverse effect, which is significant. This correction will not require any change to mitigation reported in the main ES.

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5. Stone and Swynnerton, Community Area 3

5.1 New environmental baseline information

Since the production of the main ES, additional baseline information has become available that relates to ecology and biodiversity only in the Stone and Swynnerton area. Ecology surveys for Phase 1 habitat, hedgerow, wintering birds, bats, great crested newt, badger, water vole and otter, have been completed.

5.2 Changes to the design and construction assumptions within the existing powers of the Bill

There are no SES design changes in the Stone and Swynnerton area.

Since the submission of the Bill, further information relating to the construction methodology for the installation of a slab track formation has required a change to the operational characteristics of one railway systems compound within the Stone and Swynnerton area. The change to this compound

relates to: a change to the operational period (duration and start/end date); a change in the number of railway system workers (peak and/or average); and a change in railway systems construction traffic numbers (heavy goods vehicles (HGV) and cars/light goods vehicles (LGV)).

Table 3 presents a summary of the changes to the construction assumptions for the Stone and Swynnerton area, and provides a description of the original scheme and the SES scheme.

Table 3: Summary of changes to construction assumptions within the Stone and Swynnerton area

Details of changes to construction assumption	Description of the original scheme	Description of the SES scheme
Change to the railway system worker numbers and railway systems HGV trips for the Stone railhead main compound	<p>This railway systems compound would support an average of 225 railway systems workers per day (370 workers at peak times).</p> <p>This railway systems compound would generate 39-135 railway systems HGV trips per day during busy periods and within the peak month of activity.</p>	<p>There will be change in the number of railway systems workers supported by this compound. The average number of railway system workers per day will increase to 255. The peak number of railway system workers will decrease to 335.</p> <p>There will be an increase in the number of railway systems HGV trips generated by this compound with 178-244 trips per day during the busy periods and within the peak month of activity.</p>

5.3 Corrections to the main ES

Since submission of the Bill, the need for a number of corrections to the contents of the main ES has been identified. The corrections include instances where there has been a need to correct the Volume 2 community area report for the Stone and Swynnerton area because of the potential to alter the significant environmental effects reported in the main ES or a factual inaccuracy relating to a significant effect that has been identified. Corrections also clarify elements of the scheme description reported in the main ES.

Each correction has been reviewed to consider whether there is potential for any likely new or different significant environmental effects from those described in the main ES. Where relevant, these corrections have been taken into account in the technical assessments reported within the SES.

5.4 Summary of residual environmental effects for Supplementary Environmental Statement changes

The additional baseline information, changes to construction assumptions and corrections have been reviewed and do not give rise to any new or different likely significant residual environment effects within the Stone and Swynnerton area.

While the changes to the construction assumptions for the installation of a slab track formation will increase the number of railway systems HGV movements, these will be generally later in the construction programme than civil engineering HGV movements. Any increase in traffic due to these changes will be relatively small in comparison to the peak level of traffic generated by the civil engineering works. Therefore, it is not expected that there will be any new or different significant effects on the road network to those reported in the main ES.

6. Whitmore Heath to Madeley, Community Area 4

6.1 New environmental baseline information

Since the production of the main ES, additional baseline information has become available that relates to ecology and biodiversity only in the Whitmore Heath to Madeley area. Ecology surveys for Phase 1 habitat, hedgerow, great crested newt, wintering bird, bat, water vole, badger and otter have been completed.

6.2 Changes to the design and construction assumptions within the existing powers of the Bill

There are no changes to the design or construction assumptions within the Whitmore Heath to Madeley area.

6.3 Corrections to the main ES

Since submission of the Bill, the need for a number of corrections to the contents of the main ES has been identified. The corrections include instances where there has been a need to correct the Volume 2 CA report for the Whitmore Heath to Madeley area because of the potential to alter the significant environmental effects reported in the main ES or a factual inaccuracy

relating to a significant effect that has been identified. Corrections also clarify elements of the scheme description reported in the main ES.

Each correction has been reviewed to consider whether there is potential for any likely new or different significant environmental effects from those described in the main ES. Where relevant, these corrections have been taken into account in the technical assessments reported within the SES.

6.4 Summary of residual environmental effects for Supplementary Environmental Statement changes

The additional baseline information has been reviewed and does not give rise to any new or different likely significant residual environment effects within the Whitmore Heath to Madeley area.

In a number of cases, new or different residual significant effects have been identified as a result of corrections within the Whitmore Heath to Madeley area. These are set out according to the environmental topic concerned.

Sound, noise and vibration

Effects arising during construction

The main ES reported that approximately 50 dwellings located immediately adjacent to Manor Road, Madeley, between the junction with the A525 Bar Hill Road and the A53 Newcastle Road at Baldwin's Gate, would experience a significant construction noise effect as a result of a change in road traffic noise levels. Since the submission of the main ES, it has been identified that a section of this road was incorrectly identified and assessed as a HGV construction traffic route. The construction traffic route should have been shown as the section from the A525 Bar Hill Road to the access to the River Lea viaduct satellite compound. The remaining section, including the route past Madeley Park Wood, should not have been included, and will not be used as an HGV construction traffic route. This correction results in the removal of the significant construction traffic noise effect reported in the main ES.

Community

Effects arising during construction

A need for corrections to a number of the community assessments in the Whitmore Heath to Madeley area has been identified. These relate to changes in the numbers of properties identified in the sound, noise and vibration assessment, and the traffic and transport assessment, and the resulting change to in-combination effects reported in the community assessment.

The main ES reported in-combination effects associated with significant construction noise and visual effects for 20 residential properties on a section of Manor Road. Since the submission of the main ES, it has been identified that this section of road was incorrectly identified and assessed as a HGV construction traffic route. It will not be used as a construction traffic route and this correction results in the removal of the significant construction traffic noise effect on the group of properties, thereby removing the significant temporary in-combination effect. The visual effect will remain and is reported in the landscape and visual assessment in the main ES.

The main ES reported in-combination effects associated with significant construction noise and visual effects for 29 properties in Whitmore and Whitmore Heath. Since the submission of the main ES, it has been identified that the correct number of properties experiencing significant noise effects is 25 and therefore the number of properties experiencing in-combination effects is also 25. This will result in a different significant community effect due to the reduction in number of properties reported to be affected, but will not change the level of significance of the effect (major adverse) reported in the main ES.

The main ES reported in-combination effects associated with significant construction visual and HGV effects for 43 properties located on the A525 Bar Hill Road and Mallard Close, and that 42 of these properties would also experience noise effects, in addition to the visual and HGV effects. Since the submission of the main ES, it has been identified that the correct number of properties affected by visual, HGV and noise effects is 43. This will result in a different significant community effect due to an increase in the number of properties affected by the contributing noise effect, but will not change the level of significance of the effect (major adverse) reported in the main ES.

The main ES reported in-combination effects associated with significant construction noise, visual and HGV effects for approximately five properties at Moor Hall Farm and Bower End Farm. This assessment should not have reported the significant noise effect as part of the in-combination community effect. This will result in a different significant community effect due to the removal of the noise effect as a contributing factor to the in-combination effect, but will not change the level of significance of the effect (major adverse) reported in the main ES.

Effects arising from operation

The main ES reported in-combination effects associated with significant operational noise and visual effects for seven properties on Snape Hall Road in Whitmore Heath. Since the submission of the main ES, it has been identified that the correct number of properties affected is six. This will result in a different significant community effect due to the reduction in the number of residential properties reported to be affected, but will not change the level of significance of the effect (major adverse) reported in the main ES.

The main ES reported in-combination effects associated with significant noise and visual effects for 14 properties on the A525 Bar Hill Road and Red Lane in Madeley. Since the submission of the main ES, it has been identified that the correct number of properties affected is 11. This will result in a different significant community effect due to the reduction in the number of residential properties reported to be affected, but will not change the level of significance of the effect (major adverse) reported in the main ES.

7. South Cheshire, Community Area 5

7.1 New environmental baseline information

Since the production of the main ES, additional baseline information has become available that relates to the following environmental topics in the South Cheshire area:

- agriculture, forestry and soils: additional information relating to agricultural farm holdings in the South Cheshire area has been obtained; and
- ecology and biodiversity: ecological surveys for Phase 1 habitat, hedgerow, great crested newt, wintering birds, bats, water vole, badger and otter have been completed.

7.2 Changes to the design and construction assumptions within the existing powers of the Bill

There are no SES design changes in the South Cheshire area.

Since the submission of the Bill, further information relating to the construction methodology for the installation of a slab track formation has required a change to the operational characteristics of three railway systems compounds within the South Cheshire area. The changes to these compounds relate to: a change to the operational period (duration and start/end date); a change in the number of railway system workers (peak and/or average); and a change in railway systems construction traffic numbers (heavy goods vehicles (HGV) and cars/light goods vehicles (LGV)).

Table 4 presents a summary of the changes to the construction assumptions for the South Cheshire area, providing a description of the original scheme and the SES scheme.

Table 4: Summary of changes to construction assumptions within the South Cheshire area

Details of change to construction assumption	Description of the original scheme	Description of the SES scheme
Change to the operational duration, railway systems worker numbers, and railway systems HGV trips for the Checkley Lane West satellite compound	<p>This railway systems compound would be operational for one year and three months, commencing during 2025.</p> <p>This railway systems compound would support an average of 15 railway systems workers per day (30 workers at peak times).</p> <p>This railway systems compound would generate 19-34 railway systems HGV trips per day during busy periods and within the peak month of activity.</p>	<p>Railway installation works managed from this compound will commence earlier in the construction programme and will be undertaken over a longer period of time than stated in the main ES. This compound will be operational for a total of one year and six months, commencing during 2024.</p> <p>There will be a decrease in the number of railway systems workers supported by this compound with an average of 10 railway systems workers per day (20 workers at peak times).</p> <p>There will be an increase in the number of railway systems HGV trips generated by this compound with 44 to 48 trips per day during the busy periods and within the peak month of activity.</p> <p>This compound will support the implementation of track works.</p>
Change to the railway systems worker numbers and railway systems HGV trips for the Checkley Lane East main compound	<p>This compound would be operational for a total of six years, commencing during 2020. Civil engineering works would be managed from this compound for a period of four years and three months, followed by railway installation works for a period of two years. The compound would support an average of 20 civil engineering workers per day (30 workers at peak times) and an average of 35 railway systems workers per day (50 workers at peak times).</p> <p>The compound would generate 16-34 civil engineering HGV trips per day and 16-34 railway systems HGV trips during busy periods and within the peak month of activity.</p>	<p>There are no changes to the operational characteristics for this compound related to civil engineering works.</p> <p>There will be a decrease in the number of railway systems workers supported by this compound with an average of 25 railway systems workers per day (30 workers at peak times).</p> <p>There will be an increase in the number of railway systems HGV trips generated by this compound with 44-48 trips per day during the busy periods and within the peak month of activity.</p> <p>This compound will support the implementation of track works.</p>
Change to the operational duration, railway systems worker numbers, and railway systems HGV trips for the Heath Farm satellite compound	<p>This railway systems compound would be operational for nine months, commencing during 2025.</p> <p>This railway systems compound would support an average of 15 railway systems workers per day (15 workers at peak times).</p> <p>This railway systems compound would generate 28-32 railway systems HGV trips per day during busy periods and within the peak month of activity.</p>	<p>Railway installation works managed from this compound will commence earlier in the construction programme and will be undertaken over a longer period of time than stated in the main ES. This compound will be operational for a total of one year, commencing during 2025.</p> <p>There will be an increase in the number of railway systems peak workers supported by this compound (30 per day). There will be no change to the average number of railway systems workers.</p> <p>There will be an increase in the number of railway systems HGV trips generated by this compound with 70-80 trips per day during the busy periods and within the peak month of activity.</p> <p>This compound will support the implementation of track works.</p>

7.3 Corrections to the main ES

Since submission of the Bill, the need for a number of corrections to the contents of the main ES has been identified. The corrections include instances where there has been a need to correct the Volume 2 community area report for the South Cheshire area because of the potential to alter the significant environmental effects reported in the main ES or a factual inaccuracy relating to a significant effect that has been identified. Corrections also clarify elements of the scheme description reported in the main ES.

Each correction has been reviewed to consider whether there is potential for any likely new or different significant environmental effects from those described in the main ES. Where relevant, these corrections have been taken into account in the technical assessments reported within the SES.

7.4 Summary of residual environmental effects for Supplementary Environmental Statement changes

The changes to construction assumptions have been reviewed and do not give rise to any new or different likely significant residual environment effects within the South Cheshire area.

While the changes to the construction assumptions for the installation of a slab track formation will increase the number of railway systems HGV movements, these will be generally later in the construction programme than civil engineering HGV movements. Any increase in traffic due to these changes will be relatively small in comparison to the peak level of traffic generated by the civil engineering works. Therefore, it is not expected that there will be any new or different significant effects on the road network to those reported in the main ES.

In a number of cases, new or different residual significant effects have been identified as a result of additional baseline information and corrections within the South Cheshire area. These are set out according to the environmental topic concerned.

Agriculture, forestry and soils

Effects arising from operation

The main ES did not report the demolition of an outbuilding at Basford Hall in the agriculture, forestry and soils assessment. A high infrastructure impact due to the demolition of this building at Basford Hall will have a moderate adverse permanent effect on the holding, which is significant. This correction does not result in any change to mitigation reported in the main ES.

The main ES reported that the original scheme required 0.6ha of land from land south of A500 Shavington Bypass during construction, and that there would be a high severance impact on the arable field identified, resulting in a major/moderate adverse construction effect, which is significant. A reassessment was undertaken as a result of new baseline information which confirmed that the 4ha arable field identified forms part of Forge Mill Farm, which is 105ha in total area. Following reassessment, the temporary residual significant severance effect during construction reported in the main ES is removed as it will be possible to access the land from elsewhere on the farm.

Community

Effects arising during construction

The main ES reported an in-combination effect associated with significant noise and visual effects for 12 residential properties on Den Lane, north of Wrinehill. Since the submission of the main ES, it has been identified that the correct number of residential properties affected

is 11. This will result in a different significant community effect due to the reduction in the number of residential properties reported to be affected during construction but will not change the level of significance of the effect (major adverse) reported in the main ES.

Ecology and biodiversity

Effects arising during construction

The main ES reported that there would be approximately 13.1km of hedgerows within the land required in the South Cheshire area. This was reported as a residual adverse effect, significant at the district/borough level. This figure has been corrected to 21.9km of hedgerows within the land required. This correction will result in a different significant effect due to a change in the amount of hedgerow habitat reported to be lost, but will not change the level of significance of the effect.

Sound, noise and vibration

Effects arising during construction

The main ES listed six residential properties that are forecast to experience noise above the eligibility criteria as defined in the HS2 noise insulation and temporary rehousing policy. Three additional properties on Newcastle Road have been identified: Basford House, Oakleigh Cottage and Casey Lane Stables. These properties are identified as subject to a significant adverse effect and are likely to qualify for noise insulation. Mitigation measures, including noise insulation, will reduce noise inside the residential properties such that it will not reach a level where it would significantly affect residents.

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Part 2: Additional Provision Environmental Statement

8. Additional Provision Environmental Statement

8.1 Introduction

Since the production of the main ES in July 2017, a number of amendments to the original scheme have been identified. These amendments include requirements to use land outside the existing powers of the Bill, additional access rights or other extensions of the powers conferred by the Bill. Powers to make these amendments to the Bill are now being sought under the AP.

Part 2 of this NTS is presented on a community area basis, in sections 9 to 12. For each community area, with the exception of community area 4, where there are no AP amendments, the following information is included:

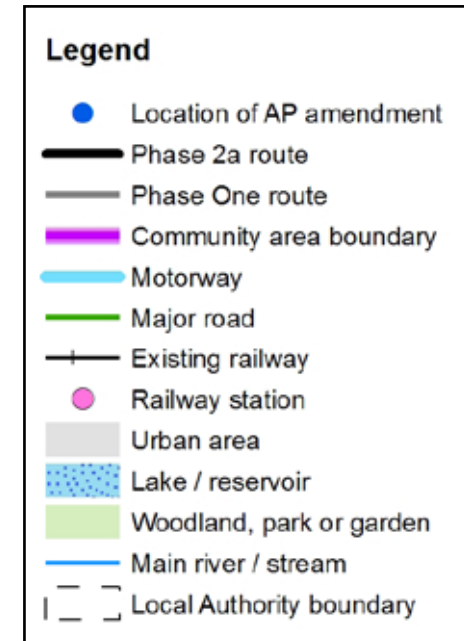
- a summary list of all engineering amendments that require an additional provision to be included within the Bill;
- a summary list of all utility amendments that require an additional provision to be included within the Bill;

- a summary of other amendments that require an additional provision to the Bill to enable permanent access for maintenance over certain areas of land; and
- a summary of residual environmental effects for amendments that require an additional provision to be included within the Bill.

The need for other amendments to the Bill plans and to Schedule 8 of the Bill ('Lands where powers of acquisition are limited to acquisition of rights or impositions of restrictive covenants') has also been identified since submission of the Bill.

Part 2 of this NTS also provides, in section 13, a summary of any route-wide effects that result from the amendments within the AP.

Figures 3 to 10 show the approximate location of the AP amendments within each of the community areas. The legend below is common to each figure in this section.



9. Fradley to Colton, Community Area 1

9.1 Summary of engineering amendments within the Additional Provision

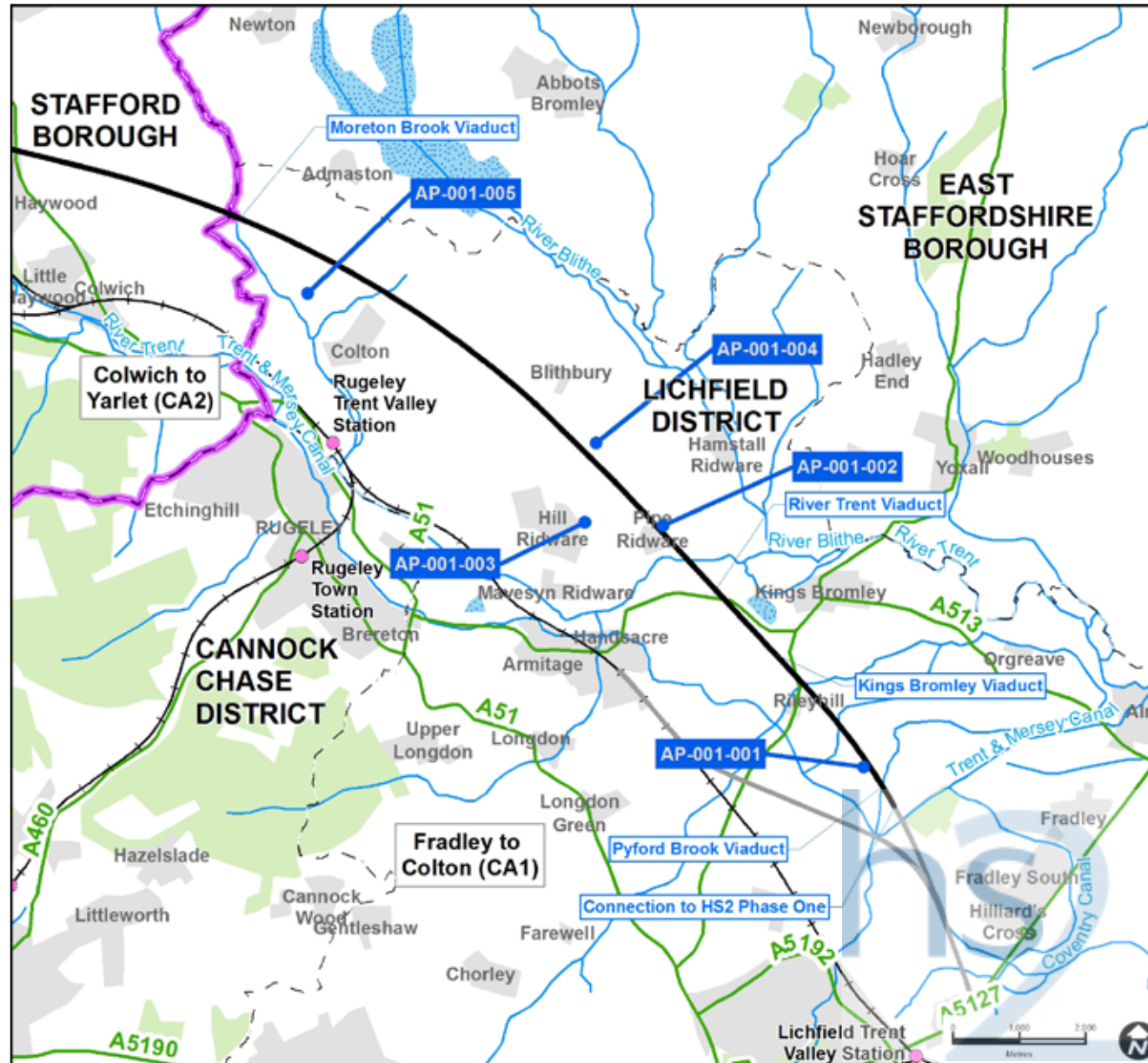
Table 5 provides a summary of each engineering amendment reported within the AP ES, along with a description of the 'original scheme'.

Figure 3 shows the approximate location of each amendment within the Fradley to Colton area.

Table 5: Summary of engineering amendments within the Fradley to Colton area

Name of amendment	Description of the original scheme	Description of the AP revised scheme
Additional land required for a temporary laydown area and a change to Bill powers at Pyford North embankment (AP-001-001)	The main ES indicates the permanent acquisition of land is required for the permanent diversion of a fuel pipeline crossing the HS2 route at Pyford North embankment.	Additional land is required during construction for a temporary laydown area. A change to Bill powers is required for the extension of the 10-inch diameter pipeline diversion on both sides of the HS2 route.
Additional land permanently required for the relocation of a balancing pond and provision of highway access with turning head from Pipe Lane, Pipe Ridware (AP-001-002)	The main ES indicates the permanent acquisition of land is required for a balancing pond, associated maintenance access area and lay-by, located on the west side of the diverted Pipe Lane.	Additional land is required for the permanent relocation of a balancing pond to the eastern side of the diverted Pipe Lane and provision of highway access with new turning head. The maintenance access area and lay-by, described in the original scheme, will not be provided.
Additional land permanently required for a new site haul route and HS2 maintenance access route from Pipe Lane and modifications to existing highways (AP-001-003)	The main ES indicates permanent acquisition of land is required for highway modifications along Common Lane, B5014 Ridware Road/Uttoxeter Road and Pipe Lane, south of the HS2 route. (Note: these works were reported in Volume 4, Off-route effects, of the main ES).	Additional land is required for the permanent provision of a new site haul route and HS2 maintenance access route, and the widening of Common Lane and a section of Pipe Lane. Highway modifications along Pipe Lane, between Pipe Ridware and the junction with Common Lane, will no longer be required. The B5014 Uttoxeter Road temporary modifications at Hill Ridware will also not be required.
Additional land permanently required to improve the visibility at the junction of Pipe Lane and an existing accommodation track (AP-001-004)	The main ES indicates permanent acquisition of land is required to upgrade the junction of an existing accommodation access track with Pipe Lane, located north-west of the HS2 route.	Additional land is required for the permanent replacement of existing hedgerow and proposed hedgerow habitat creation, included in the original scheme, to improve visibility at the junction of an existing accommodation track with Pipe Lane.
Additional land permanently required to improve the visibility at the junctions of Moor Lane and Lount Lane with the B5013 Uttoxeter Road (AP-001-005)	The main ES indicates permanent acquisition of land is required for the realignment of the B5013 Uttoxeter Road, which would tie-in the existing junctions with Moor Lane and Lount Lane, on the south side of the HS2 route.	Additional land is required for the permanent reinstatement of existing hedgerow and realignment of proposed hedgerow habitat creation, included in the original scheme, to improve visibility at the junction of Moor Lane and the B5013 Uttoxeter Road and the junction of Lount Lane with the B5013 Uttoxeter Road.

Figure 3: Locations of engineering amendments within the Fradley to Colton area



9.2 Assessment of engineering amendments

Agriculture, forestry and soils

Effects arising during construction

Construction of AP-001-003 (a new site haul route and HS2 maintenance access route from Pipe Lane and modifications to existing highways), will temporarily require an additional 0.2ha from the farm holding, Land at Luthbar. This will result in a new temporary moderate adverse effect, which is significant. The land required will be restored to its former agricultural condition once the works are completed, as set out in the draft CoCP.

Cultural heritage

Effects arising during construction

Construction of AP-001-003, will introduce two new permanent moderate adverse significant effects on heritage assets of low value: the cropmark remains of an Iron Age square barrow and field system west of Parva House, Pipe Ridware; and a mortuary enclosure, ring ditches and pit alignment to the west of Pipe Ridware.

No other mitigation measures are required beyond the measures reported in the main ES.

Ecology and biodiversity

Effects arising during construction

Construction of AP-001-003 will result in the net loss of approximately 400m of hedgerow, which is assumed to be species-rich hedgerow. The SES reports a net loss of 13.9km of hedgerow across the Fradley to Colton area, which represents an adverse effect that is significant at county level. The net loss of hedgerow habitat from the amendment will contribute to the net loss of 14.7km of hedgerow after mitigation across the Fradley to Colton area. This represents a different residual significant effect due to the additional loss of hedgerow, but will not change the level of significance of the residual effect on hedgerows, as reported in the main ES.

The main ES reported the loss of 40m of hedgerow habitat from Pipe Wood Lane local wildlife site (LWS), a permanent adverse effect on site integrity, which would be significant at district/county level. The additional loss, due to the construction of AP-001-004, comprises

approximately 80m of hedgerow habitat for which the site is designated. The amendment will result in a different significant effect on Pipe Wood Lane LWS due to the additional loss of hedgerow. However, this will not change the level of significance of the residual effect, as reported in the main ES.

Health

Effects arising during construction

AP-001-003 will remove HGV construction traffic through Hill Ridware. This will remove the adverse health effects reported in the main ES on residents of Hill Ridware associated with concerns about road safety and the perception of reduced neighbourhood quality in the village.

Traffic and transport

Effects arising during construction

AP-001-003 will remove the major adverse significant traffic severance effect on the B5014 Uttoxeter Road between Stonyford Lane and Common Lane and the moderate adverse traffic severance effects on the B5014 Uttoxeter Road between Stonyford Lane and the HS2 route and

Pipe Lane between School Lane and Pipe Wood Lane, as reported in the main ES. However, the amendment will give rise to a new moderate adverse significant traffic severance effect for non-motorised users on Common Lane between the B5014 Uttoxeter Road and Pipe Lane, as a result of an increase in HGV traffic on this section of the road.

9.3 Summary of minor utility amendments within the Additional Provision

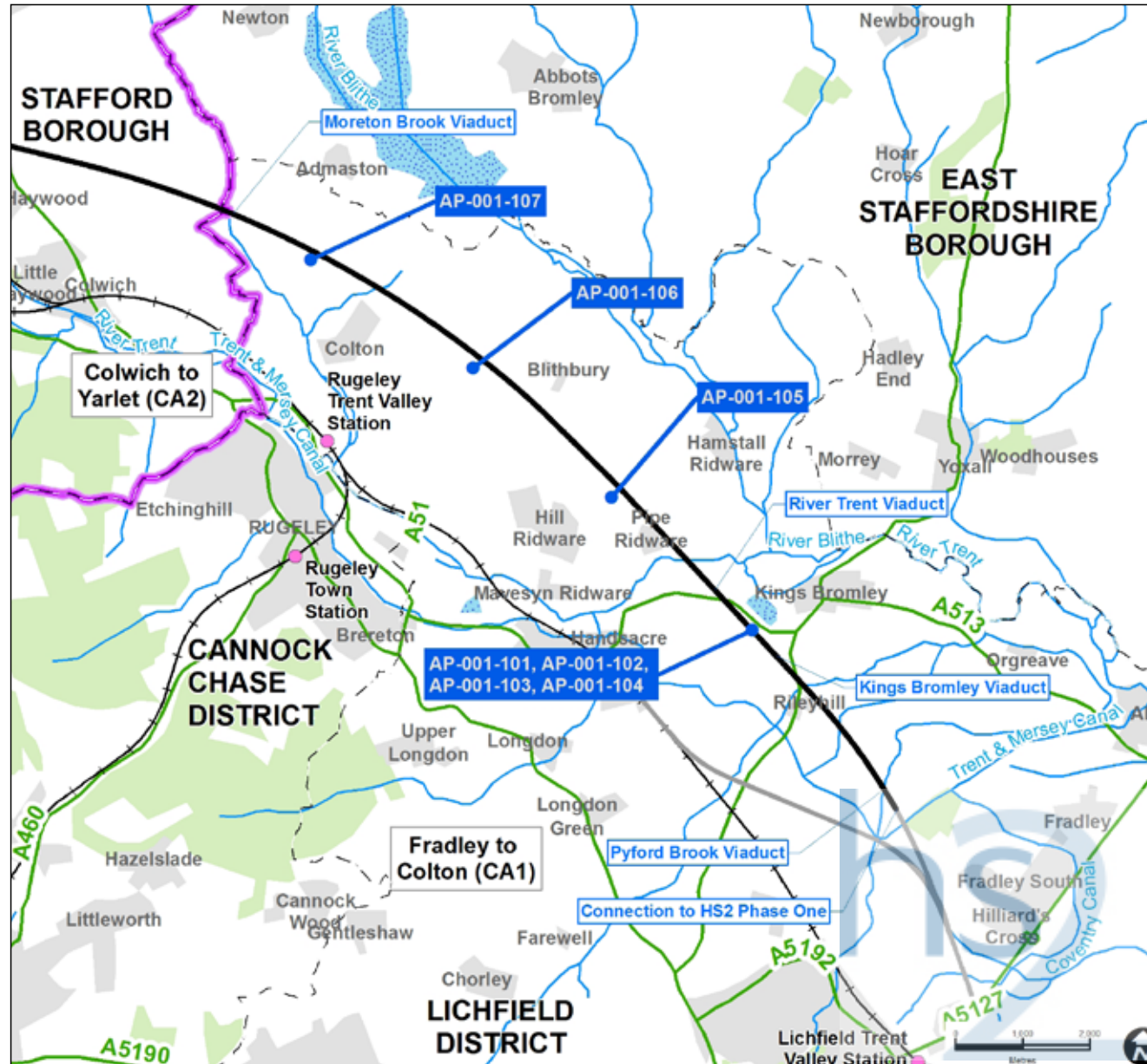
Table 6 provides a summary of each minor utility amendment reported within the AP ES.

Figure 4 shows the approximate location of each amendment within the Fradley to Colton area.

Table 6: Summary of minor utility amendments within the Fradley to Colton area

Utility	Description of the activities	Change to Bill powers
South Staffordshire Water 33-inch water mains AP-001-101	Permanent diversion of utility, 425m in length, crossing the HS2 route under the River Trent viaduct.	Additional land permanently required.
Two South Staffordshire Water 36-inch water mains AP-001-102	Permanent diversion of two utilities, both 175m in length, crossing the HS2 route under the River Trent viaduct.	Additional land permanently required.
South Staffordshire Water 6-inch water mains AP-001-103	Permanent diversion of utility, 100m in length, to run parallel to the A513 Rugeley Road.	Additional land permanently required.
BT Openreach overhead telecommunications cable AP-001-104	Permanent diversion of utility, 650m in length, parallel to the A513 Rugeley Road and within an access road serving Echills Farm.	Additional land permanently required.
BT Openreach overhead telecommunications cable AP-001-105	Permanent diversion of utility, 620m in length, along the access road to Quintons Orchard Farm.	Additional land permanently required.
BT Openreach overhead telecommunications cable AP-001-106	Permanent diversion of utility, 500m in length, along Hadley Gate Lane.	Additional land permanently required.
South Staffordshire Water 400mm, 200mm and 6-inch water mains AP-001-107	Permanent diversion of three utilities, 1.1km in length, to follow the B5013 Uttoxeter Road realignment.	Additional land permanently required.

Figure 4: Locations of minor utility amendments within the Fradley to Colton area



9.4 Assessment of minor utility amendments

Cultural heritage

Effects arising during construction

AP-001-102 requires additional land for the diversion of two water mains under the River Trent viaduct. The main ES reported a minor adverse effect, which is not significant, on possible field boundaries, west of Kings Bromley. The amendment will extend the land required for the AP revised scheme and increase the extent of the impact on the asset. As a result, the level of the effect will increase, from that reported in the main ES, to a moderate adverse significant effect.

In addition, the main ES reported a major adverse significant effect on buried archaeological deposits associated with the cropmark remains of four Bronze Age round barrows north-west of Echills. AP-001-102 will extend the land required for the AP revised scheme and increase the extent of the impact on the asset, which is a different effect. However, it will not change the level of the effect, which remains a major adverse significant effect, as reported in the main ES.

AP-001-105 requires additional land to permanently divert an overhead telecommunications cable. The main ES reported a moderate adverse significant effect on Pipehall moated site, north-west of Pipe Ridware. The construction of the amendment will result in a new impact on the setting of the asset. This will result in a different significant effect, however it will not change the level of the effect which remains a moderate adverse significant effect, as reported in the main ES.

Ecology and biodiversity

Effects arising during construction

The main ES reported no loss of habitat from Kings Bromley Pit (north-west of Manor Park) LWS, as this site was located outside of the land required for the construction of the original scheme. This site is of county value. AP-001-102 will extend the land required for the AP revised scheme and result in a loss of 400m² of semi-natural broadleaved woodland habitat from the LWS (a habitat of principal importance), for which the site is designated. Therefore, the amendment would result in a new significant effect upon this feature at up to a county level.

The habitat creation measures within the original scheme will compensate for the loss of semi-natural broadleaved woodland habitat from the LWS. This will reduce the level of effect such that it is not significant.

9.5 Other amendments requiring changes to Bill powers

Other amendments are required to the Bill and the parliamentary plans to enable permanent access for maintenance over certain areas of land (for example to habitat creation areas; line-side equipment; railway drainage system; and utilities). In the Fradley to Colton area these relate to plots of land in the parishes of Kings Bromley, Mavesyn Ridware, Armitage with Handsacre and Brereton and Ravenhill.

The use of these land plots for maintenance and operation access was considered in the preparation of the main ES. Given the limited frequency of access that would be required (typically 2-4 times per year by two light goods vehicles), it was concluded that this would not result in any significant effects.

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10. Colwich to Yarlet, Community Area 2

10.1 Summary of engineering amendments within the Additional Provision

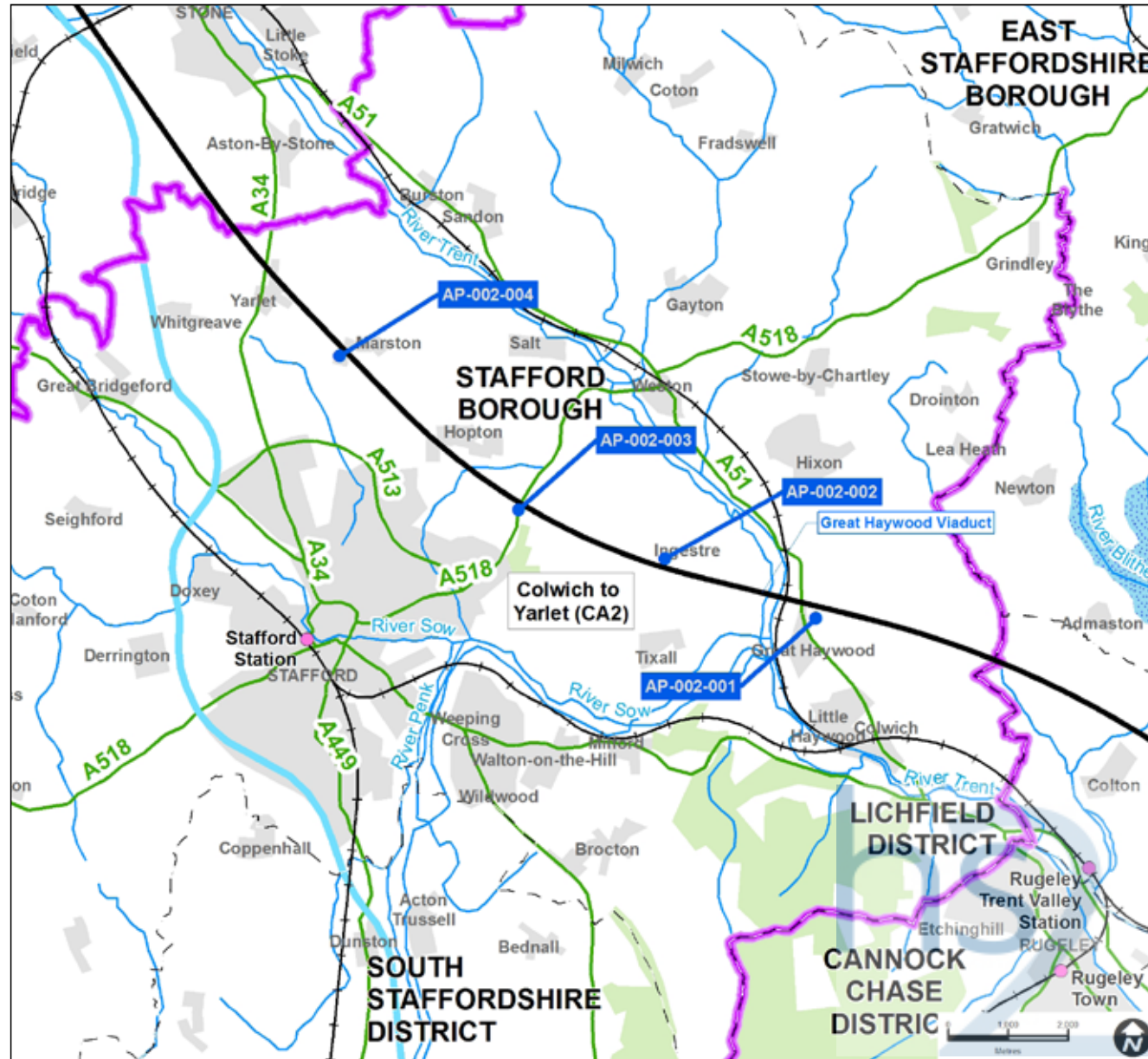
Table 7 provides a summary of each engineering amendment reported within the AP ES, along with a description of the original scheme.

Figure 5 shows the approximate location of each engineering amendment within the Colwich to Yarlet area.

Table 7: Summary of engineering amendments within the Colwich to Yarlet area

Name of amendment	Description of the original scheme	Description of the AP revised scheme
Additional land permanently required for amendment to a fuel pipeline diversion, A51 Lichfield Road (AP-002-001)	The main ES indicates the permanent acquisition of land is required for the diversion of a fuel pipeline crossing the A51 Lichfield Road.	Additional land is required for the permanent diversion of a section of the fuel pipeline.
Additional land required for a temporary laydown area at Trent North embankment (AP-002-002)	The main ES indicates the permanent acquisition of land is required for the diversion of a fuel pipeline crossing the HS2 route beneath the Trent North embankment.	Additional land is required for a temporary laydown area during construction of the fuel pipeline diversion.
Additional land permanently required for the A518 Weston Road realignment (AP-002-003)	The main ES indicates the permanent acquisition of land is required for the realignment of the A518 Weston Road. Access to the Staffordshire County Showground would be provided off the realigned A518 Weston Road.	Additional land is required on the south side of the HS2 route to permanently extend the A518 Weston Road realignment, south-west of its existing alignment, and for the realignment of existing and proposed hedgerow habitat at the junction between A518 Weston Road and Trent Walk. Additional land on the north side of the HS2 route is required to improve visibility, at the access road junction with the realigned A518 Weston Road.
Additional land permanently required for a turning head near Homestall Barn (AP-002-004)	The main ES indicates the permanent acquisition of land is required for the realignment of Marston Lane, north of its existing alignment, crossing the HS2 route via the Marston Lane underbridge. A section of Marston Lane, south of the HS2 route, would be retained for access to properties but closed to through-traffic.	Additional land is required for a turning head at the eastern end of the retained Marston Lane near Homestall Barn, east of its junction with the realigned Marston Lane.

Figure 5: Locations of engineering amendments within the Colwich to Yarlet area



10.2 Assessment of engineering amendments

There are no new or different significant residual effects that will occur as a consequence of the engineering amendments within the Colwich to Yarlet area.

10.3 Summary of minor utility amendments within the Additional Provision

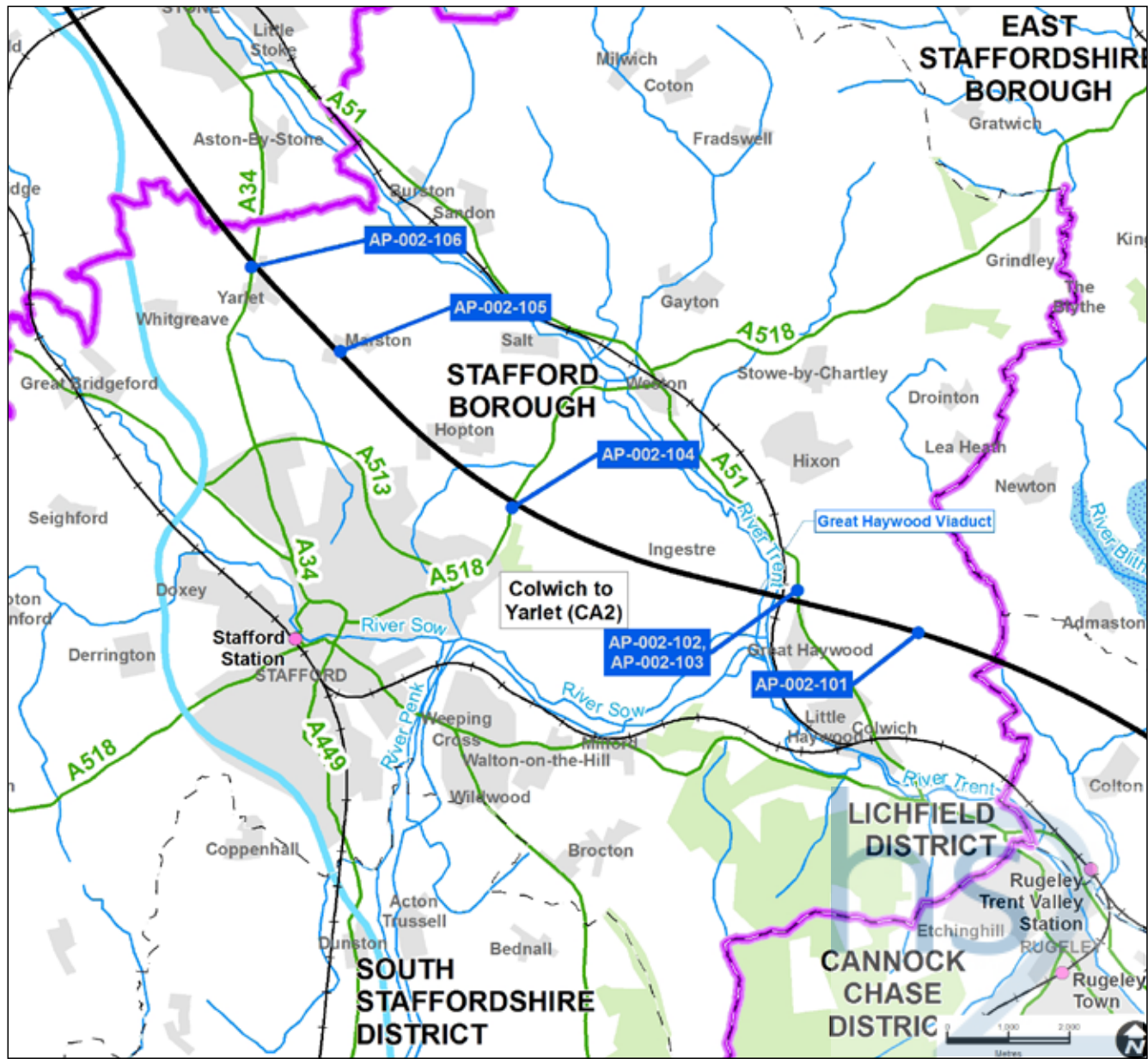
Table 8 provides a summary of each minor utility amendment reported within the AP ES.

Figure 6 shows the approximate location of each amendment within the Colwich to Yarlet area.

Table 8: Summary of minor utility amendments within the Colwich to Yarlet area

Utility	Description of the activities	Change to Bill powers
BT Openreach overhead telecommunications cable AP-002-101	Permanent diversion of utility, 1.3km in length, to follow the alignment of Moreton Lane.	Additional land permanently required.
Two Severn Trent Water rising foul sewers and one Severn Trent Water gravity foul sewer AP-002-102	Permanent diversion of three utilities, 880m in length, to run adjacent to the Macclesfield to Colwich Line.	Additional land permanently required.
BT Openreach underground fibre optic telecommunications cable and BT Openreach overhead telecommunications cable AP-002-103	Permanent underground diversion of two utilities, 1.2km in length, to follow the alignment of the A51 Lichfield Road and cross the HS2 route along the A51 Lichfield Road underbridge alignment.	Additional land permanently required.
BT Openreach overhead telecommunications cable AP-002-104	Permanent diversion of utility, 420m in length, within the Staffordshire County Showground.	Additional land permanently required.
BT Openreach overhead telecommunications cable AP-002-105	Permanent diversion of utility, 1.2km in length, along Yarlet Lane.	Additional land permanently required.
Cadent 90mm low pressure gas main AP-002-106	Permanent diversion of utility, 170m in length, along the access road to Yarlet School.	Change in Bill powers to acquire three plots of land permanently rather than temporarily.

Figure 6: Locations of minor utility amendments within the Colwich to Yarlet to Yarlet area



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10.4 Assessment of minor utility amendments

Sound, noise and vibration

Effects arising during construction

Construction of AP-002-106 involves the permanent diversion of a low pressure gas main along the access road to Yarlet School. This results in the identification of a new construction significant noise effect at Yarlet School for a duration of approximately one month. The works will be undertaken in accordance with the measures defined in the draft CoCP.

10.5 Other amendments requiring changes to Bill powers

Other amendments are required to the Bill and the parliamentary plans to enable permanent access for maintenance over certain areas of land (for example to habitat creation areas; line-side equipment; railway drainage system; and utilities). In the Colwich to Yarlet area these relate to plots of land in the parishes of Colwich, Tixall, and Hopton and Coton.

The use of these land plots for maintenance and operation access was considered in the preparation of the main ES. Given the limited frequency of access that would be required (typically 2-4 times per year by two light goods vehicles), it was concluded that this would not result in any significant effects.

11. Stone and Swynnerton, Community Area 3

11.1 Summary of engineering amendments within the Additional Provision

Table 9 provides a summary of each engineering amendment reported within the AP ES, along with a description of the original scheme.

Figure 7 shows the approximate location of each amendment within the Stone and Swynnerton area.

Table 9: Summary of engineering amendments within the Stone and Swynnerton area

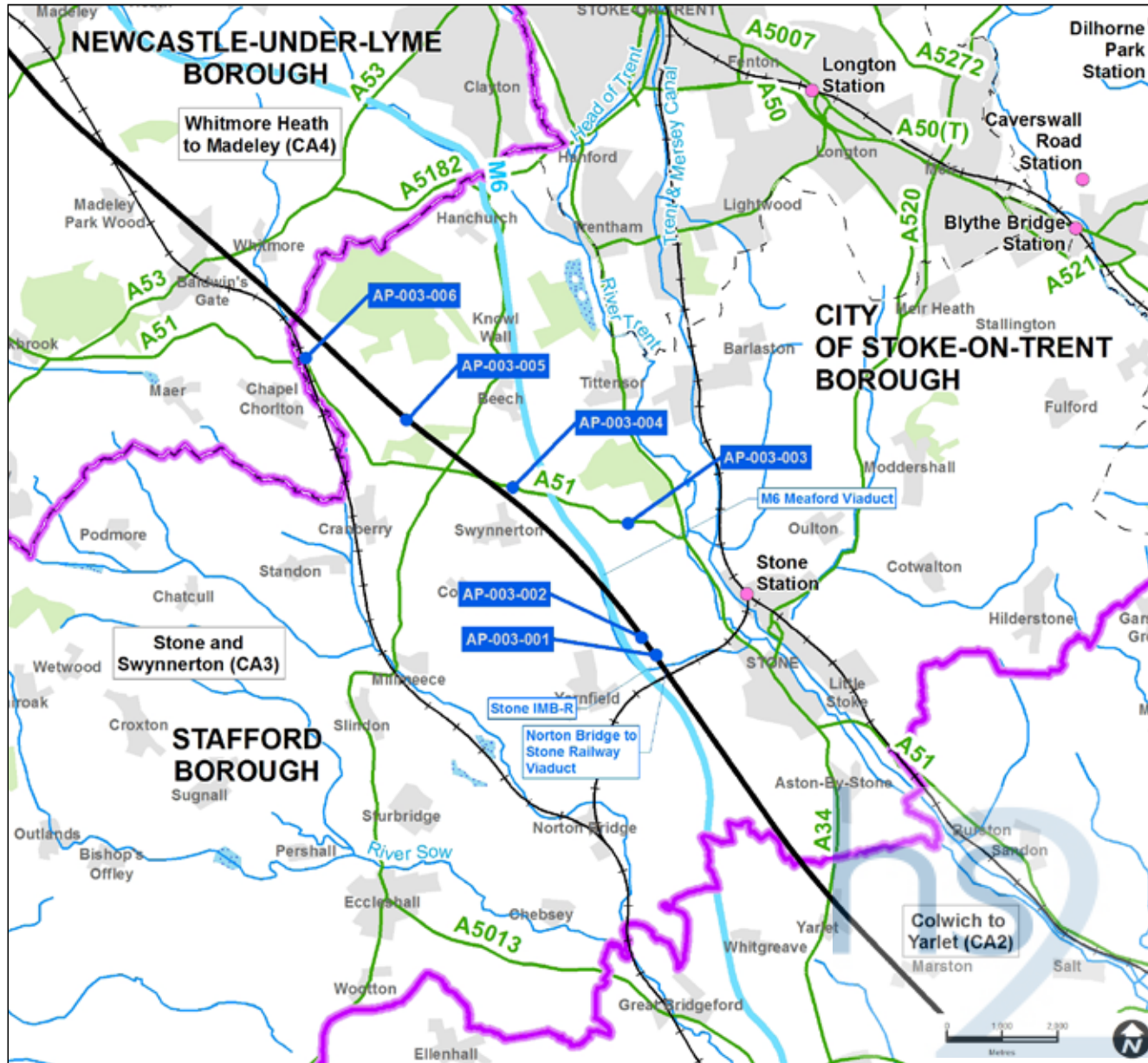
Name of amendment	Description of the original scheme	Description of the AP revised scheme
<p>Additional land permanently required and a change in the powers of the Bill for the viaduct crossing of the Norton Bridge to Stone Railway and track crossovers along the HS2 route</p> <p>AP-003-001</p>	<p>See Part 1 to Part 3 in subsequent rows</p>	<p>See Part 1 to Part 3 in subsequent rows</p>
<p>Due to the complexity of change associated with this amendment it has been sub-divided into the following three distinct elements for ease of understanding. The AP is however assessed as one amendment to the original scheme.</p> <p>AP-003-001</p>		
<p>Part 1 of AP-003-001</p> <p>A change in the powers of the Bill for the raising of the alignment of the HS2 main line from the B5026 Eccleshall Road to Meaford Cutting</p>	<p>The main ES indicates permanent acquisition of land for the HS2 route over a distance of approximately 2km from the B5026 Eccleshall Road to Meaford North cutting. The HS2 main line would cross over the Norton Bridge to Stone Railway and Filly Brook on viaduct and over Yarnfield Lane via the Yarnfield Lane underbridge.</p> <p>This section of the HS2 main line would allow for the provision of track crossovers and trackside storage areas for the maintenance of the HS2 route, as well as areas of landscape mitigation planting and landscape mitigation earthworks.</p>	<p>A change in the powers of the Bill will be required to raise the HS2 main line alignment along this section by up to 0.9m. There has been a redesign of the trackside storage areas and a track crossover along the HS2 main line. Yarnfield Lane auto-transformer station will be moved approximately 5m to the south-west.</p>

Name of amendment	Description of the original scheme	Description of the AP revised scheme
<p>Part 2 of AP-003-001</p> <p>A change in the powers of the Bill for amendments to the viaduct crossing of the Norton Bridge to Stone Railway and Filly Brook</p>	<p>The main ES indicates permanent acquisition of land is required for the HS2 main line to cross the Norton Bridge to Stone Railway and the Filly Brook on viaduct.</p> <p>This section of the HS2 route would allow for the provision of Stone retaining wall 2, areas of grassland habitat creation, two replacement flood storage areas and the realignment of Filly Brook via open channel.</p>	<p>A change in the powers of the Bill consequent on the shortening of the viaduct crossing the Norton Bridge to Stone Railway and Filly Brook and associated extension of the Yarnfield North embankment and Yarnfield South embankment. The viaduct has been renamed the Norton Bridge to Stone Railway viaduct, as it will no longer cross the Filly Brook. The track crossovers located on the viaduct in the original scheme will be moved further north-west along the HS2 main line.</p> <p>A section of Filly Brook will be culverted with the HS2 main line and the Stone IMB-R reception tracks crossing above. Filly Brook West underbridge (on the IMB-R reception tracks) will not be provided.</p> <p>Embankments will be extended on both sides of the new viaduct and on the embankment associated with the Stone IMB-R reception tracks where the Filly Brook West underbridge will not be provided. Stone retaining wall 2 will also not be provided.</p> <p>The replacement floodplain storage area included in the original scheme will be replaced with revised proposals (see AP-003-002) Associated landscape, ecological and flood mitigation in the original scheme will be redesigned.</p>
<p>Part 3 of AP-003-001</p> <p>Additional land and a change in the powers of the Bill for horizontal realignment of the HS2 main line from the northern extent of Yarnfield North embankment to Tittensor Road overbridge</p>	<p>The main ES indicates permanent acquisition of land is required for the HS2 main line over a distance of approximately 3km from the northern extent of Yarnfield North embankment to Tittensor Road overbridge.</p> <p>This section of the HS2 route would include the provision for the Stone Rural Footpath 33 realignment, landscape mitigation planting and landscape mitigation earthworks, balancing ponds, Swynnerton Footpath 17 diversion, Swynnerton Estate South underbridge, Swynnerton New Bridleway, and noise barriers adjacent to the Swynnerton embankment.</p>	<p>Additional land and a change in other powers of the Bill are required for the horizontal realignment of the HS2 main line along this section to be moved in a north-easterly direction by up to 15.5m.</p> <p>There have been associated design changes to a number of features, including the Stone Rural Footpath 33 realignment and Swynnerton Footpath 17 diversion, landscape mitigation planting and landscape mitigation earthworks, hedgerow and woodland habitat creation, access tracks and a turning head.</p>

Name of amendment	Description of the original scheme	Description of the AP revised scheme
<p>Additional land permanently required for the IMB-R/Norton Bridge to Stone Railway flood mitigation measures</p> <p>AP-003-002</p>	<p>The main ES indicates permanent acquisition of land is required for provision of flood mitigation measures comprising a 430m flood mitigation bund and replacement floodplain storage area, west of the M6 and north of the realigned Yarnfield Lane.</p>	<p>Additional land is required for the permanent provision of flood mitigation measures. A new smaller flood storage area will replace the flood storage area west of the M6 and its associated flood mitigation bund, which were included in the original scheme. Two additional flood storage areas are proposed and two flood mitigation bunds will be required. New culverts will also be required and the culverts included in the original scheme will be amended.</p>
<p>Additional land permanently required for a new junction of the A51 Bury Bank and Stone Rural Byway Open to All Traffic (BOAT) 34</p> <p>AP-003-003</p>	<p>The main ES indicates permanent acquisition of land is required for Stone BOAT 34 to be widened with passing bays to provide HS2 maintenance access to the HS2 route, between the existing junction of the A51 Bury Bank and Swynnerton Footpath 27.</p>	<p>Additional land is required for a permanent new junction of the A51 Bury Bank and Stone Rural BOAT 34, approximately 180m to the east of the existing junction.</p>
<p>Additional land permanently required to widen the highway verge along the A51 Stone Road</p> <p>AP-003-004</p>	<p>The main ES indicates permanent acquisition of land is required for the diverted Tittensor Road to connect to the diverted A51 Stone Road, approximately 100m west of Long Compton Farm. Landscape mitigation planting, grassland habitat creation and hedgerow habitat creation would be provided east of the diverted A51 Stone Road/diverted Tittensor Road junction.</p>	<p>Additional land is required for the permanent widening of the highway verge along the south edge of the A51 Stone Road to improve visibility at the junction between the diverted Tittensor Road and the A51 Stone Road.</p> <p>There will be a reduction in the landscape mitigation planting and grassland habitat creation included in the original scheme, as well as removal of a section of hedgerow habitat creation.</p>
<p>Additional land permanently required for the alignment of the Swynnerton Estate North green overbridge</p> <p>AP-003-005</p>	<p>The main ES indicates permanent acquisition of land is required for the Swynnerton Estate North green overbridge, which would provide vehicle access to the Swynnerton Estate across the HS2 main line. There would be landscape mitigation planting on both sides and planting across the overbridge to facilitate ecological connectivity across the route.</p>	<p>Additional land is required for a change to the earthworks on the north side of the Swynnerton Estate North green overbridge required to raise the height of the overbridge by 1m.</p> <p>As a result of the increased area of earthworks, landscape mitigation planting will be adjusted on the southern approach, however, the overall area of landscape mitigation planting will be unchanged from the original scheme.</p>

Name of amendment	Description of the original scheme	Description of the AP revised scheme
<p>Additional land permanently required for the provision of a roundabout at the junction of the re-aligned Dog Lane, the A51 The Rowe, Bent Lane and the A51 through Stableford</p> <p>AP-003-006</p>	<p>The main ES indicates permanent acquisition of land is required for the realignment of Dog Lane to pass over the HS2 main line via an overbridge and continue south to a four-arm staggered junction with the A51 The Rowe, Bent Lane and the A51 through Stableford.</p> <p>The main ES also indicates permanent acquisition of land for landscape mitigation planting south of the Dog Lane overbridge, and woodland habitat creation and hedgerow habitat creation along both sides of the realigned Dog Lane.</p>	<p>Additional land is permanently required for a four-armed roundabout in place of the four-arm staggered junction. There will be modifications to the alignments of the realigned Dog Lane, realigned Bent Lane (South), and the A51 The Rowe, to tie in to the roundabout. An additional bell-mouth junction for access to and from a residential property on the A51 The Rowe will also be provided.</p> <p>There will be a slight reduction in the area of woodland habitat creation on the south-east side of the new roundabout but a net gain in hedgerow habitat creation, mainly along both sides of the Bent Lane realignment.</p>

Figure 7: Locations of engineering amendments within the Stone and Swynnerton area



11.2 Assessment of engineering amendments

Traffic and transport

Effects arising during operation

AP-003-003 requires additional land for a new junction between the A51 Bury Bank and Stone Rural BOAT 34. The proposed change to Stone Rural BOAT 34 will increase travel distance for non-motorised users by up to 400m, giving rise to a new minor severance effect, which is significant.

11.3 Summary of minor utility amendments within the Additional Provision

Table 10 provides a summary of each minor utility amendment reported within the AP ES.

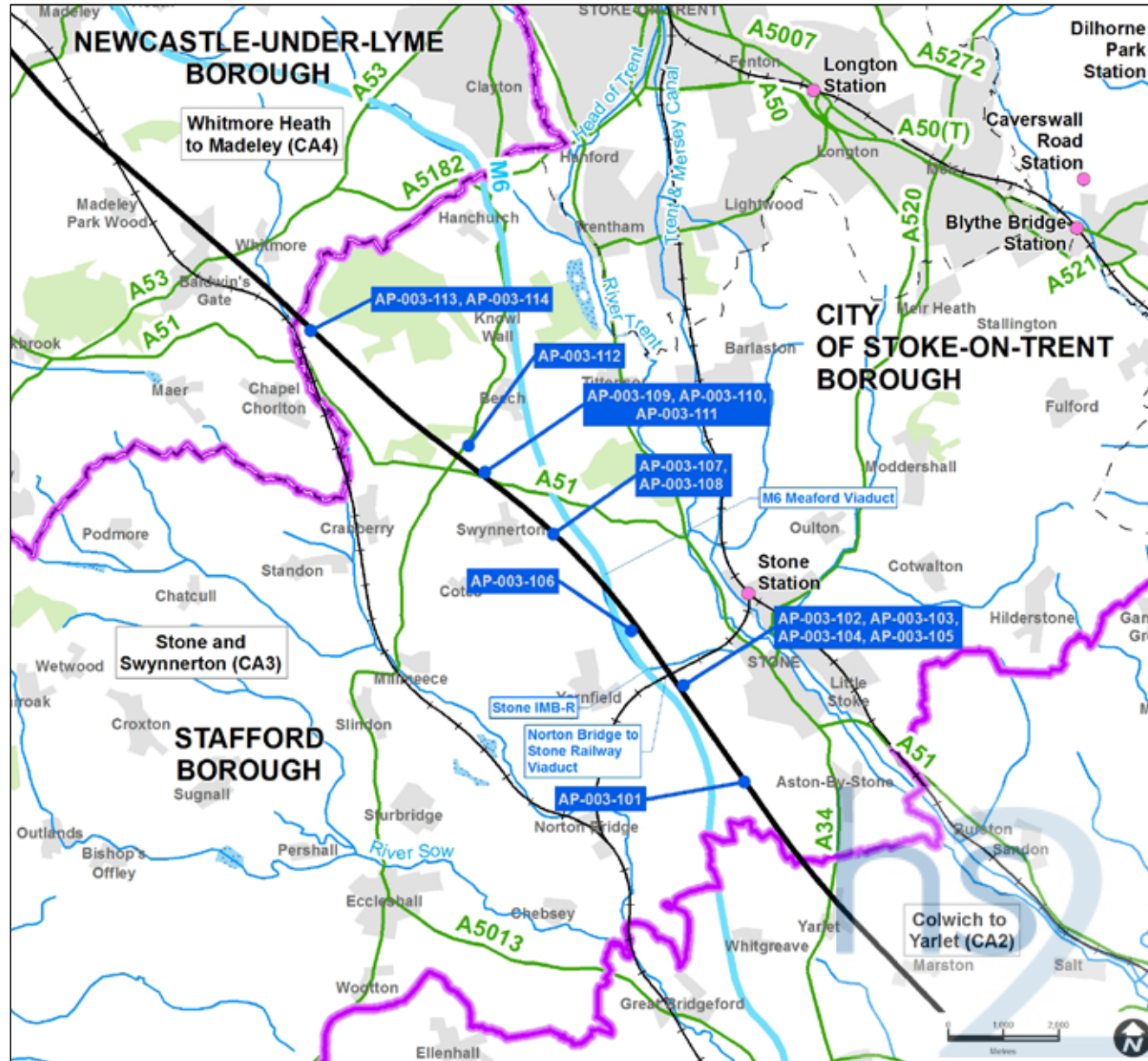
Figure 8 shows the approximate location of each amendment within the Stone and Swynnerton area.

Table 10: Summary of minor utility amendments within the Stone and Swynnerton area

Utility	Description of the activities	Change to Bill powers
BT Openreach overhead telecommunications cable AP-003-101	Permanent diversion of utility, 440m in length, along Stone Rural Bridleway 0.1135 and crossing the HS2 route within the Stone Rural Bridleway 0.1135 accommodation overbridge.	Additional land permanently required.
BT Openreach underground fibre optic and telecommunications cables and Zayo underground fibre optic telecommunications cable AP-003-102	Permanent diversion of three utilities, 880m in length, to follow the B5026 Eccleshall Road realignment.	Additional land permanently required
BT Openreach overhead telecommunications cable AP-003-103	Permanent diversion of utility, 170m in length, along the B5026 Eccleshall Road realignment.	Additional land permanently required
Western Power Distribution 11kV overhead lines AP-003-104	Permanent diversion of two utilities, 660m in length, to the east of the HS2 route along the B5026 Eccleshall Road and parallel to the HS2 main line.	Additional land permanently required
Zayo underground fibre optic telecommunications cable AP-003-105	Removal of 600m section of utility north of the HS2 route near Yarnfield Lane	Additional land temporarily required
Zayo underground fibre optic telecommunications cable AP-003-106	Removal of 4.6km section of utility between Yarnfield Lane and the A51 Bury Bank	Additional land temporarily required and a change in Bill powers at one plot of land from temporary to permanent.
BT Openreach underground telecommunications cable AP-003-107	Permanent diversion of utility, 550m in length, along Swynnerton Footpath 27 accommodation underbridge	Additional land permanently required
Two Severn Trent Water 10-inch water mains and one Severn Trent Water 400mm water mains AP-003-108	Permanent diversion of three utilities, 375m in length, crossing the HS2 route to the south of the M6 and south-west of the Swynnerton Estate South underbridge.	Additional land permanently required
Western Power Distribution 11kV overhead line AP-003-109	Permanent diversion of utility, 250m in length, to the south of Sandyford Farm, near the Swynnerton New Bridleway accommodation underbridge.	Additional land permanently required

Utility	Description of the activities	Change to Bill powers
BT Openreach underground fibre optic telecommunications cables AP-003-110	Permanent diversion of utility, 1.3km in length, to follow the Tittensor Road diversion.	Additional land permanently required
Severn Trent Water water mains, one 400mm main, two 10-inch mains and one 9-inch main AP-003-111	Vertical realignment of utilities, up to 1m lower than current depth, between the retained Tittensor Road and the diverted Tittensor Road.	Additional land permanently required
BT Openreach overhead telecommunications cable AP-003-112	Permanent diversion of utility, 840m in length, along the realigned A519 Newcastle Road.	Additional land permanently required
Severn Trent Water 400mm water main AP-003-113	Permanent diversion of utility, 400m in length, on the eastern side of the West Coast Main Line and west of the realigned Bent Lane (South).	Additional land permanently required
Two Severn Trent Water 400mm water mains AP-003-114	Permanent diversion of two utilities, 350m in length, crossing the HS2 route along the alignment of the Swynnerton Footpath 10 accommodation underbridge.	Additional land permanently required

Figure 8: Locations of minor utility amendments within the Stone and Swynnerton area



11.4 Assessment of minor utility amendments

Ecology and biodiversity

AP-003-002 requires additional land for the diversion of three utilities. The main ES reported the loss of 1.2ha (20%) of Highlow Meadows LWS. This loss was reported as a permanent adverse effect on the structure and function of the site that is significant at county level. AP-003-002 will result in the loss of an additional 0.2ha of the LWS. The amendment will result in a different significant effect on Highlow Meadows LWS due to the increase in the amount of land required. However, this will not change the level of significance of the effect as reported in the main ES. Extended wetland habitat creation will, once established, compensate for the additional loss of 0.2ha of grassland at Highlow Meadows LWS and reduce the effect on the LWS to a level that is not significant.

AP-003-103 requires additional land for the diversion of an overhead telecommunications cable along the realigned B5026 Eccleshall Road and will result in additional habitat losses to those reported in the main ES. These include a loss of approximately 20m of hedgerow, trees and 0.1 ha of improved grassland. The trees have the potential to support roosting bats and barn owls and the grassland is within proximity of

ponds used by great crested newts. The loss of these habitats will, therefore, result in different significant effects upon these species, but will not change the level of significance of the effects, which are reported in the main ES as up to county value.

The main ES reported the creation of 0.9ha of grassland and two ponds around a retained pond at Micklow House Farm. AP-003-103 will remove the ability to deliver 0.3ha of this habitat creation in advance of construction (it will still be provided once the utility works are complete). This will have an adverse impact upon its function as mitigation for the loss of habitats associated with great crested newts, reported in the main ES as subject to a county level effect. An alternative existing habitat creation area will be used to receive translocated great crested newts instead. This will result in a different significant effect upon great crested newts, but will not change the level of significance of effects reported in the main ES.

Sound, noise and vibration

Effects arising during construction

AP-003-114 requires additional land for the permanent diversion of two water mains along Swynnerton Footpath 10. When considered in combination with the construction works

described in the main ES, Shelton under Harley Farm is also forecast to experience construction noise levels above the eligibility criteria for noise insulation as defined in the draft CoCP. The mitigation measures reported in the draft CoCP will reduce noise inside the dwelling at Shelton under Harley Farm such that it does not reach a level where it will significantly affect residents. This will not change the level of significance reported in the main ES.

11.5 Other amendments requiring changes to Bill powers

Other amendments are required to the Bill and the parliamentary plans to enable permanent access for maintenance over certain areas of land (for example to habitat creation areas; line-side equipment; railway drainage system; and utilities). In the Stone and Swynnerton area these relate to plots of land in the parishes of Stone Rural and Swynnerton.

The use of these land plots for maintenance and operation access was considered in the preparation of the main ES. Given the limited frequency of access that would be required (typically 2-4 times per year by two light goods vehicles), it was concluded that this would not result in any significant effects.

12. South Cheshire Area, Community Area 5

12.1 Summary of engineering amendments within the Additional Provision

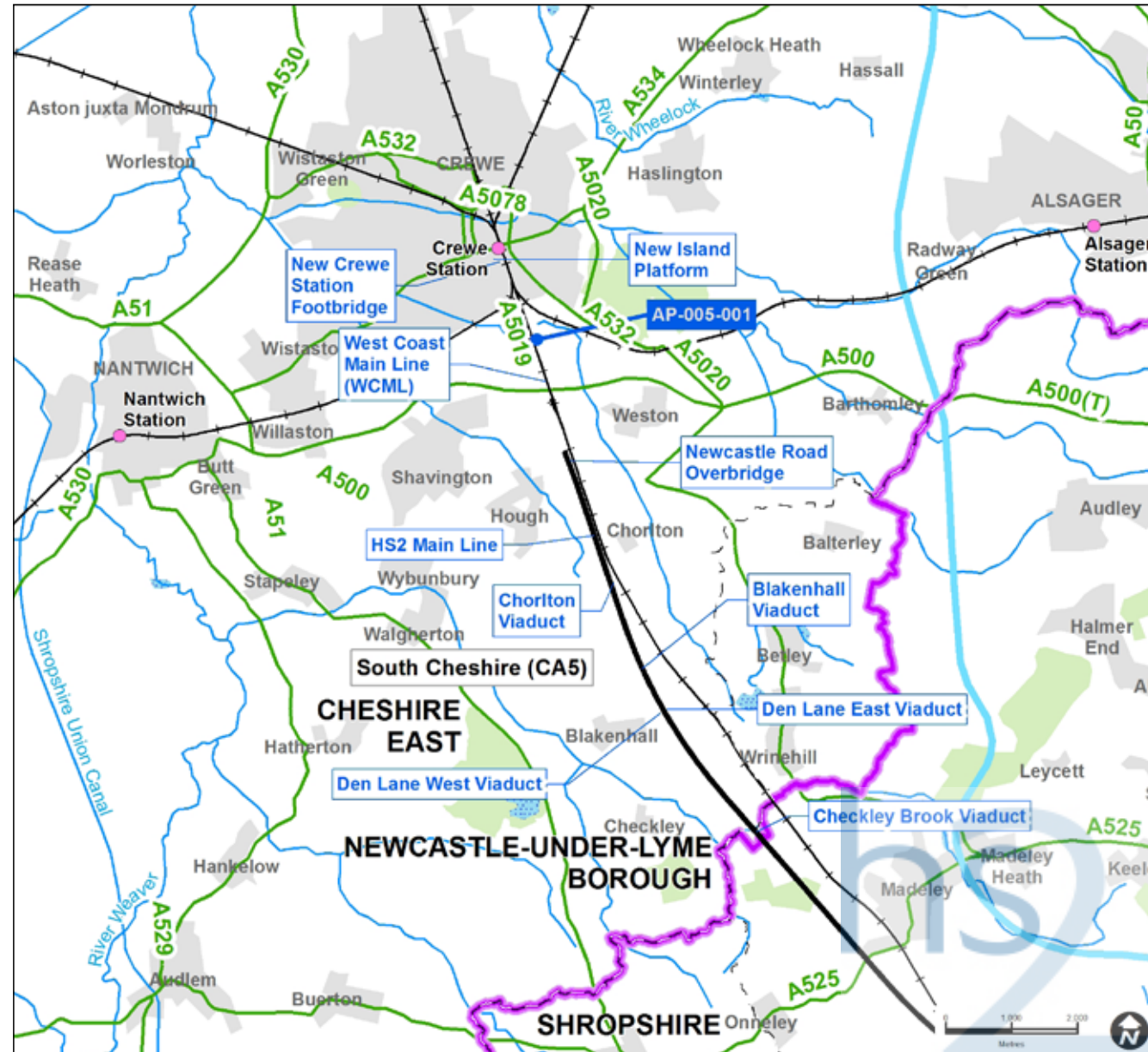
Table 11 provides a summary of each engineering amendment reported within the AP ES, along with a description of the original scheme.

Figure 9 shows the approximate location of each amendment within the South Cheshire area.

Table 11: Summary of engineering amendments within the South Cheshire area

Name of amendment	Description of the original scheme	Description of the AP revised scheme
Additional land permanently required associated with amendment to the Network Rail access road. (AP-005-001)	The main ES indicates permanent acquisition of land is required for a Network Rail access road from the A5020 David Whitby Way to the Crewe Railway West Coast Main Line Depot, located east of the West Coast Main Line and north of the A500 Shavington Bypass.	Additional land permanently required for engineering earthworks associated with the Network Rail access road.

Figure 9: Locations of engineering amendments within the South Cheshire area



12.2 Assessment of engineering amendments

There are no new or different significant residual effects that will occur as a consequence of the engineering amendments within the South Cheshire area.

12.3 Summary of minor utility amendments within the Additional Provision

Table 12 provides a summary of each minor utility amendment reported within the AP ES.

Figure 10 shows the approximate location of each amendment within the South Cheshire area.

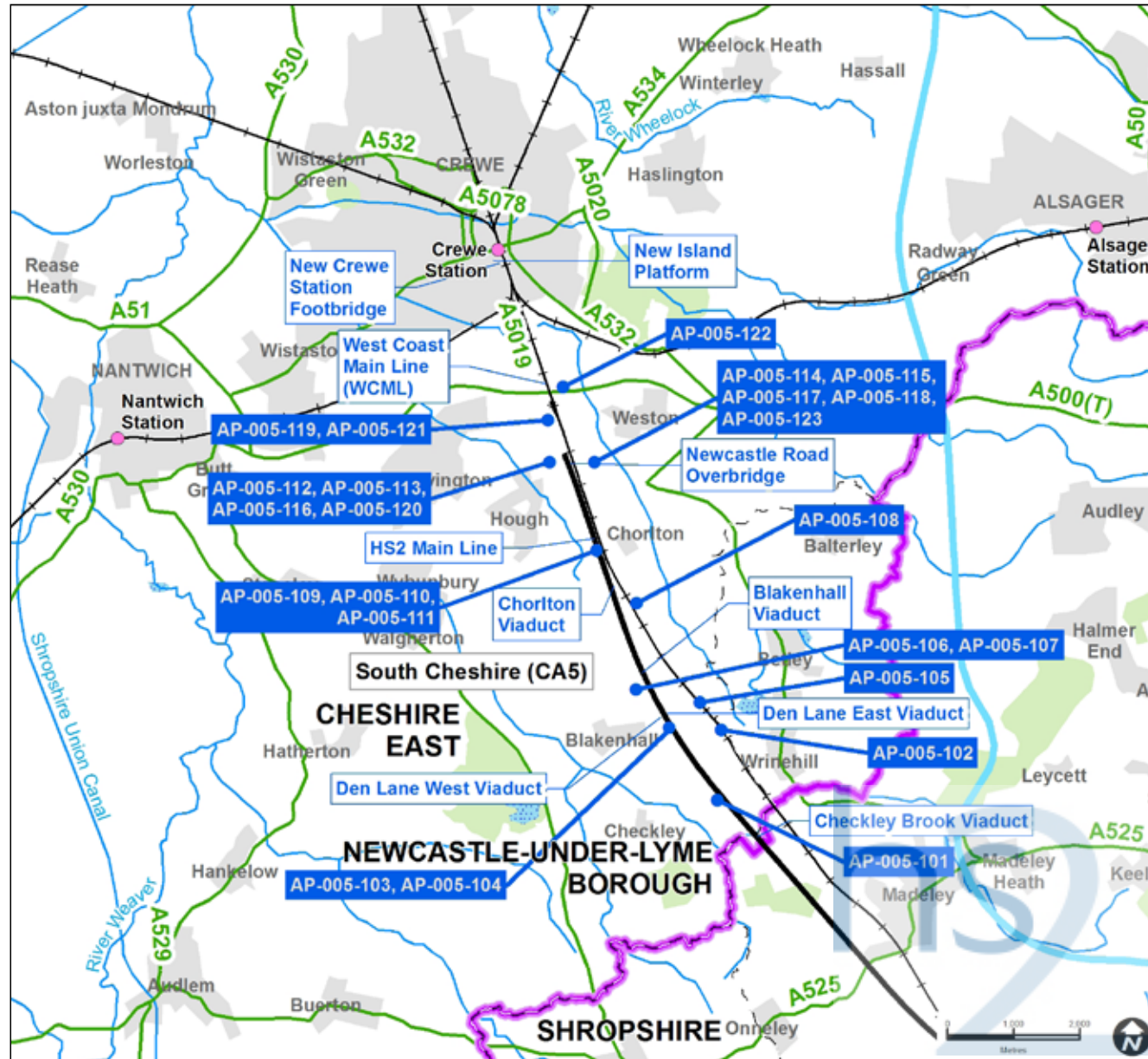
Table 12: Summary of minor utility amendments within the South Cheshire area

Utility	Description of the activities	Change to Bill powers
Scottish Power Energy Networks 11kV overhead line AP-005-101	Permanent diversion of utility, 850m in length, along Checkley Lane realignment.	Additional land permanently required.
United Utilities 63mm water mains AP-005-102	Permanent diversion of utility, 700m in length, parallel to existing utility alignment between the West Coast Main Line and Den Lane.	Additional land permanently required.
Scottish Power Energy Networks 11kV overhead line AP-005-103	Permanent diversion of utility, 1.1km in length, along Mill Lane and Den Lane.	Additional land permanently required.
Scottish Power Energy Networks 11kV underground line AP-005-104	New power supply to Blakenhall northbound spur satellite compound.	Additional land permanently required.
Scottish Power Energy Networks 11kV underground line AP-005-105	New power supply to Blakenhall cutting satellite compound.	Additional land permanently required.
Scottish Power Energy Networks 11kV underground line AP-005-106	New power supply to the South Crewe mid-point auto-transformer station.	Additional land permanently required.
United Utilities water mains AP-005-107	New water mains supply to the Crewe South cutting satellite compound.	Additional land permanently required.
Scottish Power Energy Networks 11kV underground line AP-005-108	New underground power line to the Waybutt Lane satellite compound.	Additional land permanently required.
Scottish Power Energy Networks 11kV overhead line AP-005-109	Permanent diversion of utility, 670m in length, along Chorlton Lane.	Additional land permanently required.
Severn Trent Water 27-inch water mains AP-005-110	Permanent diversion of utility, 700m in length, along Chorlton Lane and crossing under the HS2 route and West Coast Main Line.	Additional land permanently required.
BT Openreach overhead and underground telecommunications cable AP-005-111	Permanent diversion of utilities, 300m in length, along Chorlton Lane connecting to Dairy Farm and properties on Chorlton Lane.	Additional land permanently required.

Utility	Description of the activities	Change to Bill powers
BT Openreach overhead telecommunications cable AP-005-112	Permanent diversion of utility, 250m in length, to follow the Newcastle Road realignment.	Additional land permanently required.
Scottish Power Energy Networks 11kV overhead line AP-005-113	Permanent diversion of utility, 240m in length, under the retained Casey Lane south-west of the West Coast Main Line.	Additional land permanently required.
Scottish Power Energy Networks 11kV overhead line AP-005-114	Permanent diversion of utility, 240m in length, under the diverted Casey Lane and along the Casey Lane extension, north-east of West Coast Main Line.	Additional land permanently required.
Scottish Power Energy Networks 11kV overhead line AP-005-115	Permanent diversion of utility, 140m in length, along Weston Lane.	Additional land permanently required.
Scottish Power Energy Networks 11kV overhead line AP-005-116	Permanent diversion of utility, 1.2km in length, along realigned Newcastle Road	Additional land permanently required.
Scottish Power Energy Networks 11kV overhead line AP-005-117	Permanent diversion of utility, 340m in length, around the perimeter of Chorlton cutting satellite compound.	Additional land permanently required.
United Utilities 200mm, 300mm and 900mm sewers AP-005-118	Permanent diversion of utilities, 1.2km in length, along Newcastle Road and the diverted Casey Lane.	Additional land permanently required.
Scottish Power Energy Networks 33kV overhead line AP-005-119	Permanent diversion of utility, 890m in length, to follow the alignment of site haul routes between the A500 Shavington Bypass and Weston Lane overbridge.	Additional land permanently required.
Scottish Power Energy Networks 11kV line and Scottish Power Energy Networks 11kV line AP-005-120	New power supply to Crewe South portal satellite compound and a new permanent supply to HS2 pump station.	Additional land permanently required.
United Utilities water mains AP-005-121	New water mains supply to Basford cutting main compound and a batching plant.	Additional land permanently required.

Utility	Description of the activities	Change to Bill powers
United Utilities water main and Scottish Power Energy Networks power supply AP-005-122	New water and power supplies to the Crewe South crossovers railway systems compound.	Additional land permanently required.
Zayo underground telecommunications cable AP-005-123	Permanent diversion of utility, 1.5km in length, along the realigned Newcastle Road.	Additional land permanently required.

Figure 10: Locations of minor utility amendments within the South Cheshire area



12.4 Assessment of minor utility amendments

Sound, noise and vibration

Effects arising during construction

AP-005-105 requires additional land for a new power line to Blakenhall cutting satellite compound. The main ES reported a significant construction airborne noise effect on the community at Wrinehill, including Lower Den Farm, for up to one year and seven months. As a result of the amendment, Lower Den Farm is predicted to experience construction noise levels above the eligibility criteria as defined in the HS2 noise insulation and temporary rehousing policy. The mitigation measures reported in the draft CoCP, including noise insulation for the residential property, will reduce noise inside the dwelling such that it does not reach a level where it will significantly affect the residents. Therefore, the amendment will not change the level of significance of this effect reported in the main ES.

AP-005-108 requires additional land for a new underground power line to Waybutt Lane satellite compound. The main ES reported a significant construction airborne noise effect on

the community at Wychwood Park / Chorlton for up to one year and four months. As a result of the amendment, a new construction noise impact is identified at a further four residential properties on Hampstead Drive and Ferndown Way, Chorlton for up to one month. This will result in a different significant effect for properties in this area, but will not change the level of significance of this effect reported in the main ES.

AP-005-109 requires additional land for the permanent diversion of an 11kV overhead line along Chorlton Lane. The main ES reported a significant construction airborne noise effect on the community at Wychwood Park/Chorlton for up to one year and four months. As a result of the amendment, a new airborne construction noise impact is identified at a further six residential properties on Henley Road, Chorlton for up to two months. This will result in a different significant effect for approximately 40 properties in this area, but will not change the level of significance of this effect reported in the main ES.

The combination of AP-005-108 and the permanent diversion of an overhead line along Chorlton Lane (AP-005-109) will result in a different significant effect for a further

four properties at Wychwood Park/Chorlton, approximately 45 properties in total, for up to one year and four months. However, this will not change the level of significance of this effect reported in the main ES.

As a result of AP-005-109, when considered in combination with the works identified in the main ES, there are two residential properties in Chorlton: Bridge Cottage, Chorlton Lane and Jubilee Farm that are forecast to experience airborne construction noise levels above the eligibility criteria as defined in the draft CoCP. The mitigation measures reported in the draft CoCP, including noise insulation for the residential properties, will reduce noise inside the dwellings such that it does not reach a level where it will significantly affect the residents.

AP-005-121 requires additional land for a new water main supply to the Basford cutting main compound and a temporary batching plant located within the compound. As a result of the amendment, a new construction noise effect, which is significant on a community basis, is identified at approximately 30 residential properties on Larch Avenue, Basford and Weston Lane, Basford. No additional mitigation has been identified beyond that set out in the draft CoCP.

12.5 Other amendments requiring changes to Bill powers

Other amendments are required to the Bill and the parliamentary plans to enable permanent access for maintenance over certain areas of land (for example to habitat creation areas; line-side equipment; railway drainage system; and utilities). In the South Cheshire area these relate to plots of land in the parishes of Chorlton and Basford and in the towns of Crewe and Sandbach.

The use of these land plots for maintenance and operation access was considered in the preparation of the main ES. Given the limited frequency of access that would be required (typically 2-4 times per year by two light goods vehicles), it was concluded that this would not result in any significant effects.

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13. Volume 3: Route-wide Effects

13.1 Ecology

Effects arising during construction

Designated sites

One additional non-statutory wildlife site to those reported in Volume 3 of the main ES, Kings Bromley Pit (north-west of Manor Park) LWS, will be significantly affected by the AP revised scheme (AP-001-102). The AP revised scheme will, therefore, result in significant loss and/or fragmentation effects to 16 LWS, compared to 15 LWS reported in the main ES. The additional site affected by the AP amendments is within Staffordshire. The number of LWS affected by the AP revised scheme equates to approximately 2% of the total LWS within Staffordshire. The additional loss of habitat from a non-statutory wildlife site required for the AP revised scheme represents a different significant adverse effect on the ecological networks of which the LWS form a part, but will not change the level of significance of this effect reported in the main ES.

Habitats

In comparison with the original scheme, the AP amendments will increase the loss of habitats of principal importance listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act, by approximately 5.9ha. The total loss, therefore, will increase to approximately 115.8ha, which includes approximately 50.9ha of lowland mixed deciduous woodland and 38.8ha of lowland meadows. Several of the proposed AP amendments also involve revisions to the ecological compensation areas included within the original scheme. Consequently, the AP revised scheme will result in the creation of approximately 478.8ha of habitats of principal importance, a net reduction of approximately 2.2 ha, compared to the SES scheme.

The AP revised scheme will also result in the loss of approximately 187km of hedgerows compared with 189km lost to the original scheme, as corrected by the SES. The loss of hedgerows across the AP revised scheme remains approximately 0.04% of the resource in England.

The changes in the extent of habitat losses and creation of ecological compensation areas, which will occur as a result of the AP amendments, are unlikely to generate any new or different significant effects at a route-wide level.

13.2 Water resources and flood risk

Effects arising from operation

The AP amendments (AP-003-001 and AP-003-002) at the Filly Brook Crossing will extend the Yarnfield South embankment and Yarnfield North embankment near Stone, crossing the floodplain and channel of Filly Brook. The extension of the embankments was considered to have the potential to impact on the assessment of compliance with the Water Framework Directive (WFD) and relevant flood risk policies in the National Planning Policy Framework (NPPF), which have been assessed on a route-wide basis.

WFD compliance

Six features of these amendments were identified as having the potential to have effects on WFD status and status objectives. Five of these are located on the Filly Brook and one on a previously unassessed unnamed tributary of Filly Brook (located on the south side of the Norton Bridge to Stone Railway). Both of these watercourses are located within the Trent from Tittensor to River Sow WFD surface water body.

The changes on Filly Brook include the addition of two new culverts, the Filly Brook Culvert and Filly Brook West Culvert, which replace the Filly Brook Viaduct and the Filly Brook West Underbridge proposed under the original scheme, respectively. As a result of the addition of these culverts, the length of the proposed realignment of the watercourse has increased by approximately 175m at this location. Two new, small culverts have also been included within a newly proposed replacement floodplain storage feature located upstream of Yarnfield Lane. Upstream of the culverts, the existing Filly Brook channel will be realigned and improved over approximately 238m, in conjunction with the

wetland habitat creation proposed. Changes on the unnamed tributary of Filly Brook comprise the removal of the existing culvert underneath the Norton Bridge to Stone Railway at the existing confluence with Filly Brook and the diversion of the watercourse along the southern side of the Norton Bridge to Stone Railway to join Filly Brook further to the north-east.

An assessment of the likely compliance of the AP revised scheme against the objectives of the WFD has concluded that the AP revised scheme will not cause a deterioration of the current status of the Trent from Tittensor to River Sow water body or prevent the water body from achieving its status objectives. The AP revised scheme will therefore be compliant with the objectives of the WFD.

Route-wide flood risk

The NPPF advises that essential infrastructure should only be located in floodplain areas in exceptional circumstances. Extending the Yarnfield South and Yarnfield North embankments southwards over Filly Brook floodplain has potential implications for flood

risk. Approximately 0.3 hectares of floodplain, within the area required for the AP revised scheme, will be raised above flood level, with a consequent loss of natural floodplain attenuation.

Flood management measures have been developed to reduce flood risk to the scheme and to a number of existing local receptors, including farmland and properties on Yarnfield Lane, the M6 and existing rail infrastructure. These measures will ensure the effective management of the AP revised scheme within the floodplain of Filly Brook and accord with the technical guidance that accompanies the NPPF.

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