

# HIGH SPEED RAIL (LONDON - WEST MIDLANDS)

Supplementary Environmental Statement and  
Additional Provision 2 Environmental Statement

Non-technical summary

July 2015

SES and AP2 ES 3.0

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Department  
for Transport

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

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# 1. Introduction to the SES and the AP2 ES

## 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 2 Environmental Statement (AP2 ES) to the High Speed Rail (London-West Midlands) Bill ('the Bill'). Its main purpose is to report any new or different likely residual significant environmental effects arising from the updates and changes reported in the SES and the amendments reported within the AP2 ES. These new or different likely residual significant environmental effects are compared to those contained within the Environmental Statement which accompanied the Bill submitted to Parliament in November 2013 ('the main ES') and the Additional Provision Environmental Statement ('the AP1 ES') which accompanied amendments to the Bill (AP1) in September 2014.

## 1.2 Background to High Speed Two

Phase One of High Speed Two (HS2) will provide a new north-south railway between London, Birmingham and the West Midlands. Phase Two of HS2 will comprise new lines between the West Midlands, Leeds and Manchester, completing what is known as the 'Y network'. Phase Two is not the subject of this document.

The Bill was submitted to Parliament in November 2013. If enacted by Parliament, the Bill will provide the powers to construct, operate and maintain Phase One of HS2. The Bill was accompanied by the main ES. The main ES presented the findings of the environmental impact assessment (EIA) for the scheme, outlining the assessment scope and methodology, identifying likely significant environmental effects, mitigation measures to reduce or avoid significant environmental effects and residual significant environmental effects, which remain after all mitigation has been put in place.

Following the deposit of the Bill, a number of amendments to the design of the scheme were identified. These were as a result of further discussions with landowners and occupiers,

design refinements, and the requirements of utility companies. These amendments were assessed and any new or different likely significant environmental effects compared to the main ES were reported in the AP1 ES. The AP1 ES was deposited in Parliament at the same time as the Bill amendments. There was a formal public consultation on the AP1 ES, and a period for those directly and specially affected by the amendments to lodge petitions with the High Speed Rail (London - West Midlands) Select Committee ('the Select Committee') in Parliament. Both the consultation and petitioning periods have now closed. Once the petitions on these amendments have been heard by the Select Committee, the Select Committee will decide whether they should be incorporated into the Bill.

Since deposit of AP1 in September 2014, the need for further design changes and amendments has arisen through the Select Committee process, on going discussions with petitioners and key stakeholders, and as a result of design refinements. Environmental information not previously available for the assessment has also become available 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 within the existing Bill powers and limits, changes to scheme assumptions, and as a result of the further environmental information and corrections, are reported in the Supplementary Environmental Statement (SES). The AP2 ES reports on the likely significant environmental effects of the latest additional provisions to the Bill. The SES and the AP2 ES are therefore separate environmental statements, but have been produced as combined volumes (see Section 1.5 of this document for further details).

The SES and the AP2 ES will each be the subject of a public consultation. There will also be a petitioning period for those directly and specially affected by the changes reported in the SES and amendments proposed in AP2 to put their objections to these to the Select Committee. Any petitions against these changes will be heard by the Select Committee in due course.

### 1.3 Terminology used to describe the scheme

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 AP2 ES:

- ‘the original scheme’ - the Bill scheme submitted to Parliament in November 2013, which was assessed in the main ES;
- ‘the AP1 revised scheme’ - the original scheme as amended by the AP1 (i.e. the amendments assessed within the AP1 ES) submitted in September 2014;
- ‘the SES scheme’ - the original scheme with the design changes described in the SES that are within the existing powers of the Bill; and
- ‘the AP2 revised scheme’ - the original scheme as amended by the SES design changes and AP2 amendments.

The following terms are also used to differentiate between design changes included in the SES and those included in the AP2 ES:

- ‘SES design changes’ - changes to the scheme reported in the SES that do not require additional powers; and

- ‘AP2 amendments’ - changes to the scheme reported in the AP2 ES that include requirements for additional powers in the Bill.

### 1.4 The SES and the AP2 ES

#### *Supplementary Environmental Statement*

The SES reports any new or different likely significant environmental effects resulting from:

- updated and new environmental baseline information:
  - the SES considers information that has become available due to surveys undertaken in late 2013 to early 2015 and additional environmental information arising from desk based research. This includes additional information concerning the environmental conditions for: cultural heritage; ecology; and water resources and flood risk assessment (the latter focusing specifically on Water Framework Directive (WFD) surveys); and
  - the SES also reports traffic and transport updates to the traffic baseline in the London area (Community Forum Area (CFA) 4 (Kilburn (Brent) to Old Oak Common) to CFA6 (South Ruislip to Ickenham)). These updates are a

- consequence of new traffic modelling undertaken in this area to assess revised construction assumptions; and
- changes to the design of the scheme that do not require amendments to the Bill powers (generally because the changes would be carried out on land within the existing Bill limits) and changes to construction assumptions. The SES design changes include:
    - removal of the proposed section of the HS1-HS2 link in CFA4;
    - removal of the proposed Heathrow Express (HEX) depot in North Pole (East) in CFA4 (as part of the AP2 revised scheme the depot will be relocated to Langley in Slough);
    - provision of pedestrian access along a closed section of Old Oak Common Lane in CFA4 throughout the construction period;
    - removal of a proposed sustainable placement area and the provision instead of permanent earthworks at Hunt's Green Farm in CFA10 (Dunsmore, Wendover and Halton);
    - re-grading landscape mitigation earthworks at Lower Boddington in CFA15 (Greatworth to Lower Boddington) to a shallower gradient than in the original scheme;
    - increasing the height of earthworks to provide greater mitigation of visual effects
- in the vicinity of Ladbroke and Wormleighton in CFA16 (Ladbroke and Southam);
- a revised location for the re-provision of the Burton Green Village Hall in CFA18 (Stoneleigh, Kenilworth and Burton Green);
  - the provision of replacement public open space, adjacent to Coleshill Heath Road in CFA24 (Birmingham Interchange and Chelmsley Wood);
  - removing some of the changes to the road network proposed within the main ES in the vicinity of the National Motorcycle Museum in CFA24; and
  - increasing the width of existing roads within the Network Park Industrial Estate in CFA26 (Washwood Heath to Curzon Street) to enable the movement of HS2 construction vehicles.
- The changes to construction assumptions include:
- changes to the material import and construction programme in CFA6: the construction programme has been amended to reduce the peak numbers of construction vehicles using Harvil Road and Swakeleys Road;
  - use of Euro VI heavy goods vehicles (HGV) in CFAs 4, 5 and 6: the main ES assumed that HGVs with any Euro standard engine could be used to transport excavated
- material. However, HGVs entering designated low emission zones during construction to transport excavated material will now be powered by Euro VI (or lower emission) engines; and
- updated construction assumptions for the A446 traffic assessments within CFA19 (Coleshill Junction) and CFA20 (Curdworth to Middleton) with a more refined assessment of the single carriage-way section; and
  - corrections to information in the main ES.
- The SES also reports the following, that may not result in any new or different likely significant environmental effects:
- certain design changes in order to adequately describe features of the scheme. These include the provision of additional drainage areas for the proposed infrastructure maintenance depot (IMD) at Calvert in CFA13 (Calvert, Steeple Claydon, Twyford and Chetwode);
  - the full set of ecology survey results to fulfil a commitment made to the Select Committee to publish all ecology surveys undertaken up to the end of 2014; and
  - corrections to factual inaccuracies identified in the main ES where they relate to a significant environmental effect.

### ***Additional Provision 2 Environmental Statement***

The AP2 ES reports any new or different likely significant environmental effects due to the amendments proposed in AP2. The AP2 amendments include:

- changes to the alignment of the HS2 route at the A38 and the Trent and Mersey Canal near Lichfield in CFA22 (Whittington to Handsacre);
  - relocation of the HEx depot to Langley in Slough;
  - provision of three sidings for Crossrail services and a flyover at Old Oak Common on the Great Western Main Line (GWML) in CFA4;
  - other changes to permanent scheme infrastructure including: lowering the alignment of the HS2 route between Middleton and Hints in CFA20 (Curdworth to Middleton) and CFA21 (Drayton Bassett, Hints and Weeford);
  - access arrangements: changes to the locations, alignments or width of some access tracks proposed as part of the original scheme, or provision of additional access tracks from those proposed as part of the original scheme; additional access rights to allow vehicles to use private roads and tracks required for construction and maintenance. For example, additional access rights to use privately owned roads during construction within the Network Park Industrial Estate within CFA26
- roads and public rights of way (PRoW): changes to the locations of temporary diversions or permanent realignments of both roads and PRoW and increasing the width of some PRoW. For example, providing a different route for the permanent diversion of footpaths LMI/21 and GMI/23 in CFA9 (Central Chilterns) than was proposed in the original scheme, to avoid diversion along Hyde Heath Road;
  - utilities: amendments to the amount of land required temporarily for works to pylons and overhead power lines; rights to allow these power lines to be suspended above private properties; and land for a sewer diversion. For example, air rights to permit cranes to pass above Lower Lodge to enable utility works in CFA7 (Colne Valley);
  - existing businesses: the provision of additional land to allow businesses to remain operational. For example, the provision of additional land in CFA5 (Northolt Corridor) to allow the proposed express feeder auto-transformer station at Greenpark Way to be located in a different area to that proposed
- in the original scheme to enable an existing business park to continue operating;
  - community facilities: such as additional land required for the provision of a replacement cricket ground and pavilion for Wendover Cricket Club in CFA10 (Dunsmore, Wendover and Halton);
  - mitigation provision: including the provision of additional mitigation and the relocation of proposed mitigation. For example, the original scheme included an area of ecological mitigation on farmland within Moat Farm in Godington (CFA13). However, a suitable alternative location for the ecological mitigation that is not on farmland has been identified between the HS2 route and the disused Great Central Main Line; and
  - construction compounds: changing the locations and/or modifying some of the construction compounds proposed as part of the original scheme. For example, Featherbed Lane overbridge satellite construction compound in CFA14 (Newton Purcell to Brackley), will be located in a different area from that proposed in the main ES.

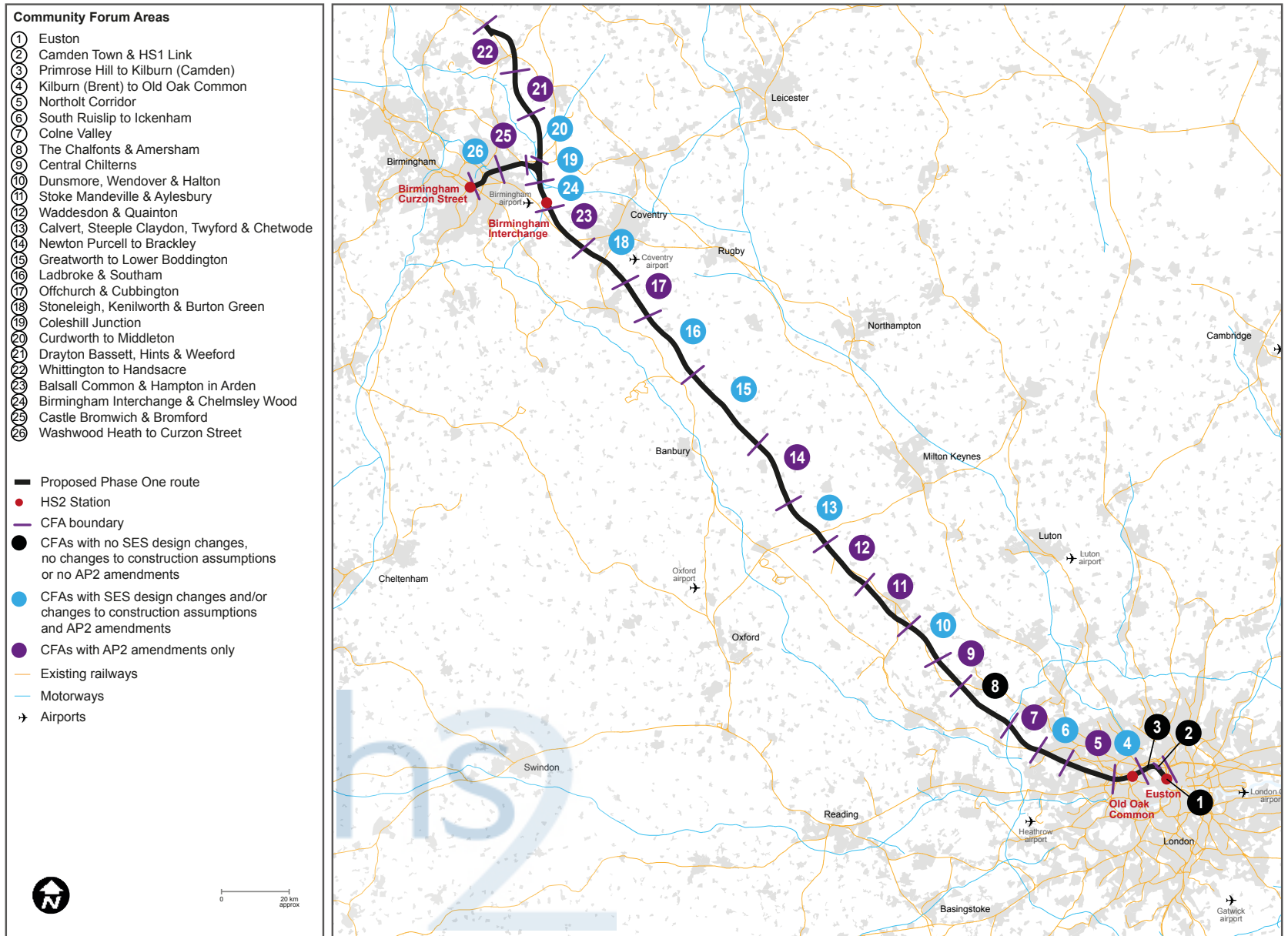
## 1.5 Structure of the SES and the AP2 ES

The SES and the AP2 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 AP2 ES sections, presented as Part 1 and Part 2 respectively. The introductory sections in each volume apply to both the SES (Part 1) and the AP2 ES (Part 2) sections.

The SES and the AP2 ES comprise:

- NTS: provides a summary in non-technical language of the SES and the AP2 ES. It presents a summary of any likely residual significant environmental effects (i.e. effects which 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 AP1 ES;
- Volume 1: introduction to the SES and the AP2 ES. This introduces the supplementary environmental information and design changes included within the SES and amendments within the AP2 ES. The report explains changes to the scope, methodology, assumptions and limitations required for the environmental assessment, approach to consultation, and the EIA process which has been applied;
- Volume 2: CFA reports and associated map books. Part 1 of each CFA report presents an assessment of the supplementary environmental information and design changes included within the SES. Part 2 of each CFA report describes any new or different likely significant environmental effects arising from the amendments in the CFA, compared to those reported in the main ES, and where relevant, the AP1 ES. Unlike the other CFAs, the amendments within CFA22 are extensive and therefore the CFA22 report provides a new assessment of the entire area and the structure more closely follows the CFA report structure from the main ES. The reports also explain, where relevant, the design and mitigation or compensation measures included in order to avoid, reduce or manage any adverse environmental effects and the main local alternatives that have been considered. Figure 1 shows the CFAs along the route, highlighting which have SES design changes and changes to construction assumptions, and AP2 amendments;
- Volume 3: route-wide effects. This describes any new or different likely significant route-wide environmental effects arising from the supplementary environmental information and design changes included within the SES and the AP2 amendments, at a geographical scale greater than the CFA level, compared to those reported in the main ES and the AP1 ES;
- Volume 4: off-route effects. This describes new or different likely significant off-route effects arising from the amendments within the AP2 ES, such as the relocation of the HEx depot to Langley in Slough, compared to those reported in the main ES, and where relevant, the AP1 ES;
- Volume 5: appendices and map books. This contains supporting environmental information for the SES and the AP2 ES; and
- glossary of terms and list of abbreviations. This contains any new or different terms and abbreviations used throughout the SES and the AP2 ES which are not already explained in the main ES or the AP1 ES.

**Phase One route showing community forum areas with and without AP2 amendments and/or SES design changes and/or changes to construction assumptions**



## 1.6 Approach to mitigation associated with the SES and the AP2 ES

The measures that will be used to mitigate likely significant adverse environmental effects during construction and operation of the scheme 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 generic mitigation measures described in the main ES still apply. Site specific mitigation measures are described within volumes 2, 3 and 4 of the SES and the AP2 ES, where required.

## 1.7 Consultation on the SES and the AP2 ES

A formal public consultation on both the SES and the AP2 ES is required by Parliament. Consultees will have 42 days to respond to the consultation following the deposit of the SES and the AP2 ES in Parliament and the first publication of the necessary newspaper notices that follows. Parliamentary officials have appointed an

independent assessor who will summarise consultation responses and provide a report to Parliament before the Third Reading of the Bill.

There will also be a separate petitioning period. This period will provide an opportunity for individuals or organisations specially and directly affected by the changes in the SES and amendments in the AP2 ES to petition Parliament on the changes in the SES or amendments to the Bill.

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

## 1.8 Assessment approach

### *Scope of the assessment*

A scoping exercise was undertaken by environmental technical specialists to determine whether or not the SES changes and the AP2 amendments were considered to have the potential to give rise to new or different likely significant environmental effects. The scoping exercise considered the construction and operational effects of the scheme for the following environmental topics:

- agriculture, forestry and soils;
- air quality;
- climate (assessed at a route-wide level, rather than at the local CFA level);
- community;
- cultural heritage;
- ecology;
- electromagnetic interference;
- land quality;
- landscape and visual assessment;
- socio-economics;
- sound, noise and vibration;
- traffic and transport;
- waste and material resources (assessed at a route-wide level, rather than at the local CFA level); and
- water resources and flood risk assessment.

Those SES changes and the AP2 amendments identified as having the potential to result in new or different likely significant environmental effects were subject to further assessment work.



The scope of the proposed SES changes and the AP2 amendments are described in Volume 2 of the SES and the AP2 ES and Volume 4 for works taking place outside the CFAs (i.e. off-route).

## Assessment methodology

The EIA process for the SES and the AP2 ES has, in the main, followed that which was used for the main ES, as described in the Scope and Methodology Report (SMR), and its associated Addendum, as well as the updates to the methodology for ecology and landscape and visual assessment, as outlined in Volume 1 of the AP1 ES.

There have also been instances where refinements have been made to the EIA process for the SES and the AP2 ES. These are described in more detail in Section 3 of Volume 1 of the AP2 ES. These refinements focus on air quality and ecology.

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# Part 1: Supplementary Environmental Statement

## 2. Introduction to the Supplementary Environmental Statement

This part of the NTS provides a summary of the SES. It also reports whether the updates and design changes reported within the SES result in new or different likely significant residual environmental effects from those reported within the main ES and, where relevant, the AP<sub>1</sub> ES.

The SES provides additional information to that provided within the main ES and the AP<sub>1</sub> ES. This NTS should be read in conjunction with the other NTSs previously mentioned.

The remainder of Part 1 of this NTS is comprised of the following sections:

- Section 3: updated and new environmental baseline information: provides a brief introduction, outlining which environmental topics are affected and the reason the baseline is being updated;
- Section 4: design changes and construction assumptions: provides a summary list of the changes to the design and construction assumptions within the existing powers of the Bill which result in new or different significant effects or which are included

in order to adequately describe features of the scheme;

- Section 5: corrections to the main ES; and
- Section 6: summary of residual significant environmental effects from the SES: provides a list of likely significant residual environmental effects that are new or different to those reported within the main ES and, where relevant, the AP<sub>1</sub> ES that have occurred as a result of the updates/changes and corrections identified within the SES.



## 3. Updated and new environmental baseline information

### 3.1 Introduction

Environmental baseline surveys for the scheme continued to be undertaken from late 2013 to early 2015. Despite the efforts of HS2 Ltd to undertake comprehensive surveys on the land in advance of Bill deposit in 2013, access to some sites was denied or became available too late to be incorporated into the main ES. A precautionary assessment was therefore undertaken for the main ES, based on environmental information gathered from desk-based research, information provided by third parties and professional judgement.

Since the production of the main ES, additional access has been granted and further surveys have been undertaken. New areas of land have also been identified and surveyed and additional desk-based baseline information has become available for some environmental topics, including potential changes to designations, such as ancient woodland. These surveys and additional desk-based information address the following environmental topics:

- cultural heritage (e.g. geophysical surveys and review of available historic data sources relating to ancient woodland);
- ecology (European protected species surveys for great crested newt, bats, otter and hazel dormouse; habitat surveys for some woodlands; and potential changes to Natural England's ancient woodland inventory); and
- water resources and flood risk assessment (specifically WFD surveys, which focused on ecology, groundwater, surface water and hydromorphology).

The SES also includes updates to the traffic baseline primarily in the outer London areas as a consequence of undertaking further modelling to assess revised construction assumptions.

The SES only reports new baseline information where it is relevant to the assessment of a new or different likely significant effect. The exception is for ecology where, to fulfil a commitment made to the Select Committee, the full set of ecology survey results up to the end of 2014 has been published. The relevant additional cultural heritage, ecology and WFD survey findings are incorporated into new environmental baseline reports, which are presented within Volume 5 of the SES and the AP2 ES. This updated/new environmental baseline information, where required, has been used in the SES and the AP2 ES assessments.



## 4. Changes to the design and construction assumptions within the existing powers of the Bill

### 4.1 Introduction

Some of the changes to the design and construction assumptions can be made within the existing powers of the Bill and therefore no amendments to the powers conferred by the Bill are required. These are reported within the SES, where they:

- result in new or different likely significant environmental effects from those reported in the main ES and/or the AP1 ES; or
- are required in order to adequately describe features of the scheme.

SES design changes and/or changes to construction assumptions are found within the following CFAs: 4, 5, 6, 10, 13, 15, 16, 18, 19, 20, 24 and 26.

### 4.2 Summary of changes to the design and construction assumptions within the existing powers of the Bill

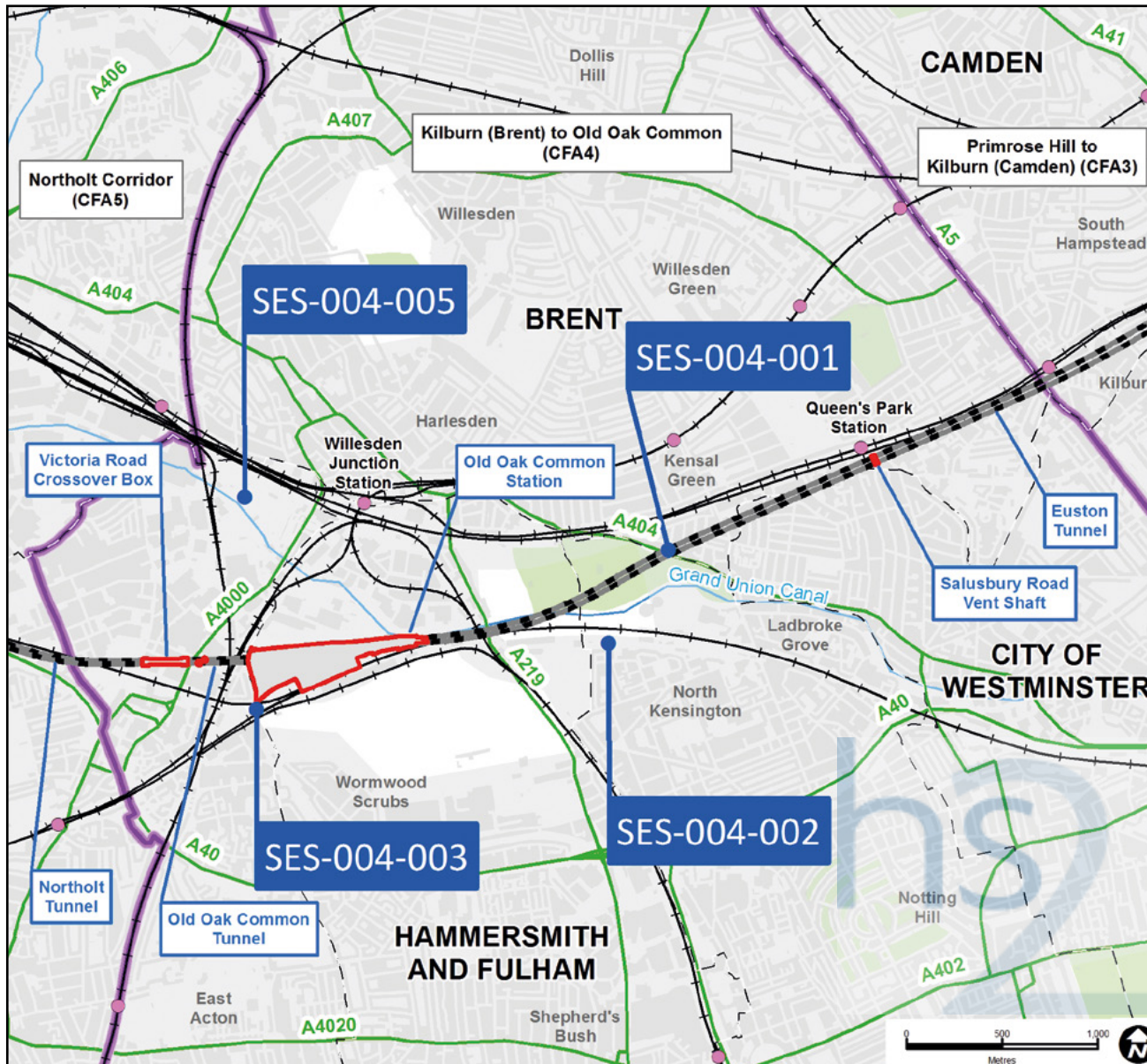
Tables 1-12 present a summary of the changes to the design and construction assumptions for each of the CFAs, providing a description of the original scheme and the SES scheme.

Figures 1-10 show the approximate location of the SES design changes within each of the CFAs. The legend is common to each figure in this section.

Legend	
	SES design changes
	Station or depot
	Route in tunnel
	Route on surface
	Community forum area boundary
	Motorway
	Major road
	Existing railway
	Railway stations
	Airport
	Urban area
	Lake / reservoir
	Woodland, park or garden
	Main river / stream
	Local Authority boundary



Figure 1: Approximate location of SES design changes for Community Forum Area 4- Kilburn (Brent) to Old Oak Common



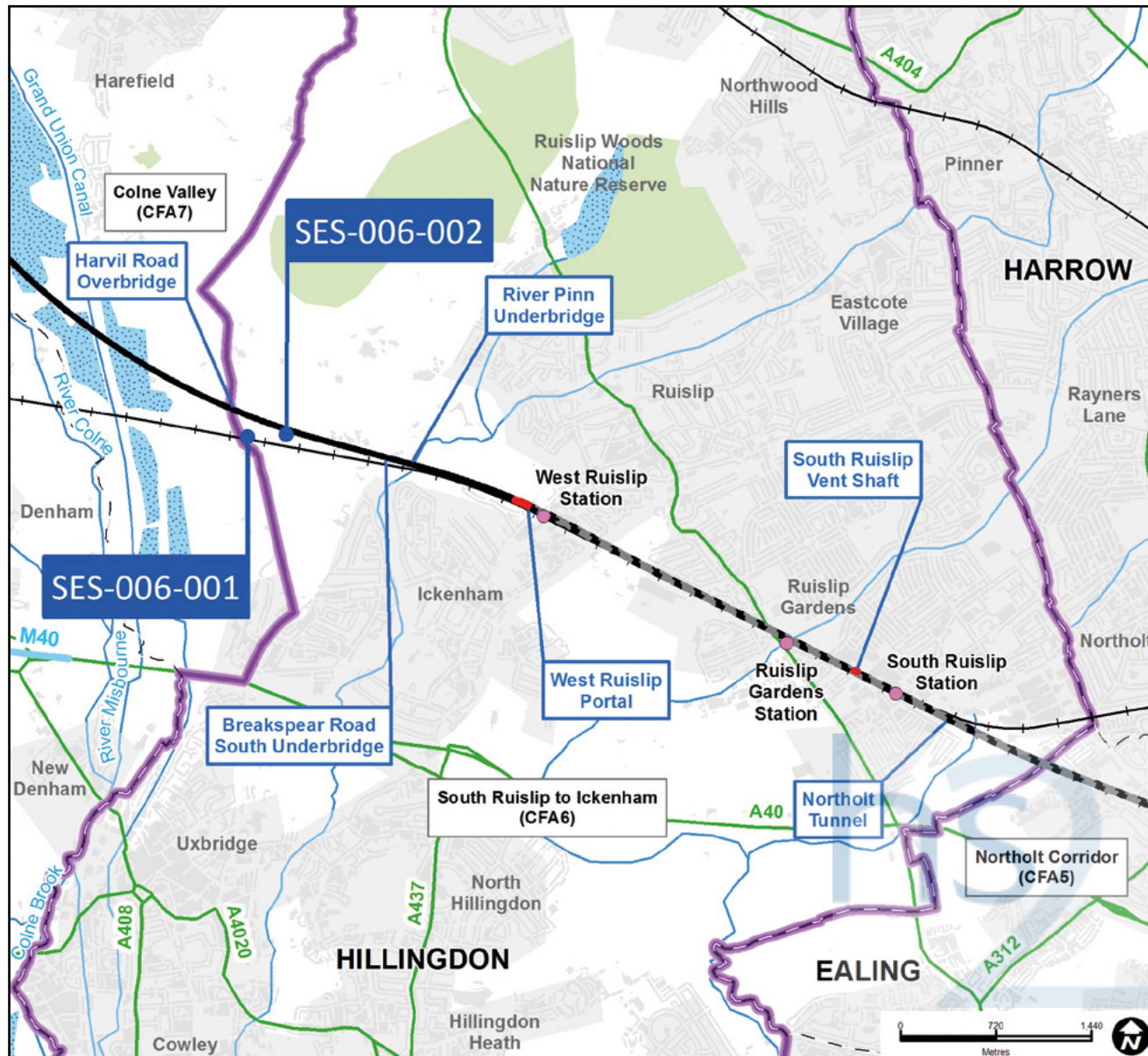
**Table 1: Summary of changes to the design and construction assumptions not requiring a change to the Bill within CFA4 - Kilburn (Brent) to Old Oak Common**

Name of design change or construction assumption	Description of the original scheme	Description of the SES scheme
Deletion of the HS1-HS2 link (SES-004-001)	The Bill provides for a single-bore tunnel linking Old Oak Common station to the HS1-HS2 link portal located north-west of Primrose Hill in CFA2 (Camden Town and HS1 Link).	Provision for the section of the HS1-HS2 link within CFA4 will be removed from the Bill.
Removal of proposed Heathrow Express (HEX) depot at North Pole (East) (SES-004-002)	The Bill provides for the relocation of the HEx depot from its existing location at Old Oak Common to the former Eurostar Depot site at North Pole (East).	As part of the SES scheme, the HEx depot will no longer be relocated to North Pole (East). The land at North Pole (East) will not be removed from the Bill, however the change has been assessed assuming that the powers in the Bill will not be exercised.  The HEx depot is now proposed to be relocated to Langley, in Slough. This change is described in the AP2 ES (AP2-000-001).
Old Oak Common Lane closure mitigation (SES-004-003)	The Bill provides for the temporary road and footpath closure of Old Oak Common Lane for a period of approximately one year during the road and railway bridge works at Old Oak Common Lane.	The SES scheme will provide step-free pedestrian access along Old Oak Common Lane throughout the construction period, apart from occasional short-term closures for certain construction works.
Review of construction programme for Heathrow Express (HEX) depot relocation (SES-004-004)	The main ES assumed that the relocation of the existing Heathrow Express (HEX) depot at Old Oak Common would enable acquisition of the existing site in 2017.	The construction programme has been reviewed and, in order to facilitate the relocation of the HEx depot to Langley in Slough, it is proposed to retain the existing HEx depot in its current location until late 2019.
The temporary provision of an operational railhead control tower at Euroterminal (SES-004-005)	The Bill provides for the Euroterminal railhead at the proposed Willesden Euroterminal main construction compound, to be used for the delivery and movement of materials to and from the compounds during construction.	A temporary operational railhead control tower is required to manage train operations throughout the construction period within the Willesden Euroterminal main construction compound. The railhead control tower will require an area of approximately 100m <sup>2</sup> and will be approximately 12m high.
Use of Euro VI Heavy Goods Vehicles (HGV) (SES-004-006)  This also applies to CFA5 and CFA6	The main ES assumed that HGVs with any Euro standard engine could be used to transport excavated material.	HGVs entering designated low emission zones during construction, for the purposes of transporting excavated material, will be powered by Euro VI (or lower emission) engines.

**Table 2: Summary of changes to the construction assumptions not requiring a change to the Bill within CFA5 - Northolt Corridor**

Name of construction assumption	Description of the original scheme	Description of the SES scheme
Use of Euro VI Heavy Goods Vehicles (HGV) (SES-004-006)	For information on this change to construction assumptions see SES-004-006 in Table 1.	For information on this change to construction assumptions see SES-004-006 in Table 1.

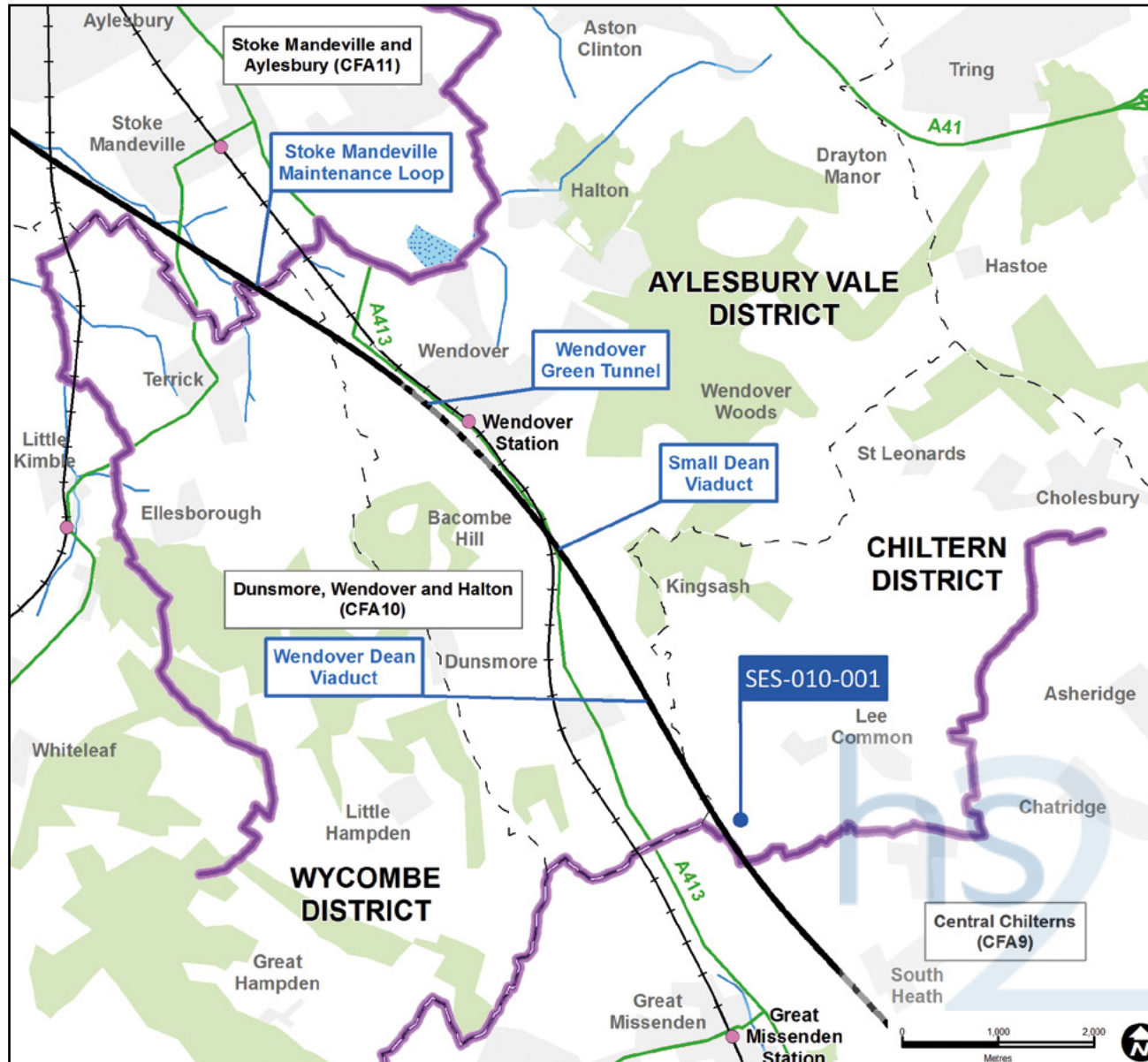
Figure 2: Approximate location of SES design changes for Community Forum Area 6 - South Ruislip to Ickenham



**Table 3: Summary of changes to the design and construction assumptions not requiring a change to the Bill within CFA6 - South Ruislip to Ickenham**

Name of design change or construction assumption	Description of the original scheme	Description of the SES scheme
Review of material import and construction programme in CFA6 (SES-006-001)	The Bill provides for construction vehicles to use Harvil Road and Swakeleys Road. An indicative construction programme was included in the main ES (Volume 2, CFA6) that illustrated the indicative periods for each core construction activity in this area.	The construction programme has been changed to reduce the peak numbers of construction vehicles using Harvil Road and Swakeleys Road by revising the phasing of construction activities and the construction traffic flows. There has been no change to the design of the original scheme.
The temporary provision of an operational railhead control tower at West Ruislip (SES-006-002)	The Bill provides for the West Ruislip railhead to be located at the proposed Northolt tunnel and earthworks main construction compound within CFA6. This is to be used for the movement of material to and from the compound during construction.	A temporary operational railhead control tower is required at the railhead within the Northolt tunnel and earthworks main construction compound to manage train operations throughout the construction period. The railhead control tower requires an area of approximately 100m <sup>2</sup> and will be 12m high.
Use of Euro VI Heavy Goods Vehicles (HGV) (SES-006-003)	For information on this change to construction assumptions see SES-004-006 in Table 1.	For information on this change to construction assumptions see SES-004-006 in Table 1.

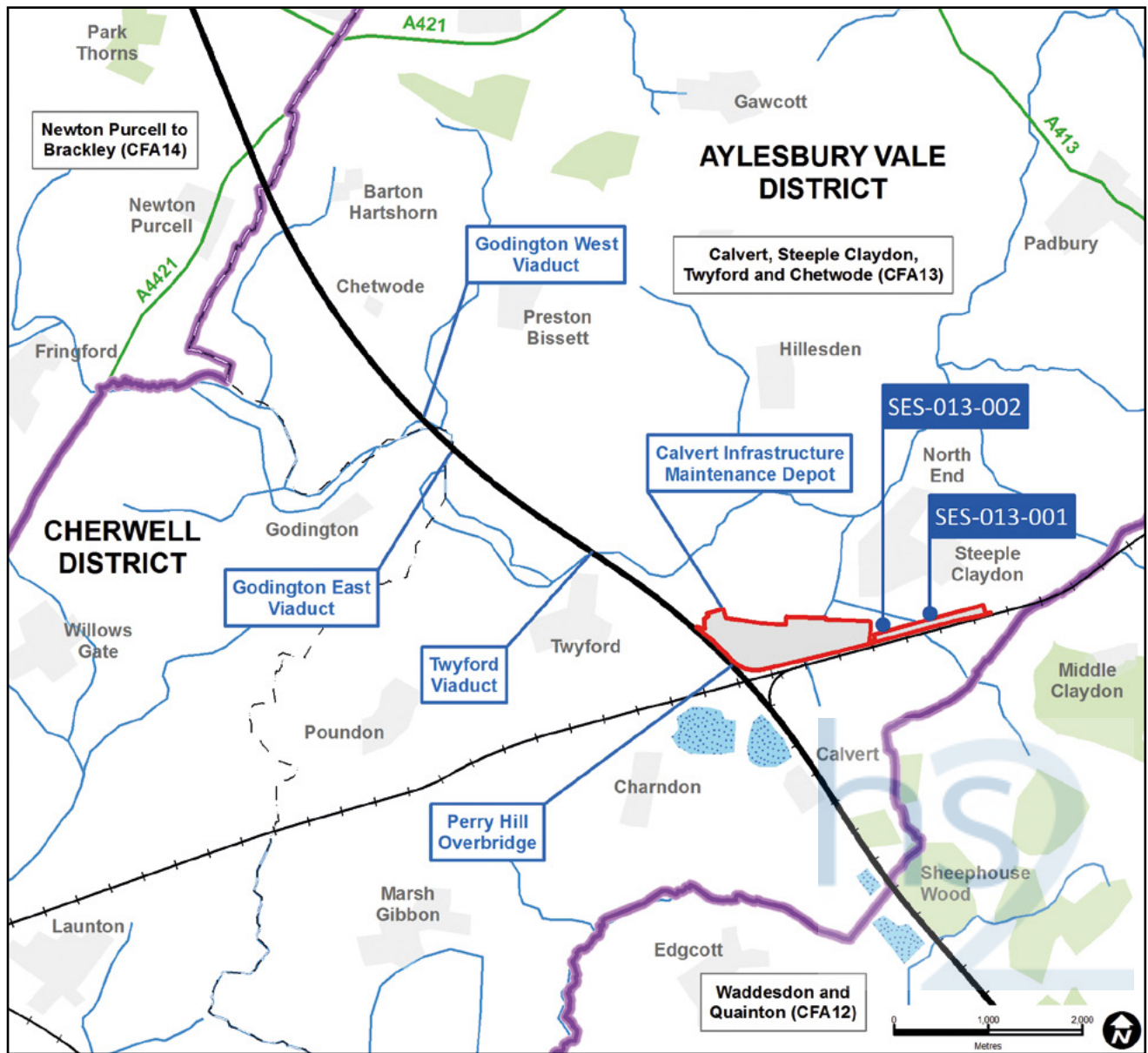
Figure 3: Approximate location of SES design changes for Community Forum Area 10 - Dunsmore, Wendover and Halton



**Table 4: Summary of design change not requiring a change to the Bill within CFA10 - Dunsmore, Wendover and Halton**

Name of design change	Description of the original scheme	Description of the SES scheme
<p>Hunt’s Green Farm sustainable placement area (SES-010-001)</p>	<p>The Bill provides for a permanent sustainable placement area to deposit approximately 1,000,000m<sup>3</sup> of surplus excavated material from construction in CFA9 (Central Chilterns) and CFA10 (Dunsmore, Wendover and Halton).</p> <p>A sustainable placement area is the on-site placement for disposal of surplus excavated material to avoid causing environmental effects (e.g. transport) that would otherwise be associated with the off-site disposal of that material.</p> <p>The sustainable placement area would be located immediately to the east of the HS2 route at Hunt’s Green Farm, between Leather Lane and Bowood Lane. It would be approximately 1.3km long, up to 450m wide, and up to 5m in height.</p> <p>The Bill also provides for a land drainage located approximately 10m north of Leather Lane, for the sustainable placement area.</p>	<p>The approach to the movement of excavated material has been reviewed, and the sustainable placement area is no longer required. Instead, some of the material that would have formed part of this area will be used in landscape earthworks. This will be constructed along the eastern side of the South Heath cutting, linking to the earthworks provided as part of the original scheme, with shallow slopes to integrate the cutting into the landscape. The earthworks will be approximately 1.3km long, up to 70m wide and up to 3.5m in height. The land drainage area proposed north of Leather Lane will be reduced from 1.1ha to 0.1ha.</p> <p>The remaining material (up to 800,000m<sup>3</sup>) will be stored temporarily in an area with the same footprint and similar dimensions to the sustainable placement area in the original scheme before being moved along the route to the Rocky Lane underbridge satellite construction compound. It will be moved from there by lorry via the A413 for beneficial use elsewhere along the route or will be disposed off-site.</p> <p>With the retained landscape earthworks the area reinstated to agriculture will be reduced by approximately 4.5ha compared to the original scheme.</p>

Figure 4: Approximate location of SES design changes for Community Forum Area 13 - Calvert, Steeple Claydon, Twyford and Chetwode

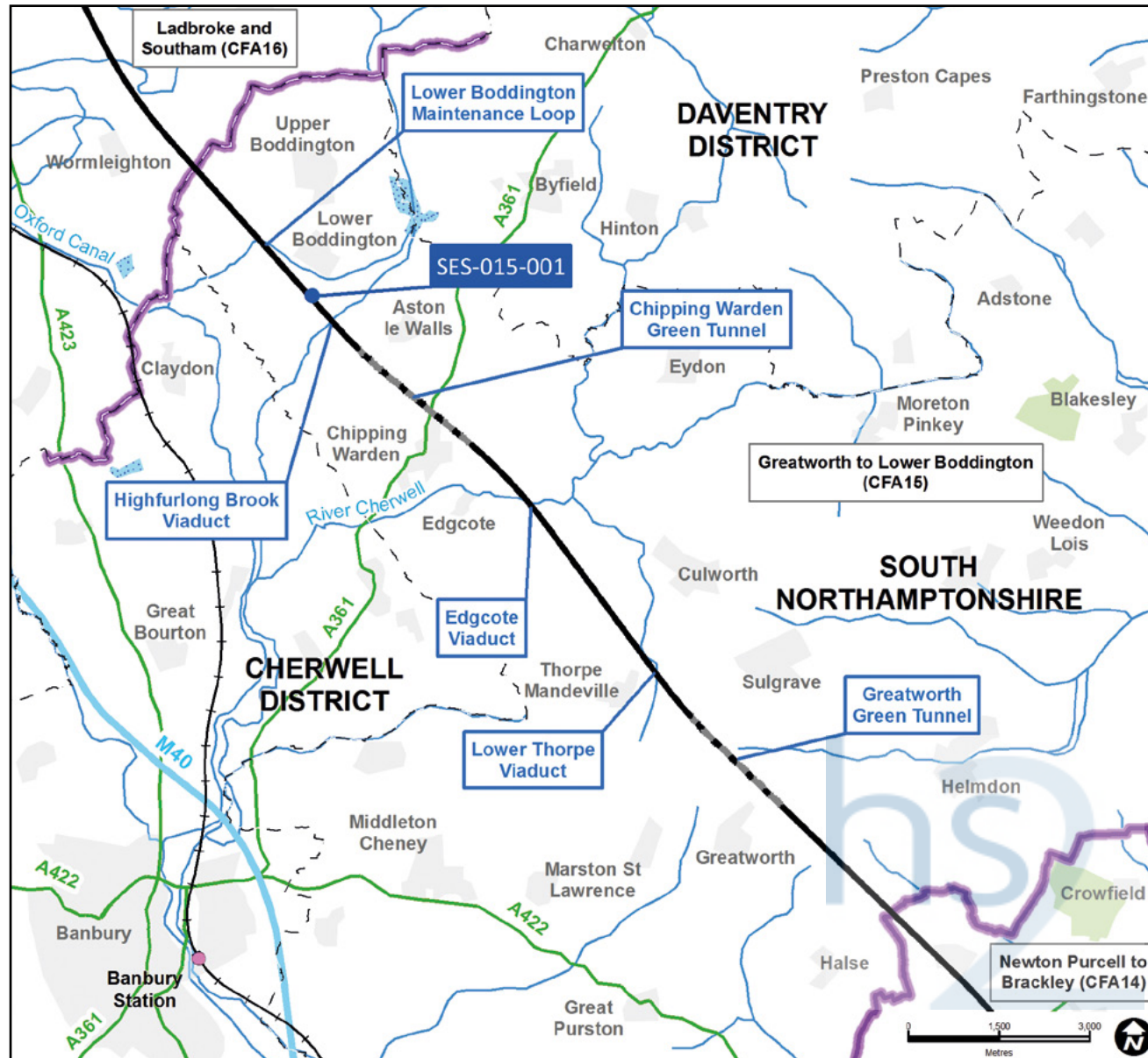


**Table 5: Summary of changes to the design not requiring a change to the Bill within CFA13 - Calvert, Steeple Claydon, Twyford and Chetwode**

Name of design change	Description of the original scheme	Description of the SES scheme
Additional pond and access road 750m east of Addison Road for infrastructure maintenance depot (SES-013-001)	The Bill provides for drainage of the infrastructure maintenance depot (IMD) at Calvert with a single balancing pond. One culvert the entire length of the depot will discharge surface water to the balancing pond west of the IMD.	Surface water drainage from the eastern part of the IMD will drain to a new balancing pond 750m east of Addison Road. A maintenance access road will be required between the IMD and the proposed balancing pond, which will cross the IMD landscape earthworks.
Additional pond immediately east of Addison Road for infrastructure maintenance depot (SES-013-002)	The Bill provides for drainage of the IMD at Calvert with a single balancing pond. One culvert the entire length of the depot will discharge surface water to the balancing pond west of the IMD.	Surface water drainage from the middle part of the IMD will drain to a new balancing pond immediately east of Addison Road. Maintenance access to the balancing pond, including a turning head (i.e. turning point), will be provided from Addison Road.



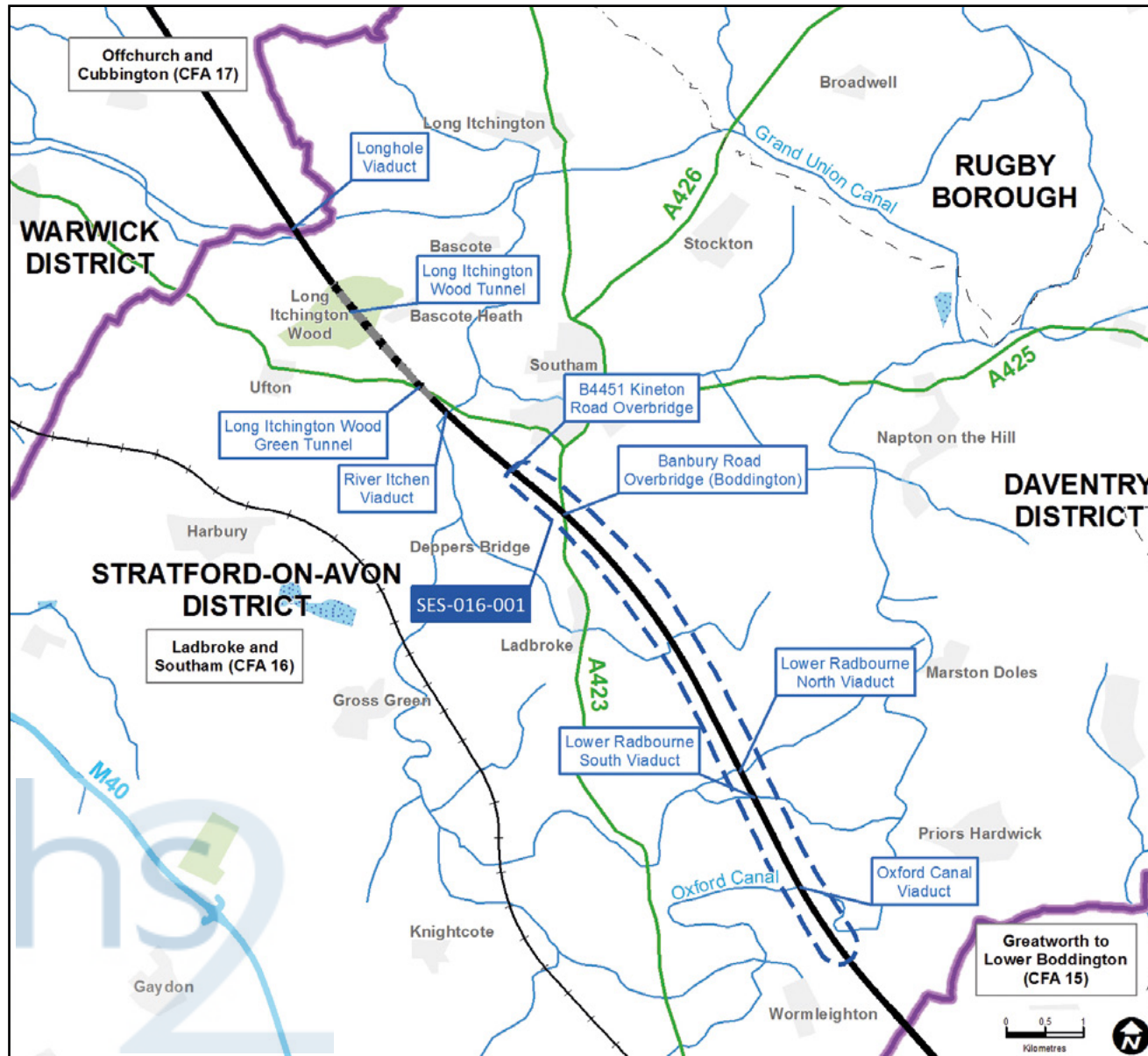
Figure 5: Approximate location of SES design changes for Community Forum Area 15 - Greatworth to Lower Boddington



**Table 6: Summary of changes to the design not requiring a change to the Bill within CFA15 - Greatworth to Lower Boddington**

Name of design change	Description of the original scheme	Description of the SES scheme
Lower Boddington earthworks (SES-015-001)	The Bill provides for permanent landscape earthworks east and west of the HS2 route from Highfurlong Brook to the sewage works on Banbury Road in the west. The earthworks will integrate the cutting/embankment into the landscape and provide noise mitigation for properties to the east, and visual screening to the west of the HS2 route. The earthworks to the south and north of Claydon Road will respectively be approximately 5.5m and 4m in height.	The mitigation earthworks between Highfurlong Brook and Cedars House Farm will be modified resulting in more gently sloping sides. As with the original scheme, approximately 47ha of land will be required temporarily. The reduction in the earthwork quantities in comparison to the original scheme will reduce the volume of material that will need to be transported by road.

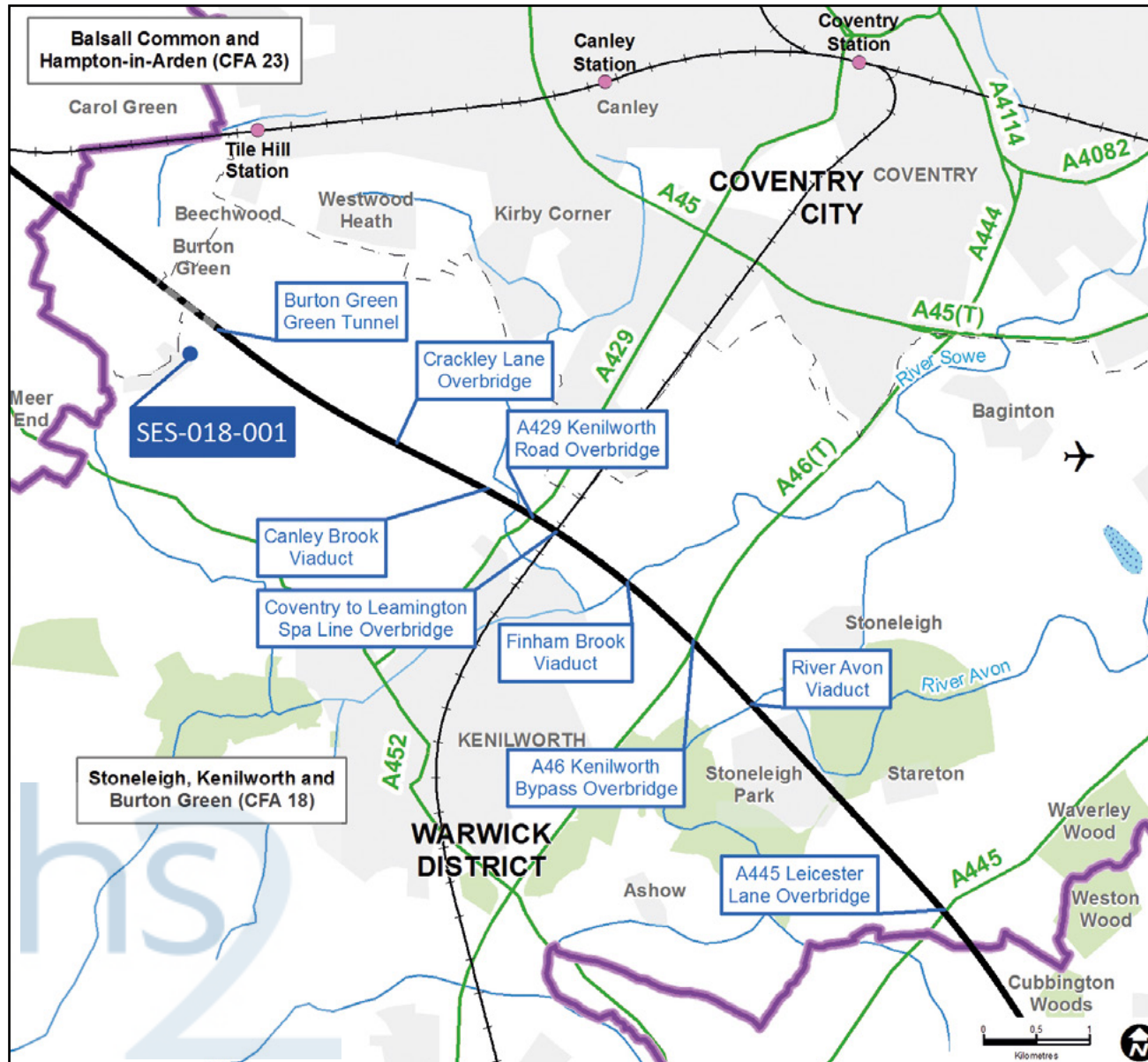
Figure 6: Approximate location of SES design changes for Community Forum Area 16 - Ladbrooke and Southam



**Table 7: Summary of changes to the design not requiring a change to the Bill within CFA16 - Ladbroke and Southam**

Name of design change	Description of the original scheme	Description of the SES scheme
<p>Increase to the bund crest heights on both sides of the HS2 route in the vicinity of Ladbroke and Wormleighton (SES-016-001)</p>	<p>The Bill provides for earthwork embankments to mitigate the effects of the scheme through Ladbroke and Wormleighton.</p>	<p>The heights of the landscape earthworks will be increased to provide greater mitigation of visual effects in this area. The raised earthworks will be contained within the same footprint as the original scheme by making the sides of the earthworks steeper.</p> <p>In addition to the increase in embankment heights, a short length of low screen fencing will be added along the crest near the existing residential buildings near the A423. Fencing will be added where the full 6m height cannot be achieved in parts of this section of embankment due to the presence of HS2 route crossings.</p> <p>These changes to landscape earthworks will require alterations to the layout of balancing ponds and access tracks within the existing limits of the Bill.</p>

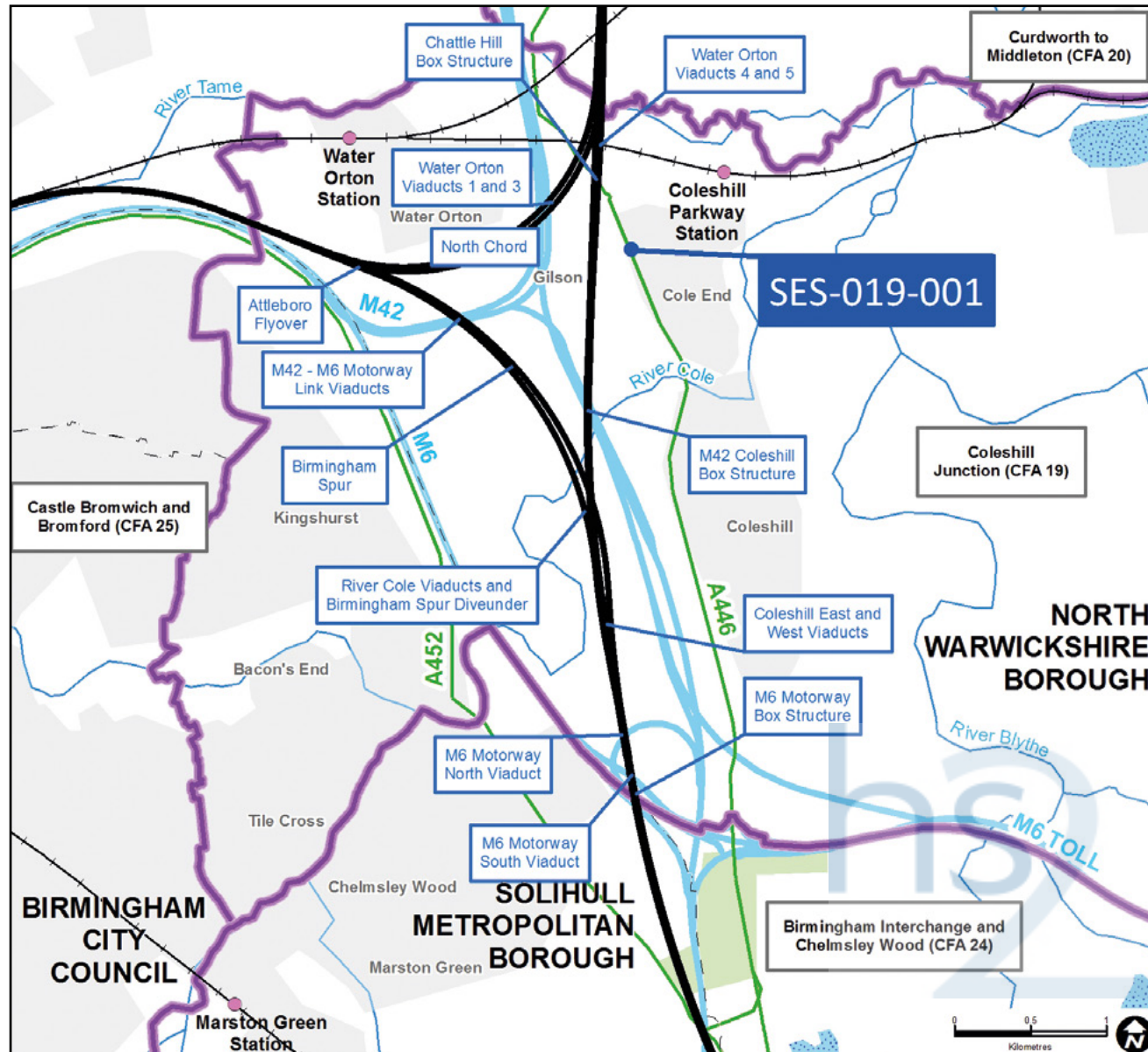
Figure 7: Approximate location of SES design changes for Community Forum Area 18 - Stoneleigh, Kenilworth and Burton Green



**Table 8: Summary of changes to the design not requiring a change to the Bill within CFA18 - Stoneleigh, Kenilworth and Burton Green**

Name of design change	Description of the original scheme	Description of the SES scheme
<p>Revised location of replacement Burton Green Village Hall (SES-018-001)</p>	<p>The Bill provides for works which necessitate the demolition of the existing Burton Green Village Hall at Hodgett’s Lane. The Bill makes provision for a replacement hall on land adjacent to the Burton Green Church of England Primary School at Hob Lane.</p>	<p>A revised location is proposed for a replacement village hall on land at Red Lane, Burton Green.</p> <p>The location being considered is included within the limits of land required for the AP1 revised scheme as part of an earlier amendment (AP1-018-030 entitled ‘Land to facilitate pipeline diversion adjacent to Burton Green ‘green tunnel’).</p> <p>The construction phasing will allow for the replacement hall to be built and made available for use ahead of the demolition of the existing hall at Hodgett’s Lane. Where required, temporary noise barriers will be provided around the boundary of the construction works for the green tunnel which, once the hall becomes operational, will provide mitigation to the hall for users of the facility whilst construction works for the scheme continue nearby.</p>

Figure 8: Approximate location of change to construction assumption for Community Forum Area 19 - Coleshill Junction



**Table 9: Summary of changes to construction assumptions not requiring a change to the Bill within CFA19 - Coleshill Junction**

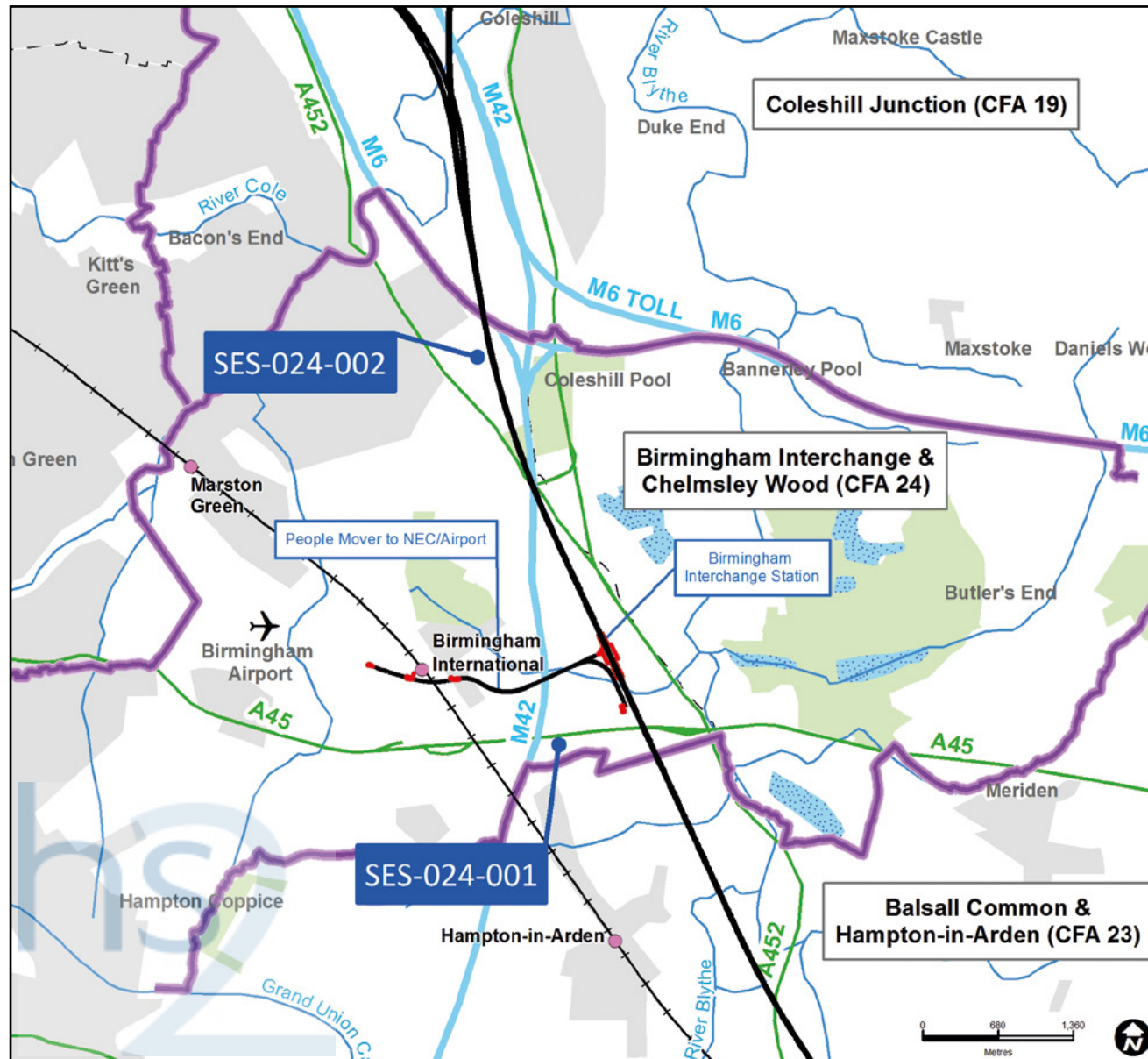
Name of construction assumption	Description of the original scheme	Description of the SES scheme
<p>Updated construction assumptions for A446 traffic assessment (SES-019-001)</p> <p>This also applies to the relevant part of the A446 in CFA20</p>	<p>The Bill provides for scheme construction works that will generate construction traffic on the A446 Lichfield Road within CFA19 and CFA20.</p>	<p>The amendment assesses the impact of revised, more refined construction assumptions on the volume of scheme construction traffic and consequential effects.</p>

**Table 10: Summary of changes to the construction assumptions not requiring a change to the Bill within CFA20 - Curdworth to Middleton**

Name of construction assumption	Description of the original scheme	Description of the SES scheme
<p>Updated construction assumptions for A446 traffic assessment (SES-019-001)</p>	<p>For information on this change to construction assumptions see SES-019-001 in Table 9.</p>	<p>For information on this change to construction assumptions see SES-019-001 in Table 9.</p>



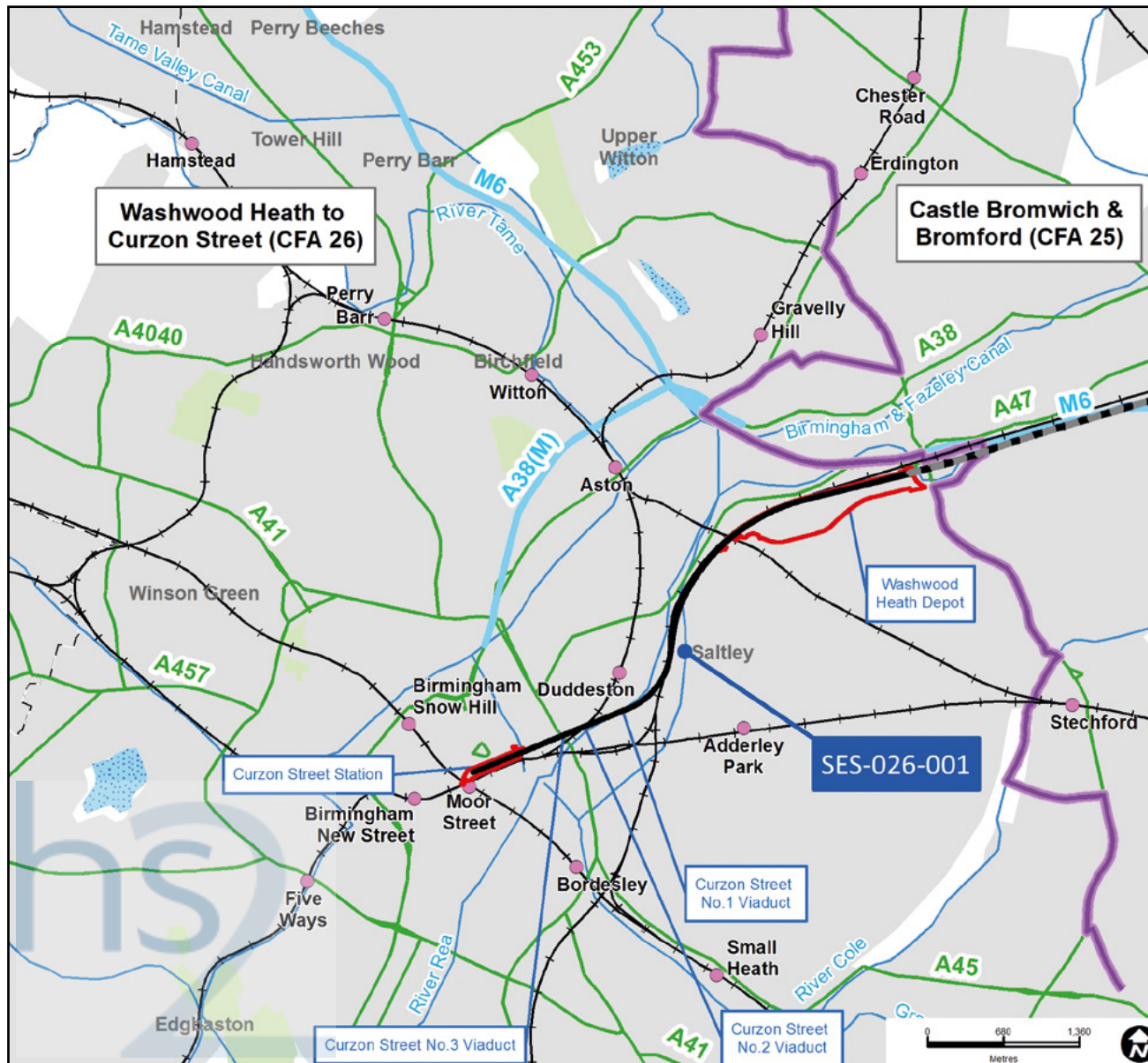
Figure 9: Approximate location of SES design changes for Community Forum Area 24 - Birmingham Interchange and Chelmsley Wood



**Table 11: Summary of changes to the design not requiring a change to the Bill within CFA24 - Birmingham Interchange and Chelmsley Wood**

Name of design change	Description of the original scheme	Description of the SES scheme
<p>Revision to road network at the National Motorcycle Museum (SES-024-001)</p>	<p>The Bill provides for the acquisition of land at the National Motorcycle Museum for the widening of the A45 Coventry Road westbound roundabout entry to provide a segregated left turn lane to the M42 southbound roundabout exit.</p> <p>The existing access road to the National Motorcycle Museum would be permanently closed and a replacement access road provided to the east of the museum from the A45 westbound Service Road. These works would result in the temporary loss of 55 parking spaces and the permanent loss of 45 parking spaces.</p> <p>Footpath M107 would be permanently realigned parallel to the replacement access road.</p> <p>Other highway works would include the widening of the M42 and A45 Coventry Road slip roads and carriageway.</p>	<p>Some of the highway works relating to the M42 and A45 Coventry Road slip roads and carriageway as defined in the Bill are no longer required. This includes the segregated left turn lane to the M42 southbound roundabout exit which will be replaced by widening the existing A45 Coventry Road westbound slip to M42 Junction 6 from three lanes to four; widening of the off slip roundabout entry; and part of the widening of the roundabout circulatory carriageway.</p> <p>These changes will avoid the permanent loss of 45 car parking spaces, reported in the main ES. The loss of temporary parking remains.</p> <p>The existing access road to the museum will remain, with minor modifications, and Footpath M107 no longer needs to be realigned.</p>
<p>Provision of replacement public open space, adjacent to Coleshill Heath Road (SES-024-002)</p>	<p>The Bill provides for works which result in the temporary loss of approximately 3.9ha of parkland within Heath Park and the permanent loss of approximately 0.9ha of Heath Park. The Bill provides for approximately 3.3ha of land adjacent to Coleshill Heath Road which could be used for public open space.</p>	<p>The mitigation to compensate for the permanent loss of land at Heath Park had not been confirmed at the time of the Bill submission, and required further discussions with Solihull Metropolitan Borough Council. Since submission of the main ES, the provision of replacement open space, approximately 3.3ha in size, adjacent to Coleshill Heath Road has been confirmed.</p>

Figure 10: Approximate location of SES design changes for Community Forum Area 26 - Washwood Heath to Curzon Street



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**Table 12: Summary of design not requiring a change to the Bill within CFA26 - Washwood Heath to Curzon Street**

Name of design change	Description of the original scheme	Description of the SES scheme
<p>Localised widening of the road network within Network Park Industrial Estate (SES-026-001)</p>	<p>The Bill provides for the temporary use of the road network within the Network Park Industrial Estate. This is to provide a construction traffic route to undertake utility works, construction of an embankment and a replacement bridge over Duddeston Mill Road. The internal road network would be disrupted for approximately five years.</p>	<p>Some improvements are required for temporary use of the road network in the industrial estate including; localised widening of some roads and changing the traffic circulation from a one-way to a two-way system. These works will be within the existing powers of the Bill.</p> <p>The roads proposed as temporary construction routes have been identified as privately owned and therefore rights of access are required. This requires an amendment to the Bill and is outlined within Part 2 of this NTS (see AP2-026-003).</p>



## 5. Corrections to the main ES

Since the publication of the main ES, the need for a number of corrections has been identified. Any such corrections, which do not require amendments to the powers conferred by the Bill, are set out in Section 2 within each CFA report of the SES.

Each correction has been reviewed to determine whether it will potentially lead to new or different likely significant environmental effects from those described in the main ES. Where a correction leads to a new or different likely significant residual environmental effect, it is reported in Section 6 of this NTS.



## 6. Summary of residual environmental effects for SES changes

### 6.1 Summary of residual environmental effects by CFA

In a number of cases, new or different likely significant effects have been identified as a result of SES changes. Those which remain after mitigation has been put in place are referred to as 'residual effects'.

Since the main ES was submitted it has been identified that HS2 HGV construction flows used in the air quality assessment were overstated for the main ES in CFAs 4 (Kilburn (Brent) to Old Oak Common), 5 (Northolt Corridor), 6 (South Ruislip to Ickenham) and part of CFA7 (Colne Valley) which had the effect of overstating the air quality impacts in these CFAs. The method has since been revised and the air quality effects during construction have been reassessed using the updated traffic flow information and taking into account other SES changes in these CFAs, including the use of construction vehicles with low emission engines for transporting excavated material.

The assessment of traffic changes has also only focused on the construction phase in these CFAs.

This is because operational impacts need to be assessed in combination with any impacts arising from potential changes to Euston station, which are not being assessed in this SES and AP2 ES. Therefore, any new or different likely significant effects arising from traffic changes during operation in these CFAs will be reported in a future ES.

#### CFA4 (Kilburn (Brent) to Old Oak Common)

##### *Air quality*

##### **Effects arising during construction**

A number of significant effects have been identified at new receptors due to changes in construction vehicle flows at peak periods and subsequent changes to general traffic flows. A new substantial adverse impact is predicted at the A40 Westway/Western Avenue, at the junction with Old Oak Common Lane. New moderate adverse impacts will occur at receptors located on the following roads: Wulfstan Street; Old Oak Common Lane, at the junction with Wells House Road; and along the A40 Western Avenue in the area of Templemead Close.

Impacts on air quality at all other receptors on roads affected by the SES scheme will be lower than reported in the main ES as a consequence of the SES changes (including the use of Euro VI engines in construction vehicles used to transport excavated material). The main ES reported significant effects at receptors along Victoria Road, Shaftesbury Gardens, and the A4000 Wales Farm Road due to increased traffic flows from construction vehicles. As a result of the SES changes, these significant effects will be avoided. The SES changes will also reduce the significant effect reported in the main ES at one receptor at the southern end of the A4000 Old Oak Common Lane from substantial adverse to moderate adverse, although this remains significant.

##### *Community*

##### **Effects arising during construction**

The main ES reported that residents of Wells House Road would experience a significant effect as a result of the closure of Old Oak Common Lane, south of the junction with Wells House Road, for one year. Residents would not be able to access community facilities, including



schools, childcare facilities and shops, situated to the south.

Pedestrian access will now be provided along the closed section of Old Oak Common Lane throughout the majority of the construction period as part of SES-004-003. This will reduce the isolation effect (a sense of being cut off from nearby businesses and community facilities) on the residents of Wells House Road from major adverse (as reported in the main ES), to moderate adverse, which remains significant.

### *Cultural heritage*

#### **Effects arising during construction**

The main ES did not include an assessment of a Second World War pillbox which was identified during further heritage surveys. The asset should have been included in the assessment as it will be demolished. This will result in a moderate adverse significant effect.

### *Sound, noise and vibration*

#### **Effects arising during construction**

The main ES identified a significant noise effect in the vicinity of 175 residential properties at Victoria Road/Chase Road roundabout, North Acton. The proposed changes, including the

review of the construction programme for the HEx depot relocation (SES-004-004), will reduce the number of properties that are affected to 25.

Two buildings (approximately 25 residential properties) on Midland Terrace would experience higher noise levels as a result of the SES design changes. These properties are estimated to qualify for noise insulation. The noise insulation will reduce noise inside these properties to a level where it would not significantly affect residents.

#### **Effects arising during operation**

The main ES reported that the operation of the HEx depot at North Pole (East) would cause a significant noise effect on residential properties in close proximity. As part of SES-004-002, the HEx depot will no longer be located within this area, therefore the significant noise effect reported within the main ES will be avoided.

### *Traffic and transport*

#### **Effects arising during construction**

The programme changes associated with the removal of the HEx depot and the consequential non-provision of an off highway link along the Acton to Northolt Line will result in additional

HGV construction vehicle movements on Old Oak Common Lane. Within the overall period of busy movements of five years reported in the main ES there will now be slightly over a six-month peak of construction activity resulting in a peak of approximately up to 700 two-way daily HGV movements on the north section of Old Oak Common Lane, a period of 22-months with up to 600 two-way daily HGV movements on the north section of Old Oak Common Lane, then dropping to 140 two-way daily movements outside this 28-month period.

As part of the original scheme, a 3.5km pedestrian diversion would be required during the one-year closure of part of Old Oak Common Lane. The main ES reported that this would result in a major adverse significant effect on pedestrians. However, as part of SES-004-003, pedestrian access will be maintained along the closed section of Old Oak Common Lane. Therefore, this significant effect will be avoided.

## CFA6 (South Ruislip to Ickenham)

### *Air quality*

#### **Effects arising during construction**

The main ES reported that significant effects would occur at:

- Swakeleys Road, between the A40 Western Avenue and Breakspear Road South;
- Warren Road, close to the junction with Swakeleys Road;
- Shorediche Close, at the property fronts closest to Swakeleys Road;
- Roker Park Avenue, close to the junction with Swakeleys Road; and
- Woodhall Close, at properties where the backs of the buildings are close to the A40 Western Avenue; and Park Road, close to the junction with the A40 Western Avenue.

This is due to NO<sub>2</sub> emissions from traffic during the construction phase. As a result of the SES changes (i.e. review and rescheduling of construction traffic, the correction to the traffic data and the commitment to use Euro VI vehicles for transporting excavated material), these effects will be reduced to a level that is no longer significant.

### *Community*

#### **Effects arising during construction**

The main ES reported that residents on the B467 Swakeleys Road (between the junction with the A40 and the junction with Harvil Road) would experience a combination of traffic, air quality and noise effects during construction. As a result of the SES changes, the effects on air quality will be avoided. Therefore, this will result in a different significant effect, however the level of significance remains as reported in the main ES.

### *Sound, noise and vibration*

#### **Effects arising during operation**

The main ES reported significant noise effects in the vicinity of approximately 200 residential properties in the vicinity of The Greenway, Hoylake Crescent, Pynchester Close, Bushey Road and Copthall Road West in Ickenham. It has since been identified through recalculation of the sound levels that this number has been reduced to approximately 100 residential properties which will experience significant noise effects in the vicinity of The Greenway, Bushey Road and Hoylake Crescent.

The main ES reported a significant vibration effect at the research facility at Ickenham. It should have reported that a significant noise effect will also occur.

### *Traffic and transport*

#### **Effects arising during construction**

The main ES incorrectly assumed that the railway bridge over Breakspear Road South would be reconstructed and that the road would be temporarily closed in order to do this. Closure of the road would have diverted traffic on to Ladygate Lane and this would result in a major adverse significant effect for pedestrians and cyclists using this road. As the assumption to reconstruct the railway underbridge at Breakspear Road South was incorrect, the significant effect is avoided.

## CFA7 (Colne Valley)

### *Air quality*

#### **Effects arising during construction**

The main ES reported that significant effects occur for a number of properties on Swakeleys Road, between Harvil Road and the A40 as a result of NO<sub>2</sub> emissions from traffic during construction. As a result of the SES changes (i.e. review and rescheduling of construction traffic, the correction to the traffic data and the commitment to use Euro VI vehicles for transporting excavated material) these significant effects will be reduced to a level that is no longer significant.

### *Community*

#### **Effects arising during construction**

The main ES reported that residents on the B467 Swakeleys Road (between the junction with the A40 and the junction with Harvil Road) would experience a combination of traffic, air quality and noise effects during construction. As a result of the SES changes, the effects on air quality will be avoided. Therefore, this will result in a different significant effect, however the level of significance remains as reported in the main ES.

### *Cultural heritage*

#### **Effects arising during construction**

The main ES reported that land at Ranston Covert and Battlesford Wood would be required permanently for the original scheme. Approximately 1ha of the land required was identified as ancient woodland, resulting in a moderate adverse significant effect. Since the publication of the main ES, an additional 0.7ha of the land required has been identified as ancient woodland and added to the ancient woodland inventory. Therefore the significant effect reported within the main ES will increase from moderate adverse to major adverse. Where reasonably practicable, HS2 Ltd will seek to reduce the extent of ancient woodland affected at this location.

### *Ecology*

#### **Effects arising during construction**

The main ES reported that significant effects would occur on Mid Colne Valley Site of Special Scientific Interest (SSSI) (including Ranston Covert and Battlesford Wood) as a result of losses of ancient woodland. Since submission of the main ES, an additional 0.7ha of the land required has been identified as ancient

woodland and has been added to the ancient woodland inventory. This will result in a different significant effect on the SSSI from that reported within the main ES. However, the level of significance will remain as reported within the main ES. Where reasonably practicable, HS2 Ltd will seek to reduce the extent of ancient woodland affected at this location.

There is a requirement for additional measures to address this additional loss of ancient woodland. Appropriate measures are expected to be brought forward either in a subsequent AP or by direct agreement with landowners. As stated in the main ES, soil translocation, planting of native tree and shrub species and translocation of coppice stools and dead wood will be used, as appropriate, as compensation measures.

### *Traffic and transport*

#### **Effects arising during construction**

The main ES reported a minor adverse effect due to potential delays and congestion at the junction of the A412 Denham Way with Chalfont Lane. This should have been reported as a moderate adverse effect.

## CFA8 (The Chalfonts and Amersham)

### *Traffic and transport*

#### **Effects arising during construction**

SES design changes in other CFAs, including changes to the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-001), have resulted in a change to the routing of excavated material by road, resulting in changes to HGV movements within CFA8.

The main ES reported that the A413/A413 Amersham Bypass, between A355 Gore Hill and the boundary of CFA9 (under the description 'A413/A413 Amersham Bypass, between A404 Whielden Lane and B485 Frith Hill/Chesham Road') would result in a moderate adverse effect, as a result of HGV vehicles using this route during construction, making it more difficult for pedestrians to cross the road. However, the SES scheme will result in an increase in HGV movements along this route, increasing the level of the significant effect reported within the main ES from moderate adverse to major adverse. Similarly, there will also be an increase in HGV movements on the A355 Gore Hill/Amersham Road between

the A413 Amersham Bypass and the M40, increasing the level of the significant effect for pedestrians reported within the main ES from moderate adverse to major adverse.

The number of HGV movements on the A413 Amersham Road/Gravel Hill between Bottom House Farm Lane and Joiners Lane will decrease, reducing the level of the significant effect for pedestrians reported within the main ES from major adverse to moderate adverse.

The main ES reported moderate adverse significant effects during construction on vehicle users as a result of delay and congestion at the junction of the A413 with School Lane (Amersham Old Town) and Shardeloes, and also the junction of the A413 Amersham Bypass with the A404 Whielden Lane. However, the traffic flows have been reviewed since the main ES and it has been determined that the delays and congestion should have been reported as major adverse significant effects.

## CFA9 (Central Chilterns)

### *Community*

#### **Effects arising during construction**

SES design changes in other CFAs, including changes to the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-001), have resulted in a change to the routing of excavated material by road, resulting in changes to HGV movements within CFA9. There will be an increase in HGV movements on the B485 Chesham Road/Frith Hill, between the A413 (east of Great Missenden) and King's Lane (South Heath) during construction. As a result of this increase, approximately 11 residential properties located on the B485 Chesham Road/Frith Hill (between the A413 and King's Lane) will experience major adverse significant effects as a result of a combination of noise from construction traffic and increased traffic flows along this route during the peak construction months.

### *Sound, noise and vibration*

#### **Effects arising during construction**

As a result of the increased traffic flows, 11 residential properties immediately adjacent to the B485 Chesham Road/Frith Hill (west of King's Lane) will experience a significant outdoor noise effect during the peak construction months. The significant noise effects cannot be practicably mitigated. This will result in new temporary adverse significant noise effect during the peak construction months.

### *Traffic and transport*

#### **Effects arising during construction**

The main ES reported a minor adverse significant effect during construction for the junction of King's Lane with Frith Hill/Ballinger Road and Potter Row in relation to delays to vehicle users and congestion. However, since submission of the main ES it has been identified that this should not have been reported as a significant effect, as no significant effect will occur.

The main ES reported a moderate adverse significant effect at the junction of B485 Chesham Road with Hyde Heath Road with regard to delay and congestion to vehicle users. However, this

should have been reported as a minor adverse significant effect.

The main ES reported a minor adverse significant effect during construction for the B485 Frith Hill/Chesham Road between the A413 and Hyde Heath Road, as a result of HGV movements making it difficult for pedestrians to cross the road. However, this should have been reported as moderate adverse significant effect for the B485 Frith Hill/Chesham Road, between Hyde Heath Road and King's Lane and no significant effect on the B485 Frith Hill/Chesham Road, between the A413 and King's Lane.

SES design changes in other CFAs, including changes to the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-001), have resulted in a change to the routing of excavated material by road, resulting in changes to HGV movements within CFA9. As a result of these amended HGV movements, making it more difficult to cross the road, the level of effect reported in the previous paragraph on the B485 Frith Hill/Chesham Road, between the A413 and King's Lane, will increase to major adverse. The level of effect between Hyde Heath Road and King's Lane remains moderate.

The main ES reported a moderate adverse significant effect as a result of construction traffic at the A413, between the boundary of CFA8 and the B485 Frith Hill (under the description 'A413/A413 Amersham Bypass, between A404 Whielden Lane and B485/Frith Hill/Chesham Road'). As a result of the amended HGV movements the level of this significant effect will increase from moderate adverse to major adverse.

The main ES also reported a major adverse significant effect at the A413 London Road, between the B485 Frith Hill/Chesham Road and the boundary of CFA10 (reported in the main ES under the description 'A413 London Road/Nash Lee Road, between the B485 Frith Hill and the B4009 Nash Lee Road'). As a result of the amended HGV movements making it less difficult for pedestrians to cross the road, this significant effect will be avoided. The main ES also reported a moderate adverse significant effect due to congestion and delays at the junction of the A413 London Road with the A4128 Link Road, due to construction vehicles. As a result of the amended HGV movements, this significant effect will be avoided.

## CFA10 (Dunsmore, Wendover and Halton)

### *Agriculture, forestry and soils*

#### **Effects arising during construction**

As part of SES-010-001, the proposed Hunt's Green Farm sustainable placement area will be removed from the scheme and some of the material that would have formed part of this area will be used to construct an area of landscaped earthworks.

The landscape earthworks reduce the area of land that can be returned to agricultural use from 18.8ha (reported in the main ES) to 14.3ha.

This will give rise to a different significant effect, however the level of significance remains moderate adverse as reported within the main ES.

### *Community*

#### **Effects arising during construction**

SES design changes in other CFAs, including the reduction of landscape earthworks near Lower Boddington in CFA15 (SES-015-001), along with changes to the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-001) have resulted in a change to the routing

of excavated material by road, resulting in changes to HGV movements within CFA10.

As a result, approximately ten residential properties on Rocky Lane, east of Dunsmore will experience major adverse significant amenity effects as a result of a combination of increases in HGV movements and associated noise on Rocky Lane, between the A413 and the Rocky Lane underbridge satellite construction compound. This effect will occur during the peak of construction activities.

The main ES reported significant visual effects associated with the realignment of Nash Lee Road. As a result of the changed construction HGV movements associated with the SES scheme, there will be significant noise effects from construction traffic using the B4009. The combination of the visual effect reported in the main ES and this additional noise effect will result in a major adverse significant effect on amenity for six residential properties on the B4009 Nash Lee Road.

### *Landscape and visual assessment*

#### **Effects arising during operation**

The main ES reported a moderate adverse significant effect in year one of operation of

the scheme, as a result of views of the Leather Lane overbridge, overhead line equipment and the sustainable placement area from west of King's Lane, near Potter Row. The removal of the sustainable placement area will give rise to a different significant effect, with the proposed earthworks being located further away than the placement area would have been, therefore reducing the visibility of the scheme from King's Lane. The earthworks will be less dominant on the skyline. However, the level of significance remains as reported within the main ES. As with the main ES, the effect will reduce to a level that is not significant by year 15 of operation, as a result of planting to reduce views of the scheme.

The main ES reported a major adverse effect in year one of operation on views west from PRoW (Footpath TLE/2) off King's Lane, as a result of the presence of the scheme. The removal of the sustainable placement area will give rise to a different significant effect, with the proposed earthworks being located further away than the sustainable placement area would have been, therefore reducing the visibility west from the PRoW. However, the level of significance remains as reported within the main ES reducing to moderate adverse in year 15 and year 60.

### *Sound, noise and vibration*

#### **Effects arising during construction**

As a result of the SES design changes within CFA10, changes to construction traffic reported within the main ES result in significant noise effects outside during peak construction months for approximately ten residential properties located adjacent to Rocky Lane, approximately 17 residential properties adjacent to the B4009 Nash Lee Road and approximately 30 residential properties adjacent to the A4010 Aylesbury Road/Risborough Road.

The main ES reported that noise from the trains during operation would result in a moderate adverse effect on around 20 residential properties in the vicinity of Nash Lee Lane. However, this was incorrectly reported, as approximately 15 properties in the vicinity of Nash Lee Lane will be subject to this effect.

### *Traffic and transport*

#### **Effects arising during construction**

The main ES reported that vehicle users would experience major adverse significant effects as a result of congestion and delay at the junction of the A413 London Road with Dunsmore Lane and the junction of the A413 London Road with

Bowood Lane. However, as a result of changes to HGV movements within the area, the level of the significance of the effect for vehicle users at these junctions will reduce from major adverse to moderate adverse.

The main ES reported that pedestrians using Rocky Lane between the A413 London Road and Rocky Lane underbridge satellite construction compound would experience a moderate adverse effect, as a result of increased vehicles making it difficult for them to cross the road. However, as a result of the changes to the HGV movements, the level of significance of this effect will increase from moderate adverse to major adverse. The main ES also reported this type of effect for pedestrians on the A413 London Road between the boundary of CFA9 and Rocky Lane. However, as a result of changes to the HGV movements, this major adverse effect will be avoided.

## **CFA11 (Stoke Mandeville and Aylesbury)**

### *Air quality*

#### **Effects arising during construction**

SES design changes in other CFAs, including the reduction of landscape earthworks near Lower Boddington in CFA15 (SES-015-001) and changes to the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-001), have resulted in a change to the routing of excavated material by road, resulting in changes to HGV movements within CFA11.

The main ES reported that receptors on the A41 Gatehouse Road and the A41 Bicester Road on the west side of Aylesbury would experience a moderate adverse significant air quality effect during construction as a result of traffic emissions from construction vehicles. However, this route will no longer be used for the movement of excavated material. Therefore, the adverse significant effect along the section of the A41 Gatehouse Road and the A41 Bicester Road will be avoided.

## *Sound, noise and vibration*

### **Effects arising during construction**

The main ES reported that a significant adverse noise effect would occur at the single residential property at Old Moat Farmhouse on Marsh Lane, Stoke Mandeville during operation. It has since been identified that there are two properties at this location. The additional residential property is identified as being subject to a significant adverse noise effect during operation and is consequently estimated to qualify for noise insulation.

Operational vibration assessment locations 700333 and 700334 were omitted from the assessment. These are likely to experience a combined noise and vibration effect (as part of the overall significant effect). No additional mitigation measures, other than those proposed in the main ES are required.

## *Traffic and transport*

### **Effects arising during construction**

SES design changes in other CFAs, including the reduction of landscape earthworks near Lower Boddington in CFA15 (SES-015-001) and changes to the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-001), have

resulted in a change to the routing of excavated material by road, resulting in changes to HGV movements within CFA11. As a result of these changes, a number of the significant effects with regard to delays to vehicle users and congestion will reduce from moderate adverse (as reported within the main ES) to minor adverse.

This will occur at the following junctions:

- A41 Bicester Road with Aylesbury Way Parkway;
- A41 Bicester Road with Jackson Road and Dickins Way;
- A41 Bicester Road with Rabans Lane;
- A41 Bicester Road with Meadowcroft;
- A41 Bicester Road with Broadfields;
- A41 Bicester Road with A4157 Weedon Road and A41 Gatehouse Road; and
- A41 Bicester Road with Griffin Lane.

The main ES also reported major adverse effects as a result of delays to vehicle users and congestion at a number of junctions. As a result of the SES changes these effects will be reduced to minor adverse. This will occur at the following junctions:

- A418 Oxford Road with Coldharbour Way;
- A418 Oxford Road with Ellen Road;
- A418 Oxford Road with Churchill Avenue and Fowler Road; and
- A418 Oxford Road with A41 Gatehouse Road and A41 Friarage Road.

The main ES also reported a significant effect for pedestrians at the A418 Oxford Road, between the HS2 route and the A41 in Aylesbury (major adverse), and the A41 between the A418 Oxford Road and the boundary of CFA12 (moderate adverse) as a result of construction vehicles making it difficult for them to cross the road. However, as a result of the reduction of HGV movements in the area, these significant effects will be avoided.



## CFA12 (Waddesdon and Quainton)

### Community

#### Effects arising during construction

SES design changes in other CFAs, including the reduction of landscape earthworks near Lower Boddington in CFA15 (SES-015-001) and changes to the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-001), have resulted in a change to the routing of excavated material by road, resulting in changes to HGV movements within CFA12.

The main ES reported that a significant temporary moderate adverse effect would occur at St Leonard's Church in Grendon Underwood due to a combination of increases in construction vehicle movements and associated noise on The Broadway. However, this road will no longer be used for the movement of excavated material, and therefore the significant effect on the church will be avoided.

Similarly, the main ES reported that a significant major adverse effect would occur on 40 residential properties located on Grendon Road and Buckingham Road in Edgcott due to a significant increase in construction vehicle movements and associated noise during

construction. Edgcott Village Hall would also experience a significant moderate adverse effect due to increases in construction vehicle movements and the associated noise on Buckingham Road. However, these roads are no longer to be used for the movement of excavated material, these effects will be avoided.

### Sound, noise and vibration

#### Effects arising during construction

The main ES reported significant noise effects upon St Leonard's Church, Edgcott Village Hall and 40 residential properties on Grendon Road and Buckingham Road as a result of noise associated with construction vehicles. However, as Grendon Road, Buckingham Road and The Broadway in Grendon Underwood will no longer be used during construction for the movement of excavated material and therefore, these effects will be avoided.

### Traffic and transport

#### Effects arising during construction

As a result of the reduction of construction vehicle movements in the area, the significant effects reported within the main ES with regards to delay to vehicle users and congestion for the

junctions of A41 Akeman Road with Station Road, A41 Bicester Road with Blackgrove Road and Waddesdon Hill, and A41 Aylesbury Road with The Broadway, will reduce from major adverse to minor adverse.

The reduction of construction vehicle movements in the area will remove the significant moderate adverse effects reported in the main ES with regards to delay to vehicle users and congestion at the junctions of Grendon Road with Edgcott Road and Marsh Gibbon Road, Edgcott Road with Main Street and The Broadway, and Perry Hill with Buckingham Road and Lawn Hill.

The amended construction movements will result in a moderate adverse significant effect on pedestrians with regard to their ability to cross the road at the A41, between The Broadway and Blackgrove Road (this was reported as a major adverse effect in the main ES) and the A41, between the boundary of CFA13 and The Broadway (reported as a non-significant effect in the main ES).

The main ES also reported that significant major adverse effects would occur as a result of the increases in construction vehicle movements making it more difficult for pedestrians to cross the road at the A41, between Blackgrove Road

and the boundary with CFA11, The Broadway, and Buckingham Road/Grendon Road/Edgcott Road. However, as a result of the reduction of construction vehicle movements in the area, these significant effects will be avoided.

## CFA13 (Calvert, Steeple Claydon, Twyford and Chetwode)

### *Cultural heritage*

#### **Effects arising during construction**

The scheme requires land near Decoypond Wood. Since submission of the main ES, areas of unnamed woodland 240m north-west and 10m south-east of Decoypond Wood have been identified as ancient woodland and have been added to the ancient woodland inventory. The scheme will result in the loss of 1.4ha of ancient woodland to the south-east and the loss of 0.7ha of ancient woodland to the north-west. The loss of these areas of unnamed ancient woodland result in new significant major adverse effects that were not reported in the main ES, because at the time of publication, they were not designated as ancient woodland.

### *Ecology*

#### **Effects arising during construction**

The main ES reported that the scheme would result in the loss of approximately 1.1ha of ancient woodland in CFA13 as a result of the construction of the Calvert cutting. This was reported as a significant effect within the main ES. Since submission of the main ES, areas of unnamed woodland 240m north-west and 10m south-east of Decoypond Wood have been identified as ancient woodland and have been added to the ancient woodland inventory. This will result in the loss of an additional 2.1ha of ancient woodland in this area. This is a different significant effect from that reported within the main ES, however the level of significance remains as reported in the main ES.

### *Sound, noise and vibration*

#### **Effects arising during operation**

The main ES reported that four residential properties would experience significant noise effects and are estimated to qualify for noise insulation. It has since been identified that there are two residential properties at the committed development at Manthorn Farm, Chetwode,

not one as previously identified in the main ES. Therefore, five residential properties will experience significant noise effects and are estimated to qualify for noise insulation.

The mitigation measures, including noise insulation will reduce noise inside all residential properties such that it will not reach a level where it would significantly affect residents.

### *Traffic and transport*

#### **Effects arising during construction**

SES design changes in other CFAs, including the reduction of landscape earthworks near Lower Boddington in CFA15 (SES-015-001) and changes to the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-001), have resulted in a change to the routing of excavated material by road, resulting in changes to HGV movements within CFA13.

The main ES reported that a moderate adverse significant effect on vehicle users would occur at the junction of the A421 with the A4421 and Sandpit Hill as a result of delay and congestion. However, as a result of the amended construction vehicle movements, construction traffic will reduce in this location. Therefore the significance of the effect will reduce to minor adverse.

The amended construction vehicle movements will result in more construction vehicles using the A41 between the boundary of CFA12 and A4421 than was assessed and reported within the main ES. As a result, a new moderate adverse significant effect will occur on pedestrians due to increased construction vehicles making it more difficult for pedestrians to cross the road.

The main ES reported that a significant major adverse effect would occur at Perry Hill, between Buckingham Road and School Hill, as a result of construction vehicles making it more difficult for pedestrians to cross the road. As a result of revised HGV movements in CFA13, the construction traffic movements in this location will be lower than those assessed in the main ES. Therefore the significant effect will be avoided.

The main ES also reported a major adverse significant effect on pedestrians on Perry Hill between West Street and Gawcott as a result of construction vehicles making it more difficult for pedestrians to cross the road. As a result of the revised HGV movements, the number of vehicles in this area will be less than those assessed in the main ES. As a result the significance of the effect will reduce to moderate adverse.

The main ES incorrectly reported that a minor adverse significant effect would occur on pedestrians on Addison Road, north of the Bicester to Bletchley Line railway, due to construction vehicles making it more difficult for pedestrians to cross the road. This should have been reported as a moderate adverse significant effect in the main ES.

## CFA14 (Newton Purcell to Brackley)

### *Cultural heritage*

#### **Effects arising during construction**

The main ES reported that approximately 2ha of Mossycorner Spinney would be permanently lost as a result of the scheme. Since submission of the main ES, approximately 0.6ha of Mossycorner Spinney has been identified as semi-natural ancient woodland and has been added to Natural England's ancient woodland inventory. Approximately 0.3ha of ancient woodland, and approximately 1.7ha of non-ancient woodland, are located within the land required for the scheme. The loss of this ancient woodland will result in a new major adverse permanent significant effect.

### *Ecology*

#### **Effects arising during construction**

Since submission of the main ES, approximately 0.6ha of Mossycorner Spinney has been identified as semi-natural ancient woodland and has been added to Natural England's ancient woodland inventory. Approximately 0.3ha of ancient woodland and approximately 1.7ha of non-ancient woodland are located within the land required for the scheme. This will result in a new permanent significant effect and compensation for this loss will be provided through an AP2 amendment (AP2-014-003) but this will not remove the significant effect.

Although it will not directly affect the pond associated with a great crested newt population at Mossycorner Spinney, construction of the SES scheme will result in the loss of 1.3ha of habitat for great crested newts. This will result in a new permanent adverse significant effect. Appropriate measures are being brought forward through an AP2 amendment (AP2-014-003), which will reduce the effect to a level that is not significant.

Since the publication of the main ES, surveys have recorded greater numbers of Natterer's bats using the Helmdon Disused Railway SSSI

than were reported within the main ES and the site has been identified as important for this bat species. The scheme will therefore result in a new significant effect on Natterer's bats at Radstone. Appropriate mitigation measures are being brought forward through an AP2 amendment (AP2-014-006), which will reduce the effect to a level that is not significant.

#### **Effects arising during operation**

The main ES reported that a significant effect on Natterer's bats could occur as a result of the bats being struck by passing trains or associated turbulence where the HS2 route crosses the Helmdon Disused Railway SSSI. New surveys show that a greater proportion of the Natterer's bat fly along the route of Helmdon Disused Railway which will increase the risk of collisions with passing HS2 trains. This will result in a different significant effect, however the level of significance remains as reported in the main ES. The green bridge and associated planting that will be constructed as part of amendment AP2-014-006 will allow bats to cross the route, reducing this risk. Therefore, the significant effect will be avoided.

#### ***Landscape and visual***

##### **Effects arising during construction**

The assessment of visual effects from construction on views looking east from Radstone Road adjacent to the residential property north of Hall Farm were omitted from the main ES. These views will experience a major adverse significant effect.

To reduce the significant effect described above, consideration of where planting can be established early in the construction programme will be given during the detailed design stage.

#### ***Sound, noise and vibration***

##### **Effects arising during operation**

The main ES omitted Sundale House, Northampton Road from the operational sound, noise and vibration assessment. This property would experience significant noise effects and is estimated to qualify for noise insulation. The noise insulation will reduce noise inside this property to a level where it would not significantly affect residents.

#### ***Traffic and transport***

##### **Effects arising during construction**

SES design changes in other CFAs, including the reduction of landscape earthworks near Lower Boddington in CFA15 (SES-015-001) and changes to the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-001), have resulted in a change to the routing of excavated material by road, resulting in changes to HGV movements within CFA14.

The main ES reported that HGVs associated with construction would cause a significant effect as a result of making it difficult for pedestrians to cross the following roads:

- A43 Oxford Road, between the A421 London Road and the A43 Oxford Road/A422 Brackley Road junction (moderate adverse);
- A43 Oxford Road, between the A422 Brackley Road (west) and the A422 Brackley Road (east) (moderate adverse); and
- A421 London Road between the A43 and the A4421 (major adverse).

However, as a result of the SES changes, the number of HGVs using the A43 and the A421 will be reduced and the significant effects will be avoided.

There will be increased HGV movements on the A4421 Buckingham Road. This will cause a new minor adverse significant effect with regard to delays to vehicle users and congestion at the following junctions:

- A4421 with Stratton Audley Road;
- A4421 with Stoke Lyne Road and access to Stratton Audley;
- A4421 with Bicester Road;
- A4421 with Thompson Drive;
- A4421 with Skimmingdish Lane; and
- the A4421 with Southwold Lane.

There will be a new major adverse significant effect as a result of the increased HGV movements making it difficult for pedestrians to cross the A4421 Buckingham Road between the A421 and the A41.

In the main ES no significant effect was identified at the junction of Turweston farm track and Oatleys Road with regard to pedestrians crossing the road. A minor adverse effect should have been reported due to increased traffic movements at this junction.

## CFA15 (Greatworth to Lower Boddington)

### *Agriculture, forestry and soils*

#### **Effects arising during construction**

The main ES reported that a grain store at Old House Farm would be demolished, resulting in a major/moderate adverse significant effect. This was incorrectly reported and the grain store will not be demolished and the significant effect will be avoided.

### *Cultural heritage*

#### **Effects arising during construction**

The main ES reported that approximately 1.9ha of land will be required at Fox Covert (Glyn Davies Wood). The loss of this amount of the asset was reported in the main ES as a significant effect. Since submission of the main ES, this woodland has been identified as likely to be ancient and is currently being considered for inclusion on the ancient woodland inventory. For the purposes of assessment it is considered as ancient woodland. As a result the level of significance of the effect will increase from moderate adverse (as reported within the main ES) to major adverse.

Since submission of the main ES, geophysical surveys have been undertaken and four potential prehistoric/Roman settlements have been identified: three at Costow House in Thorpe Mandeville and another at Cedar Farm in Lower Boddington. As part of the original scheme presented within the main ES, this land will be required, resulting in the loss of all or part of these heritage assets. This will result in a significant moderate adverse effect on these assets.

### *Ecology*

#### **Effects arising during construction**

Since submission of the main ES, Fox Covert (Glyn Davies Wood) has been identified as likely to be ancient and is currently being considered for inclusion on the ancient woodland inventory. For the purposes of assessment it is considered as ancient woodland. The loss of 1.9ha of ancient woodland at Fox Covert (Glyn Davies Wood) will result in a significant effect.

Ancient woodland soil from the 1.9ha of ancient woodland lost at Fox Covert (Glyn Davies Wood) will (where appropriate) be salvaged and translocated with its associated seed bank to the compensation areas either side of the realigned

Stoneton Lane which are adjacent to Fox Covert (Glyn Davies Wood).

### *Traffic and transport*

#### **Effects arising during construction**

The main ES reported that a number of effects would occur on roads as a result of congestion and delays to vehicle users during construction of the scheme. The need for a number of corrections to the level of significance of these effects has been identified. The main ES reported a moderate adverse effect at the junction of the A422 with the A361 (the M40 junction 11) and this should have been reported as a major adverse effect. A minor adverse effect was reported at the junction of the A422 with the B4525 Banbury Lane and this should have been reported as a moderate adverse effect. The main ES also reported a moderate adverse effect at the junction of the A316 with Welsh Road and this should have been reported as a minor adverse effect.

The main ES reported a number of roads where significant effects would occur as a result of construction vehicles making it more difficult for pedestrians to cross the road. A major adverse effect was reported at A361 Byfield

Road, between Welsh Road and the A422/M40. However the A361 Byfield Road is affected differently north and south of the Chipping Warden green tunnel main construction compound. The major adverse effect should have been reported on the A361 Byfield Road between Chipping Warden green tunnel main construction compound and the A422/M40 and a moderate adverse effect should have been reported on the A361 Byfield Road between Welsh Road and Chipping Warden green tunnel main construction compound.

In addition, moderate adverse effects will occur at Culworth Road and also at the B4525 Welsh Road between Greatworth green tunnel satellite construction compound and Banbury Lane. These should have been reported within the main ES.

The main ES also reported effects on users of footpaths. Minor adverse effects on users of Footpaths AN13 and AC2 due to temporary diversion during construction should have been reported within the main ES.

The main ES reported that pedestrians would experience a minor adverse significant effect during operation as a result of the increased travel distance on the permanently realigned

Footpath AN13. However, this significant effect should not have been reported at this location, as it will not occur.

## **CFA16 (Ladbroke and Southam)**

### *Cultural heritage*

#### **Effects arising during construction**

Since submission of the main ES, geophysical surveys have been undertaken and new potential archaeological assets (e.g. ridge and furrow) have been identified at three locations off Welsh Road, between Long Itchington Wood and the Grand Union Canal. The construction of the original scheme will impact on these features which cannot be practicably mitigated and a permanent moderate adverse significant effect will occur.

The change in significant effect on Fox Covert (Glyn Davies Wood) is reported under CFA15 (in relation to cultural heritage and ecology).

### *Sound, noise and vibration*

#### **Effects arising during operation**

The main ES reported that two residential properties would be significantly affected during operation. This should have been

reported as three, with Stoneythorpe Lodge, Southam included as well. This residential property is estimated to be likely to qualify for noise insulation. The mitigation measures, including noise insulation, will reduce noise inside residential properties such that it will not reach a level where it would significantly affect residents.

## CFA17 (Offchurch and Cubbington)

### *Cultural heritage*

#### **Effects arising during construction**

Since submission of the main ES, Burnt Firs has been identified as likely to be ancient and is currently being considered for inclusion on the ancient woodland inventory. For the purposes of assessment it is considered as ancient woodland. As a result, this woodland has been determined to be of high value. The HS2 route will cross the south western section of the water feature that forms part of the woodland. The woodland will be reprofiled and planting to screen views of the scheme will be included. This will alter the historical character of the woodland, resulting in a new major adverse permanent significant effect.

Since submission of the main ES, geophysical surveys have been undertaken and a site of possible archaeological remains (with ridge and furrow) has been identified off Fosse Way. The construction of the scheme will impact on these remains and therefore a significant moderate adverse effect will occur. This was not reported within the main ES, as this archaeological resource was not known at the time of publication. Another geophysical survey has identified a new area of archaeological remains (possibly two settlements from the Iron Age or Romano-British periods) in fields between Fields Farm and the River Leam. The construction of the scheme will result in the loss of these archaeological remains, giving rise to a new significant major adverse effect.

### *Ecology*

#### **Effects arising during construction**

Since submission of the main ES, Burnt Firs has been identified as likely to be ancient and is currently being considered for inclusion on the ancient woodland inventory. For the purposes of assessment it is considered as ancient woodland. As a result, the loss of 1.4ha of this woodland will result in a new significant effect. The effect was not reported in the main ES, because at the

time of publication it was not known to be likely ancient woodland. There is a requirement for additional compensation as a result of this new effect. Appropriate measures are expected to be brought forward either in a subsequent AP or by direct agreement with landowners.

## CFA18 (Stoneleigh, Kenilworth and Burton Green)

### *Agriculture, forestry and soils*

#### **Effects arising during construction**

The proposed revised location of the replacement Burton Green Village Hall on Land to the north of Red Lane (CFA18/23) will result in a different likely significant effect to that reported in the main ES. This is because the area of land will now be required on a permanent basis in its entirety and will not be restored and returned to agricultural use. However the level of effect assessed in the main ES for this holding does not change from major/moderate adverse, which is significant.

The main ES reported that 0.2ha of land (22% of the holding) would be required from Land south of Hodgett's Lane (CFA18/26), resulting in

a moderate adverse effect. The main ES should have reported that 0.6ha of land (72% of the holding) would be required permanently. This will result in a different significant effect, however the level of significance remains as reported in the main ES.

### *Community*

#### **Effects arising during construction**

The main ES reported that Burton Green Village Hall on Hodgett's Lane would need to be demolished for construction of the scheme and land suitable for a replacement hall was identified at Hob Lane. Since submission of the main ES, it has been identified that a new village hall will be constructed on land at Red Lane. The new hall will be built and made available for use before the existing hall is demolished and, therefore, the significant major adverse effect that was reported in the main ES will be avoided. In addition, by building the replacement hall on land at Red Lane, the SES scheme avoids the potential for any conflict with the Burton Green Primary School now that the school boundary has expanded to include the land previously identified at Hob Lane.

Since submission of the main ES, Warwick District Council has confirmed that land at Le Van on Red Lane can be used lawfully for the stationing of up to 20 caravans/mobile homes. Two of these plots have already been completed and hard-standings for the remaining pitches have been installed. As a result of these additional properties in the baseline the combination of landscape and visual, and sound, noise and vibration effects on these properties during construction would result in a new moderate adverse significant effect that was not reported in the main ES. A proposed amendment as part of the AP2 revised scheme (AP2-018-004) reported in Part 2 of this NTS would, if accepted, avoid this effect.

The main ES incorrectly reported that 16 residential properties on B4101 Waste Lane either side of the scheme would experience significant amenity effects by a combination of visual effects and construction traffic effects during construction. Instead, nine residential properties to the west of the scheme would experience significant effects: Little Beanit Farm, Maple Field House, High Close, Longacre, Troutbeck, Netherfield, Wayside, Dragonflies and The Cottage.

The main ES reported that 14 residential properties at Cromwell Lane, in the centre of the village, are likely to be affected temporarily by a significant amenity effect due to a combination of noise and/or vibration and visual effects associated with the construction of the scheme. This should have been reported as 22 properties. However, as part of the Burton Green area amendment (AP2-018-004) the combination of significant amenity effects on some of these additional properties will be avoided.

#### **Effects arising during operation**

The main ES reported that the amenity of residents at 10 residential properties at Hodgett's Lane will be affected by the location, views and expected noise arising from the operation of the scheme. However, these residential properties were incorrectly identified, as they will not be subject to an amenity effect.

### *Cultural heritage*

#### **Effects arising during construction**

Since submission of the main ES, Little Pools Wood, Big Pools Wood, Birches Wood and an unnamed woodland near Stoneleigh Wood have been identified as likely to be ancient and are



currently being considered for inclusion on the ancient woodland inventory. For the purposes of assessment they are considered as ancient woodland and high-value heritage assets. In addition, an existing area of ancient woodland, Black Waste Wood, may extend further to the south than is reported on the ancient woodland inventory.

Due to this change in status, construction of the scheme will result in new significant effects on Little Poots Wood (moderate adverse), Birches Wood (major adverse), Black Waste Wood (major adverse) and an unnamed woodland near Stoneleigh Wood (major adverse). There will be no physical impact on Big Poots Wood or change to its setting.

#### **Effects arising during operation**

As the unnamed woodland near Stoneleigh Wood is now considered an area of potential ancient woodland, operation of the scheme will affect the rural setting of the woodland and result in a new major adverse effect on this asset.

#### **Ecology**

##### **Effects arising during construction**

Since submission of the main ES, Little Poots Wood, Big Poots Wood, Birches Wood and an

unnamed woodland near Stoneleigh Wood have been identified as likely to be ancient and are currently being considered for inclusion on the ancient woodland inventory. For the purposes of assessment they are considered as ancient woodland. In addition, an existing area of ancient woodland, Black Waste Wood, may extend further to the south than is reported on the ancient woodland inventory.

Construction of the scheme will require the loss of 1.4ha of ancient woodland at Black Waste Wood, 0.15ha at Little Poots Wood, 0.6ha at Birches Wood and 0.57ha at the unnamed area of woodland near Stoneleigh Wood. Due to the potential change in status to ancient woodland, this will result in new significant effects. Appropriate mitigation measures are expected to be brought forward at a later date in a subsequent AP or by direct agreement with landowners.

#### **Sound, noise and vibration**

##### **Effects arising during construction**

The main ES incorrectly assumed that construction traffic would be routed along the entire length of B4101 Waste Lane resulting in significant effects on approximately 20 residential properties. Construction traffic

will instead be routed between the junction of Windmill Lane and Kelsey Lane and the B4101 Waste Lane overbridge satellite construction compound, resulting in significant effects on approximately 10 residential properties.

## **CFA19 (Coleshill Junction)**

### **Community**

#### **Effects arising during construction**

The main ES reported that significant effects would occur at two junctions: between the A446 Lichfield Road and the B4117 Gilson Road; and between the A446 Lichfield Road and the B4117 Watton Road. As a result of the revised construction assumptions for the traffic assessment, the SES scheme will reduce congestion at these junctions and the major isolation effect (a sense of being cut off from nearby businesses and community facilities) that was reported for 43 properties at Gilson Drive, Gilson Road and Meadowbank Drive in the main ES will reduce from major to moderate.

## **Cultural heritage**

### **Effects arising during construction**

Since submission of the main ES, further geophysical surveys have been undertaken and new potential archaeological assets (pits) have been identified in close proximity to the River Cole. These assets are located within the land required for construction and will be removed, resulting in a new moderate adverse significant effect not reported in the main ES.

A geophysical survey has identified the possible presence of archaeological ditches at Coleshill Hall Farm, rather than the more substantial assets as reported in the main ES. This will change the level of the effect from major adverse to moderate adverse, but the effect remains significant.

## **Ecology**

### **Effects arising during construction**

Construction of the scheme will require 5.9ha of land (approximately 27%) from Coleshill Sludge Lagoons, which has been designated as a Local Wildlife Site since the submission of the main ES. The majority of the Local Wildlife Site falls within CFA20 although the southern and eastern edge falls within CFA19. Consequently, this designated site is discussed under CFA20.

## **Sound, noise and vibration**

### **Effects arising during operation**

Ten residential properties (Brick Hill Farm, Stonebridge Road and Dunromin, Gilson Cottage, Haven Cottage, Lovegrove Cottage, Wayside, Fenicia, Gilson Lodge, Stonehaven and The Nortons all on Gilson Road) will experience significant noise effects and are estimated to qualify for noise insulation.

The mitigation measures, including noise insulation, will reduce noise inside all residential properties such that it will not reach a level where it would significantly affect residents.

## **Traffic and transport**

### **Effects arising during construction**

Since submission of the main ES, the assessment of traffic impacts on the A446 has been refined with regard to construction phasing, working times and construction vehicle movements using the single carriageway section of the A446. It has been identified that the adverse significant effect in relation to delay and congestion at the A446 Stoneleigh Road/Coleshill Heath Road junction will be reduced from a major to a minor adverse significant effect.

At the A446 Lichfield Road/B4117 Gilson Road junction and the A446 Lichfield Road/B4117 Watton Lane junction the reduction in construction vehicle movements will remove the significant major adverse effect in relation to traffic delay and congestion that was reported in the main ES.

The main ES reported a major adverse effect due to increases in traffic along the A446 between M6 junction 4 and M42 junction 9, which would make it more difficult for pedestrians to cross the road. As a result of the SES scheme, there will be a reduction in HGV flows, particularly on the single carriageway section of the A446. Therefore the effect will reduce from major to moderate along the A446 between Coleshill Heath Road and B4118 Marsh Lane.

There are three additional junctions on the A446 which were not previously assessed in the main ES. At the A446 Stonebridge Road/B4117 Coventry Road junction there are no significant effects. At the other two junctions, based on the original scheme, there would have been major adverse significant effects to report due to delay and congestion. However, with the refined SES assessment the effects

are changed and reported as:

- A446 Lichfield Road/Gorse Lane junction (minor adverse significant effect); and
- A446 Lichfield Road/B4118 Marsh Lane (moderate adverse significant effect).

Additional measures for the A446 Lichfield Road/B4118 Marsh Lane junction will be brought forward in a subsequent AP or by agreement with the local highway authority.

The major adverse significant effects reported in the main ES do not change at the A446 Stonebridge Road/B4114 Birmingham Road junction.

## CFA20 (Curdworth to Middleton)

### *Cultural heritage*

#### **Effects arising during construction**

Since submission of the main ES, further surveys have been undertaken and have identified new significant effects. Geophysical surveys identified a number of potential archaeological assets (ditches and pits) within the land required for construction in two locations; the first in an area to the south of Faraday Avenue and east of the

A446 Lichfield Road, and the second to the north of Middleton. The removal of these assets will result in new significant moderate adverse effects.

Since submission of the main ES, Walker's Spinney has been identified as likely to be ancient and is currently being considered for inclusion on the ancient woodland inventory. For the purposes of assessment it is considered as ancient woodland. The woodland will be permanently removed for construction of the scheme, resulting in a new significant moderate adverse effect not reported in the main ES.

Geophysical surveys have identified significant effects that are different from those in the main ES. To the south of Faraday Avenue and east of the A446 Lichfield Road, it was found that the previously identified asset was not a substantial enclosure and its value is therefore low. The level of significance reported in the main ES is therefore reduced from major to moderate. At land between Kingsbury Avenue and the M42, a geophysical survey confirmed that the value of the potential archaeological remains could be reduced from moderate to low. Therefore, the level of significance

reported in the main ES is reduced from major to moderate.

### *Ecology*

#### **Effects arising during construction**

Construction of the original scheme will require 5.9ha of land (approximately 27%) from Coleshill Sludge Lagoons, which has been designated as a Local Wildlife Site since the submission of the main ES. This change in designation will result in a significant effect on the integrity of the site. In addition, a further survey since submission of the main ES has found the habitats at the Coleshill Sewage Treatment Works to be of greater value. This will result in a new significant effect on the habitats present, which is not reported in the main ES.

It has been identified that additional compensation measures are required to address the significant adverse effects on the Coleshill Sludge Lagoons Local Wildlife Site and its associated habitats. These will be brought forward either in a subsequent AP or by direct agreement with landowners.

Since submission of the main ES, Walker's Spinney has been identified as likely to be ancient and is currently being considered for

inclusion on the ancient woodland inventory. For the purposes of assessment it is considered as ancient woodland. The main ES reported that 0.2ha of the woodland would be permanently removed for construction of the scheme. Due to the change in status to likely ancient woodland there will be a new significant effect not reported in the main ES.

There is a requirement for further compensation to address the loss of 0.2ha of ancient woodland at Walker's Spinney. A suitable receptor site approximately 30m from the retained area of Walker's Spinney, within scheme limits, has been identified that will accommodate the translocated ancient woodland soil with its associated seed bank.

### ***Sound, noise and vibration***

#### **Effects arising during operation**

In the main ES, the dwelling at Cuttle Mill Fishery was omitted from the operational sound, noise and vibration assessment. This residential property will experience significant noise effects and is estimated to qualify for noise insulation.

Dunton Stables (a residential property) was identified in the main ES as it is estimated as likely to qualify for discretionary noise insulation.

However, it is instead estimated as likely to qualify for noise insulation through the Noise Insulation Regulations.

The mitigation measures, including noise insulation will reduce noise inside all residential properties such that it will not reach a level where it would significantly affect residents.

## **CFA21 (Drayton Bassett, Hints and Weeford)**

### ***Cultural heritage***

#### **Effects arising during construction**

Since submission of the main ES, geophysical surveys have taken place and identified a new archaeological asset near The Lodge, Hints. Construction of the scheme will require removal of the asset, resulting in a significant major adverse effect.

### ***Sound, noise and vibration***

#### **Effects arising during operation**

In the main ES, South Lodge and its adjoining residential property on Tamworth Road, Lichfield were omitted from the assessment. These are identified as being subject to a

significant adverse effect during night time operation and are consequently estimated to be likely to qualify for noise insulation. The mitigation measures, including noise insulation will reduce noise inside both residential properties such that it will not reach a level where it would significantly affect residents.

## **CFA22 (Whittington to Handsacre)**

### ***Community***

#### **Effects arising during construction**

The main ES reported a significant major adverse amenity effect on five residential properties (15 Spode Avenue and 27, 29, 31 and 33 Chestnut Close) as a result of a combination of noise and visual effects during operation. The property at 15 Spode Avenue was incorrectly identified as being subject to these noise and visual effects. Therefore, four residential properties will experience a combination of noise and visual effects. As per the assessment methodology, at least five residential properties need to be subject to a combination of noise and visual effects for an amenity effect to occur. Therefore, the amenity effect reported within the main ES will no longer occur.

Additional traffic and transport analysis has identified a new major traffic congestion effect at the junction of the A38 and Wood End Lane. This will affect residents travelling from Fradley to Lichfield on a daily basis for up to approximately two years, making it more difficult to access secondary schools, health centres and other facilities. As a result, the community of Fradley will experience a temporary moderate adverse significant isolation effect.

Appropriate measures to mitigate this adverse effect are expected to be brought forward either in a subsequent AP or by direct agreement with the local highway authority.

### ***Cultural heritage***

#### **Effects arising during construction**

Since submission of the main ES, geophysical surveys have identified that archaeology at Fulfen Wood will be removed during construction of the scheme resulting in a new moderate adverse significant effect. In addition, Fulfen Wood and Little Lyntus have been identified as likely to be ancient woodland and are currently being considered for inclusion on the ancient woodland inventory. For the purposes of the assessment these woodlands are considered as

ancient woodland. Little Lyntus will be completely removed and Fulfen Wood will be partly removed during construction of the scheme. This will result in major adverse effects on these woodlands.

#### **Effects arising during operation**

The remaining part of Fulfen Wood will be subject to noise from trains passing immediately adjacent to the wood as reported in the main ES. The change in status to likely ancient woodland results in a new moderate adverse effect.

### ***Ecology***

#### **Effects arising during construction**

Since submission of the main ES, Fulfen Wood and Little Lyntus have been identified as likely to be ancient woodland and are currently being considered for inclusion on the ancient woodland inventory. For the purposes of the assessment these woodlands are considered as ancient woodland. Construction of the scheme will require the loss of just over 0.43ha of the Fulfen Wood and 0.05ha from Little Lyntus resulting in new significant effects. Compensation for residual effects will be brought forward through a range of measures included within the AP2 revised scheme.

### ***Sound, noise and vibration***

#### **Effects arising during operation**

In the main ES, the operational sound, noise and vibration assessment omitted a location (location 22642) at Streethay Wharf from the list of properties that were estimated as being likely to qualify for noise insulation. This residential property is identified as being subject to a significant adverse effect and is estimated to qualify for noise insulation. The mitigation measures, including noise insulation will reduce noise inside this residential property such that it will not reach a level where it would significantly affect residents.

The main ES reported that approximately 80 residential properties on the south of Handsacre in the vicinity of Chestnut Close, Rowan Drive, Warren Croft, Barn Road, Lichfield Road and Millcroft Way would be subject to noise effects during operation. It has since been identified that the main ES incorrectly included dwellings on Millcroft Way as part of the significant effect. Therefore the number of affected properties will be reduced from 80 to 60.

### *Traffic and transport*

#### **Effects arising during construction**

The junction of A38 and Wood End Lane (Hilliards Cross) should have been assessed in the main ES to establish potential congestion effects. This assessment has now been done and the junction between Wood End Lane and the connection to the A38 southbound slip roads, will experience a major adverse significant effect in relation to congestion and delay on vehicle users. This is a new significant effect. Appropriate measures to mitigate this effect are expected to be brought forward either in a subsequent AP or by direct agreement with landowners.

## **CFA23 (Balsall Common and Hampton-in-Arden)**

### *Ecology*

#### **Effects arising during construction**

Since the submission of the main ES, additional bat surveys were undertaken at the Berkswell Estate. The additional baseline information identifies that Marlowes woodland and the surrounding habitats are on the edge of an area used by barbastelle bat for foraging and

commuting. The location and construction of the Park Lane cutting will therefore not cause the potential significant effect on barbastelle bat that was reported in the main ES.

### *Sound, noise and vibration*

#### **Effects arising during operation**

In the main ES, the outbuildings at Patrick Farm were not identified as a noise sensitive receptor in the operational sound, noise and vibration assessment. A significant adverse noise effect will occur during operation at this non-residential location and this was omitted from the main ES.

## **CFA24 (Birmingham Interchange and Chelmsley Wood)**

### *Community*

#### **Effects arising during construction**

Since submission of the main ES it has been identified that the proposed road works at the National Motorcycle Museum can be amended. As part of SES-024-001, the need for 45 car parking spaces to be permanently lost will be avoided. As a result, the significant moderate adverse effect reported in the main ES is avoided.

The main ES reported that approximately 3.9ha of land within Heath Park (49% of the total park) would be required during construction, resulting in a temporary major adverse effect. The proposed provision of a new area of replacement public open space adjacent to Coleshill Heath Road (SES-024-002) will provide an area of approximately 3.3ha. This will be provided in advance of the construction phase. This new open space will partly mitigate the loss of open space at Heath Park. However there will still be a net loss of approximately 0.6ha of open space. The level of significance of the temporary effect will reduce from major adverse to moderate adverse. The main ES reported that the permanent loss of open space from Heath Park would result in a moderate adverse significant effect. However, the provision of this replacement open space will avoid this effect.

### *Sound, noise and vibration.*

#### **Effects arising during construction**

The main ES reported that a dwelling at the northern end of Old Station Road in Hampton-in-Arden would experience noise effects during construction. However, the property was estimated to qualify for noise insulation, which would reduce noise to a level that is not considered

to be significant. As a result of a reduction in construction works at the National Motorcycle Museum (SES- 024-001), noise levels at the property will be lower than estimated in the main ES. As a result the property is no longer estimated to qualify for noise insulation. As was reported in the main ES, no significant effect will occur.

#### **Effects arising during operation**

For the main ES, the operational sound, noise and vibration assessment omitted an assessment location at Middle Bickenhill Lane, Bickenhill. As a result, two residential properties were missed from the list of properties that are estimated to qualify for noise insulation. The two residential properties (Elm Gables and Myrtle Cottage Farm on Middle Bickenhill Lane) will experience significant adverse effects and are estimated to qualify for noise insulation. This will reduce noise levels to a level that is not significant.

The mitigation measures, including noise insulation will reduce noise inside all dwellings such that it will not reach a level where it would significantly affect residents.

#### ***Traffic and transport***

##### **Effects arising during operation**

As a result of SES-024-001, the proposed change to the road network at the National Motorcycle Museum will avoid the moderate adverse significant effect due to the permanent loss of parking that was reported in the main ES.

### **CFA25 (Castle Bromwich and Bromford)**

#### ***Cultural heritage***

##### **Effects arising during construction**

The main ES reported that woodland at Parkhill and Langley Hill woods (within Park Hall Site of Importance for Nature Conservation (SINC)) would be lost. This was classed as an asset of low value. Since submission of the main ES, this woodland has been identified as likely to be ancient and is currently being considered for inclusion on the ancient woodland inventory. For the purposes of assessment it is considered as ancient woodland. As a result the significant effect of the loss of woodland will increase from moderate adverse (as reported within the main ES) to major adverse.

#### ***Ecology***

##### **Effects arising during construction**

The main ES incorrectly reported a loss of approximately 2.7ha of woodland in the Park Hall SINC. This results in a different significant effect, but the level of significance remains as reported in the main ES. This should have been reported as 3.1ha, of which 0.7ha is ancient woodland.

The main ES reported a permanent adverse significant effect on the Park Hall SINC. Since submission of the main ES, this woodland has been identified as likely to be ancient and is currently being considered for inclusion on the ancient woodland inventory. For the purposes of assessment it is considered as ancient woodland. This will represent an increase in the area of ancient woodland within Park Hall SINC to 5.8ha, resulting in a different significant adverse effect.

To compensate for the increased loss of ancient woodland, soils from Parkhill Wood and Langley Hill Wood will be translocated to areas within the existing limits of the Bill. This would include an existing area where 3.1ha of native broadleaved woodland planting will be undertaken as detailed in the main ES.

## CFA26 (Washwood Heath to Curzon Street)

### *Community*

#### **Effects arising during construction**

The main ES reported that 11 residential properties on Bordesley Street would experience a significant major adverse amenity effect as a result of construction vehicle movements, noise and visual effects during construction. However, the main ES incorrectly reported the traffic effect from construction vehicle movements, which will not occur. The residential properties will still experience noise and visual effects, resulting in a different amenity effect. The level of significance of the effect remains as reported within the main ES.

### *Cultural heritage*

#### **Effects arising during construction**

The main ES reported that the locally listed former public urinal on Banbury Street would be lost to the scheme, resulting in a major adverse significant effect. Whilst this historic asset remains on the local list, it is no longer in existence, and was not present at the time of the submission of the main ES. The

significant effect reported in the main ES is therefore avoided.

### *Socio-economics*

#### **Effects arising during construction**

The original scheme would result in the loss of the western section of the road network within the Network Park Industrial Estate. The main ES reported that seven businesses would be significantly affected as a result of isolation caused by the loss of the road network for five years during construction. As part of SES-026-001, access within the industrial estate will be maintained to allow these businesses to continue operating. As such, the significant effect on the businesses will be avoided.

### *Traffic and transport*

#### **Effects arising during construction**

As a result of the closure of the B4114 Saltley Viaduct, increased traffic movements will make it more difficult for pedestrians to cross the road. This moderate adverse significant effect was omitted from the main ES.

## Volume 3: Route-wide effects

### *Ecology*

#### **Effects arising during construction**

The main ES reported that the scheme would result in losses of 32ha of ancient woodland (from a total of 19 woodlands) which was identified as a permanent adverse significant effect. These losses were reported in Volume 3 of the main ES, however this figure considered ancient woodlands located in close proximity as a single ancient woodland area. Therefore the original scheme would adversely affect a total of 22 ancient woodlands, some of which are adjacent to each other or located in very close proximity. Since submission of the main ES, four additional ancient woodland sites have been identified as ancient woodland and have been added to the ancient woodland inventory. A further eleven have been identified as likely to be ancient and are currently being considered for inclusion on the ancient woodland inventory. For the purposes of assessment they are considered as ancient woodland.

The change in status of these woodland areas means that ancient woodland loss will increase by approximately 12.5ha from those reported in the main ES, resulting in the total loss of



approximately 44.5ha, from a total of 37 sites. This will result in a different significant effect from that reported in the main ES, but, at a route-wide level, the level of significance will remain as reported in the main ES.

Additional mitigation and compensation is required in response to the updated baseline information relating to ancient woodland. Appropriate measures are expected to be brought forward either through direct agreement with landowners or through future additional provisions to the Bill. Additional measures to reduce losses will be considered, and where loss cannot be avoided, best practice measures such as re-using the ancient woodland soils and creating new mixed deciduous woodland will be implemented.

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# Part 2: Additional Provision 2 Environmental Statement

# 7. Additional Provision 2 Environmental Statement

## 7.1 Introduction

Since September 2014, a number of amendments to the scheme have been identified. These amendments each 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. Therefore, a second Additional Provision (AP2) to the Bill is being submitted in conjunction with the AP2 ES.

The remainder of this NTS is structured as follows:

- Section 7.2: presents a summary list of all amendments that require additional powers to those already included within the Bill for each CFA and at off-route locations (i.e. outside the CFAs); and
- Section 8: Summary of residual environmental effects for amendments within the AP2: presents a list of all environmental effects that remain after mitigation measures have been put in place at CFA, route-wide and off-route levels.

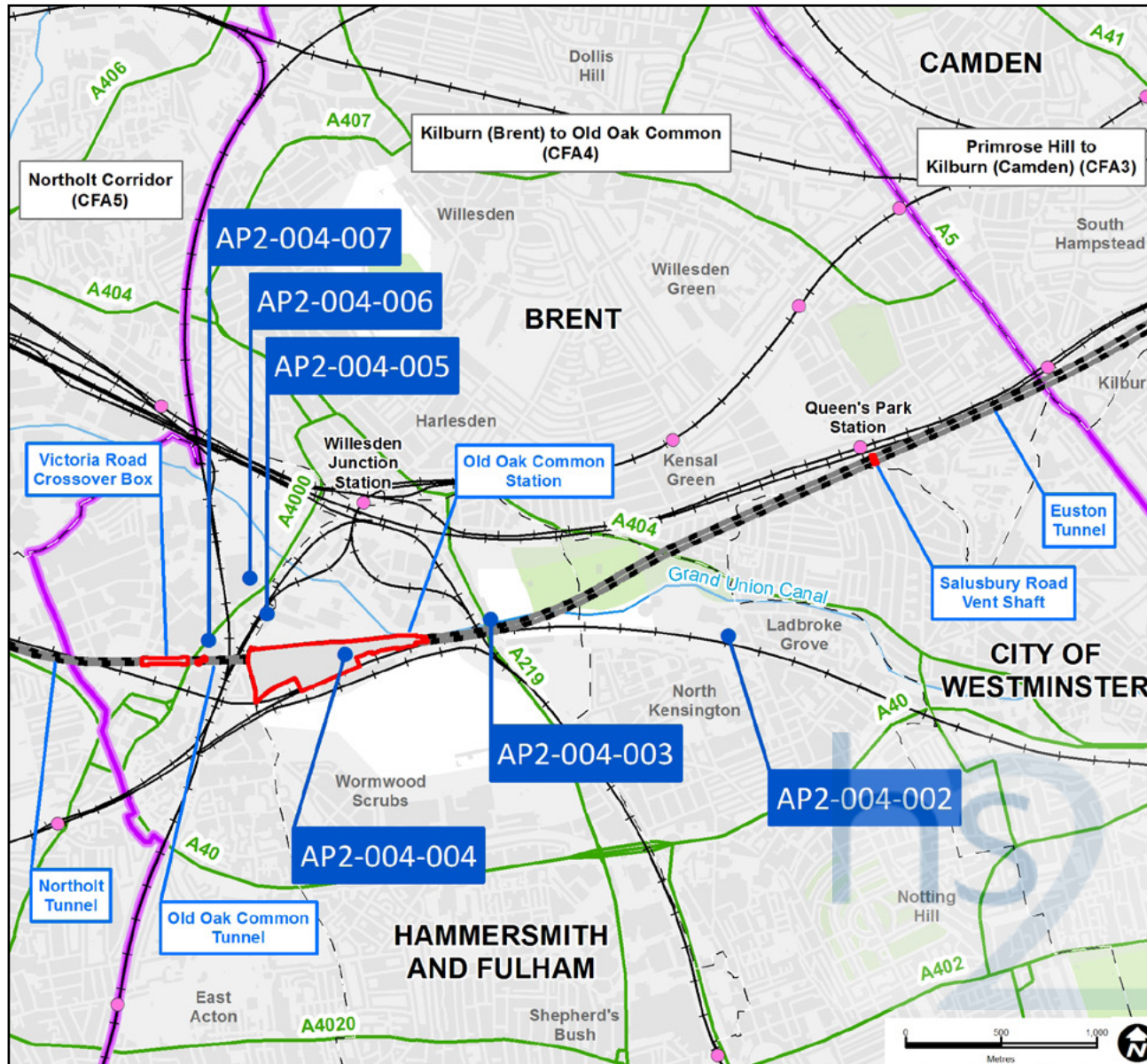
## 7.2 Summary of amendments within the AP2

Tables 13-35 provide a summary of each amendment within the AP2 ES, along with a description of the 'original scheme' that was presented in the main ES and submitted to Parliament in November 2013 as part of the Bill. Figures 11-32 show the approximate location of each of the amendments on a CFA basis for CFAs 4-7 and 9-26. Figure 33 shows the approximate location of the amendments outside the CFAs (i.e. off-route).

Figures 11-33 show the approximate location of the AP2 amendments within each of the CFAs and for the proposed HEx depot near Langley in Slough. The legend is common to each figure with the exception of Figure 28 for CFA22, which has a specific legend.

Legend	
	AP2 amendment
	Station or depot
	Route in tunnel
	Route on surface
	Community forum area boundary
	Motorway
	Major road
	Existing railway
	Railway stations
	Airport
	Urban area
	Lake / reservoir
	Woodland, park or garden
	Main river / stream
	Local Authority boundary

Figure 11: Approximate location of AP2 amendments for Community Forum Area 4 - Kilburn (Brent) to Old Oak Common



**Table 13: Summary of AP2 amendments within CFA4 - Kilburn (Brent) to Old Oak Common**

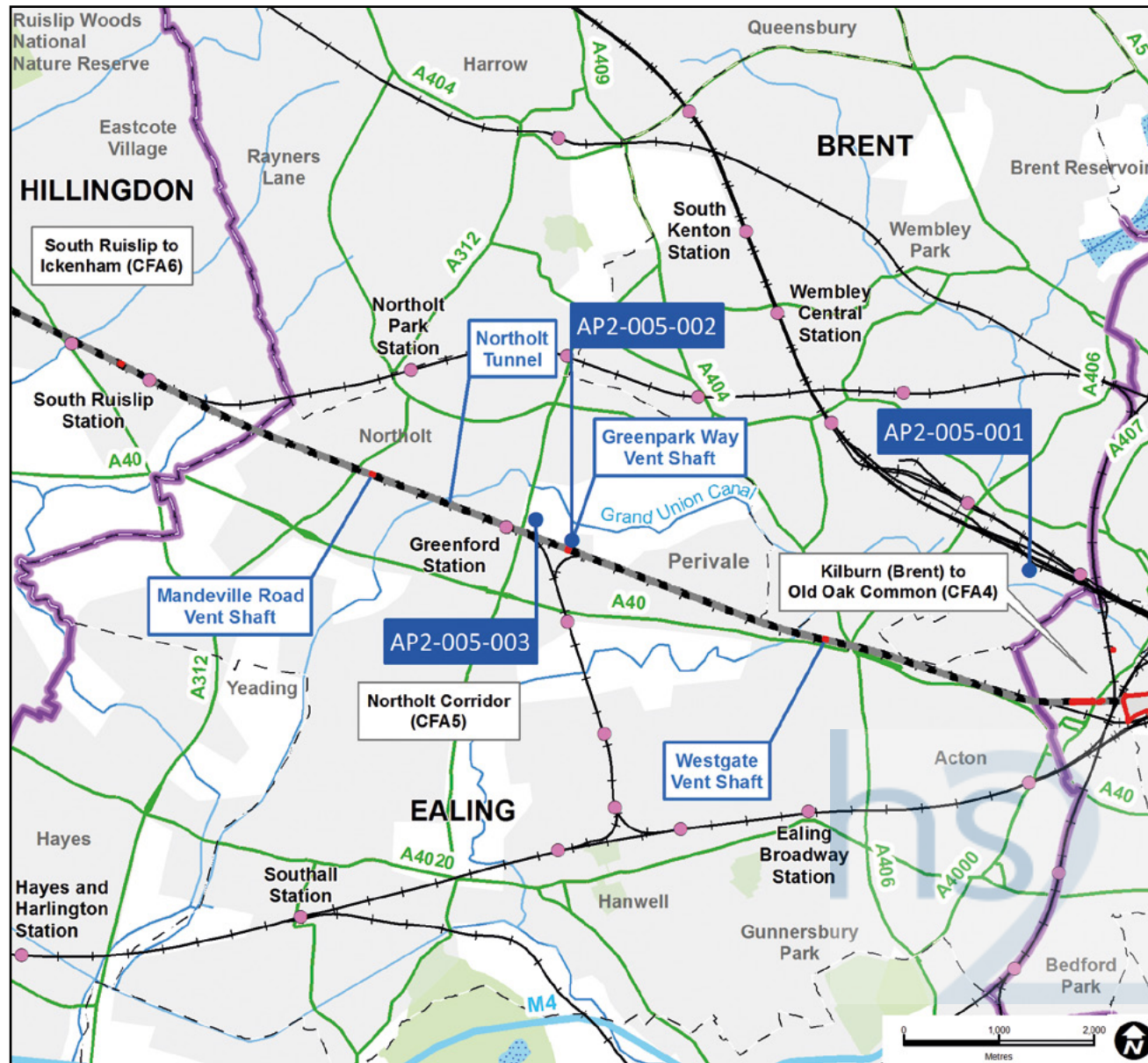
Amendment	Description of the original scheme	Description of the AP2 revised scheme
Provision of access to the Great Western Main Line via a private road in Kensal Green (AP2-004-002)	The Bill provides for the use of an existing access road to the Great Western Main Line (GWML) connected to the public highway at Canal Way, south-east of Kensal Green Cemetery.	Access rights will be required to use Canal Way as this is a private road.  This amendment to Bill powers relates to access rights only and Canal Way will remain as described in the main ES.
Additional land for the Scrubs Lane sewer diversion (AP2-004-003)	The Bill provides for the permanent diversion of a Thames Water sewer to the east of Scrubs Lane Bridge. The diversion requires the demolition of tanks to the south of the GWML.	Approximately 460m <sup>2</sup> of land is permanently required to enable a change in the diversion of the sewer to the east of Scrubs Lane to avoid demolishing three existing tanks located to the south side of the GWML.
Grade separated junction to provide three turnback sidings for the Crossrail service and passive provision for a West Coast Main Line (WCML) Crossrail Link (AP2-004-004)	The Bill provides for the permanent provision of two turnback sidings for Crossrail services on GWML at Old Oak Common station. A turnback siding is a section of track of the main railway line that allows trains to reverse and enter the railway line running in the opposite direction to which they entered the siding.	Three sidings are required to maintain reliability on the Crossrail services proposed to serve Old Oak Common station. This will be provided by constructing three sidings to the south of Wells House Road and a flyover on the GWML up-relief line to provide a separated junction. The flyover will be approximately 900m long and rise to 18m above Old Oak Common Lane. The sidings could in the future be extended to provide a WCML-Crossrail link (referred to as passive provision).  The amendment requires land to be acquired permanently that, in the Bill, was required temporarily for construction.
Atlas Road to Old Oak Common box temporary logistics tunnel (AP2-004-005)	The Bill provides for excavated material from the Euston tunnel to be conveyed through Old Oak Common tunnels and station and then via the Northolt tunnel east conveyor to the Euroterminal railhead. It would then be distributed as required.	The amendment provides for a temporary 920m long tunnel (known as a logistics tunnel) from the eastern end of the proposed station box at Old Oak Common to the Atlas Road satellite construction compound. The logistics tunnel will enable the removal of excavated material directly from the construction of the Euston tunnel by conveyor. It will also provide for the delivery of pre-cast tunnel lining segments by construction train to construct the Euston tunnel.

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Alteration of land requirements at Atlas Road to maintain operation of bus depots (AP2-004-006)</p>	<p>The Bill provides for a satellite construction compound on land at Atlas Road for the production of the pre-cast tunnel lining segments for the Euston tunnel. The land is currently occupied by two bus depots (London United and Tower Transit) and a number of industrial and commercial buildings.</p>	<p>In order to reduce impacts on the two bus depots and ensure that they remain operational, land requirements have been amended at Atlas Road. The land at the London United Bus depot (approximately 0.8ha) and Nash House (approximately 0.3ha), is no longer required.</p> <p>Due to the removal of land at Nash House, 180m<sup>2</sup> of additional land is required temporarily during construction at Old Oak Lane and along the southern tow path of the Grand Union Canal (GUC) to provide access to utilities.</p> <p>The layout of the Tower Transit bus depot will be rearranged to incorporate land not currently owned by Tower Transit, but which is within the existing powers of the Bill. This will enable continued operation of the Tower Transit bus depot and allow access from Atlas Road to the Atlas Road satellite construction compound.</p> <p>The position of the proposed access road bridge over the GUC (Paddington Branch) will be moved approximately 100m to the south, which will require 380m<sup>2</sup> of additional land to allow for safe vehicular movement within the Atlas Road satellite construction compound.</p> <p>The changes to land required for the two bus depots and Nash House will result in an additional 1.5ha of land being required temporarily at Atlas Road and Victoria Road for construction activities at the Atlas Road satellite construction compound. The following properties will be demolished: a warehouse superstore, a recycling and waste container business and a catering business, at Atlas Road; and Plantagenet House, 55 Victoria Road.</p> <p>The land temporarily required for the amendment will be returned to suitable development use, once construction is complete.</p>
<p>Alteration of land required for the conveyor route running from Atlas Road to Victoria Road crossover box (AP2-004-007)</p>	<p>The Bill provides for a network of enclosed conveyors to be installed to link the Atlas Road satellite construction compound, the Willesden Euroterminal main construction compound and the Victoria Road tunnel drive main construction compound. The conveyors will be approximately 3.3m above ground level at the highest point and will allow material to be transported between the construction compounds and reduce construction traffic on the local highway network.</p>	<p>The conveyors will be rerouted to cross the Cricklewood to Acton Wells Junction Railway Line further south, closer to Victoria Road by 120m and away from the rear of the commercial properties on Chandos Road.</p> <p>The revised scheme will reduce the amount of land required for the conveyors by 0.34ha.</p>

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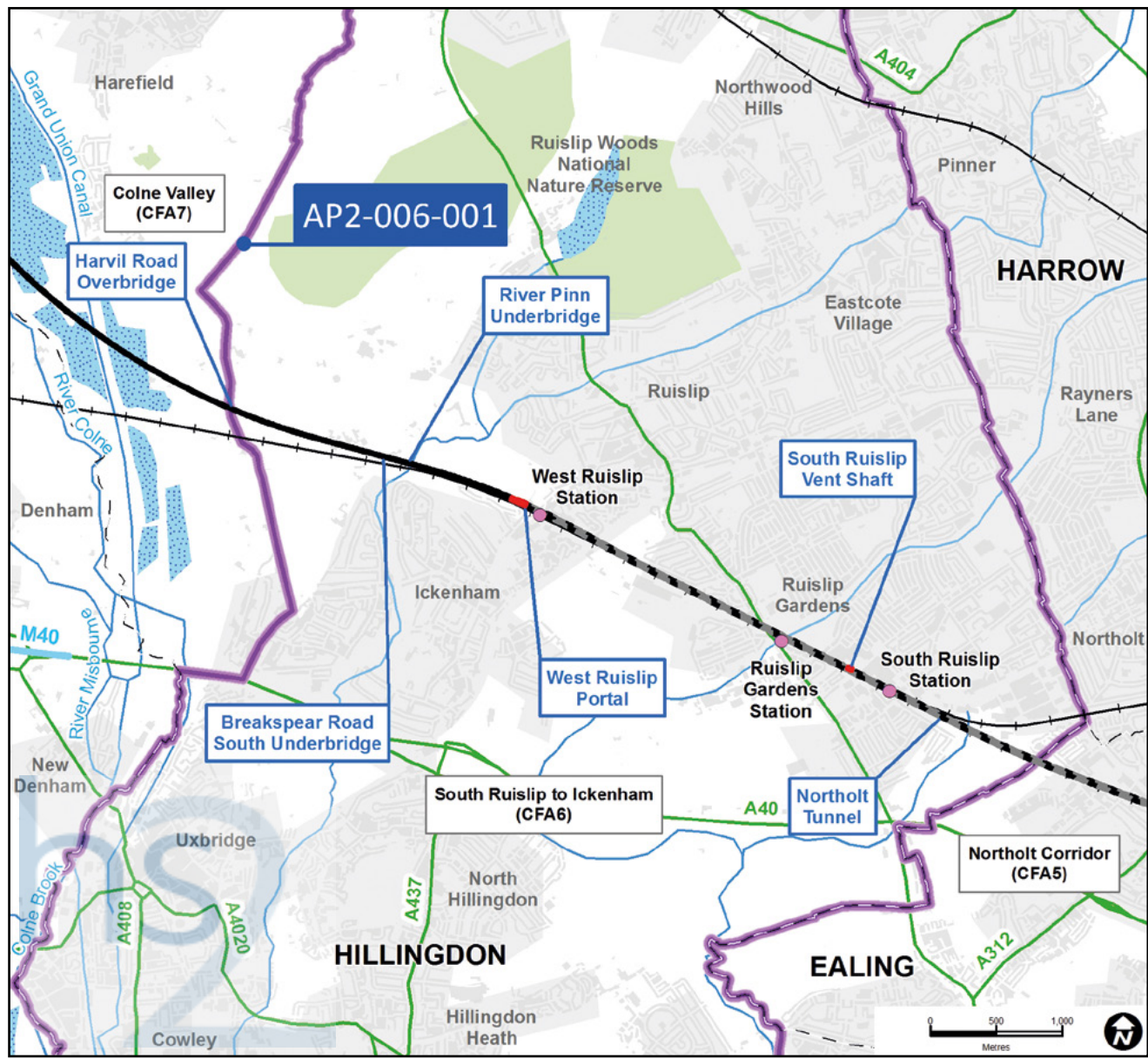
Figure 12: Approximate location of AP2 amendments for Community Forum Area 5 - Northolt Corridor



**Table 14: Summary of AP2 amendments within CFA5 - Northolt Corridor**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Additional land required for access to F-sidings (AP2-005-001)</p>	<p>The Bill provides for the temporary use of a private road between Waxlow Road and the proposed F-sidings satellite construction compound for construction vehicle access, located to the north-west of Old Oak Common.</p>	<p>It has been identified that the private road is used by Royal Mail as a 24 hour car park, and loss of this use would have a substantial effect on Royal Mail operations.</p> <p>An alternative temporary access route will be provided via another private road within the Townsend Industrial Estate. Use of this road will result in the temporary loss of 22 car park spaces. Approximately 200m of the private road will be required during construction.</p> <p>The works will require the removal of a boundary fence and hedge to install an access gate. The boundary fence and car park will be reinstated following the removal of the access gate once construction is complete.</p>
<p>Additional land required for the express feeder auto-transformer station at Greenpark Way (AP2-005-002)</p>	<p>The Bill provides for a ventilation shaft and an express feeder auto-transformer station located partly within an area of vacant land and an existing car park, within an existing business park, east of the A4127 Greenford Road, on the northern side of the London Underground (LU) Central line.</p>	<p>The need for approximately 0.2ha of additional land on the eastern side of the site has been identified. This will facilitate retention of the car park serving the adjacent business park which is considered necessary to maintain their operation.</p> <p>Approximately 0.2ha of additional land is required permanently which is outside the existing powers of the Bill, to maintain operation of the adjacent commercial properties.</p>
<p>Additional rights of access over Greenpark Way (AP2-005-003)</p>	<p>The scheme requires the permanent use of Greenpark Way for access to construct, operate and maintain the Greenpark Way ventilation shaft and express feeder auto-transformer station.</p>	<p>Access rights are required as Greenpark Way is not a public highway as assumed in the Bill. Greenpark Way is a private road from its junction with the A4127 Greenford Road to the proposed Greenpark Way ventilation shaft main construction compound.</p> <p>The access rights are outside the existing powers of the Bill.</p>

Figure 13: Approximate location of AP2 amendment for Community Forum Area 6 - South Ruislip to Ickenham

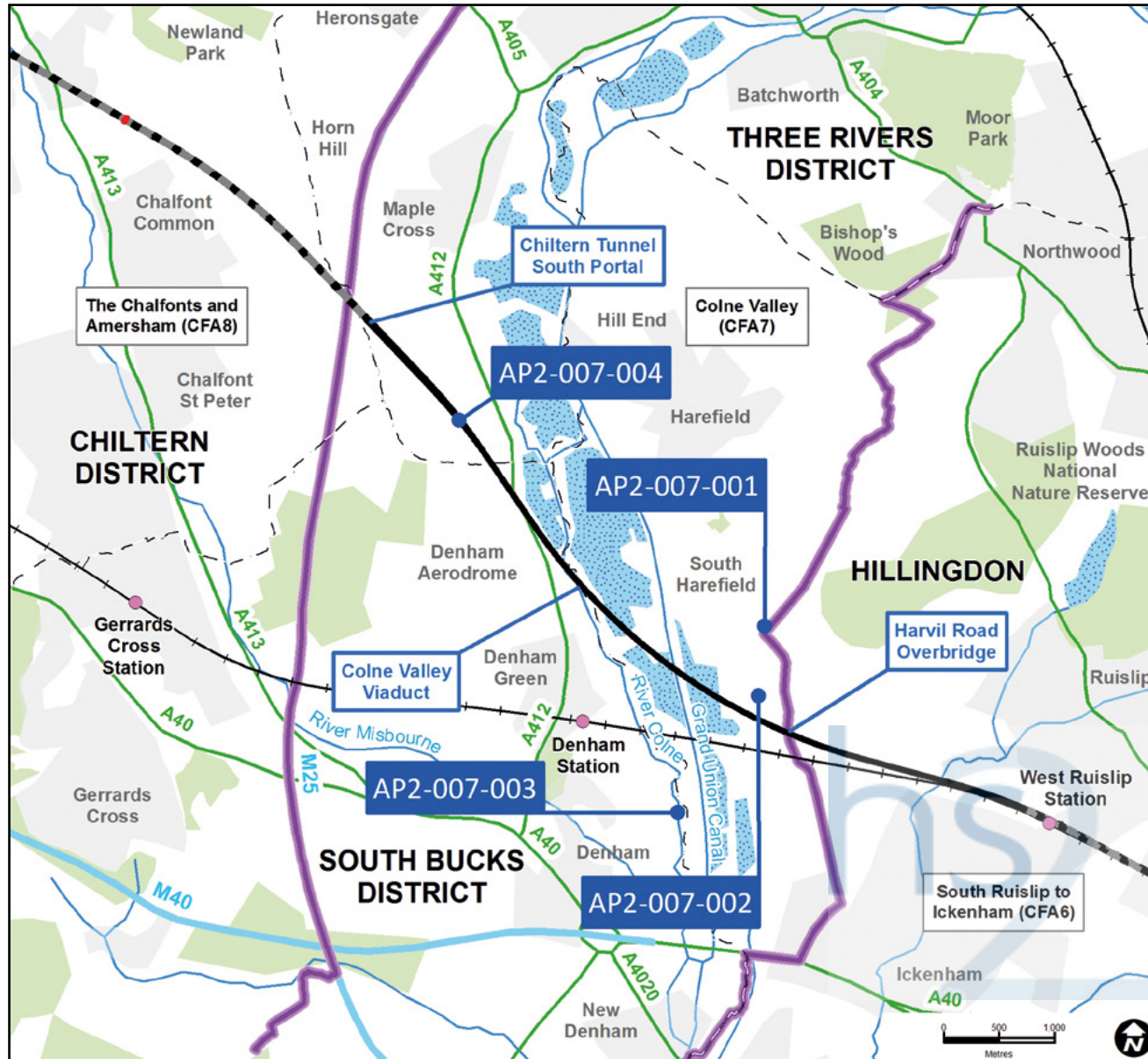


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**Table 15: Summary of AP2 amendments within CFA6 - South Ruislip to Ickenham**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
Overhead power line diversion in London Borough of Hillingdon (AP2-006-001)	The Bill provides for the temporary use of 0.5ha of land around a pylon north of Harvil Road to allow for access to, and maintenance of, the pylon during construction.	An additional area of approximately 0.3ha of land is temporarily required to the east of this pylon to provide a safe working area for construction of the Harvil Road Chiltern Line overbridge.

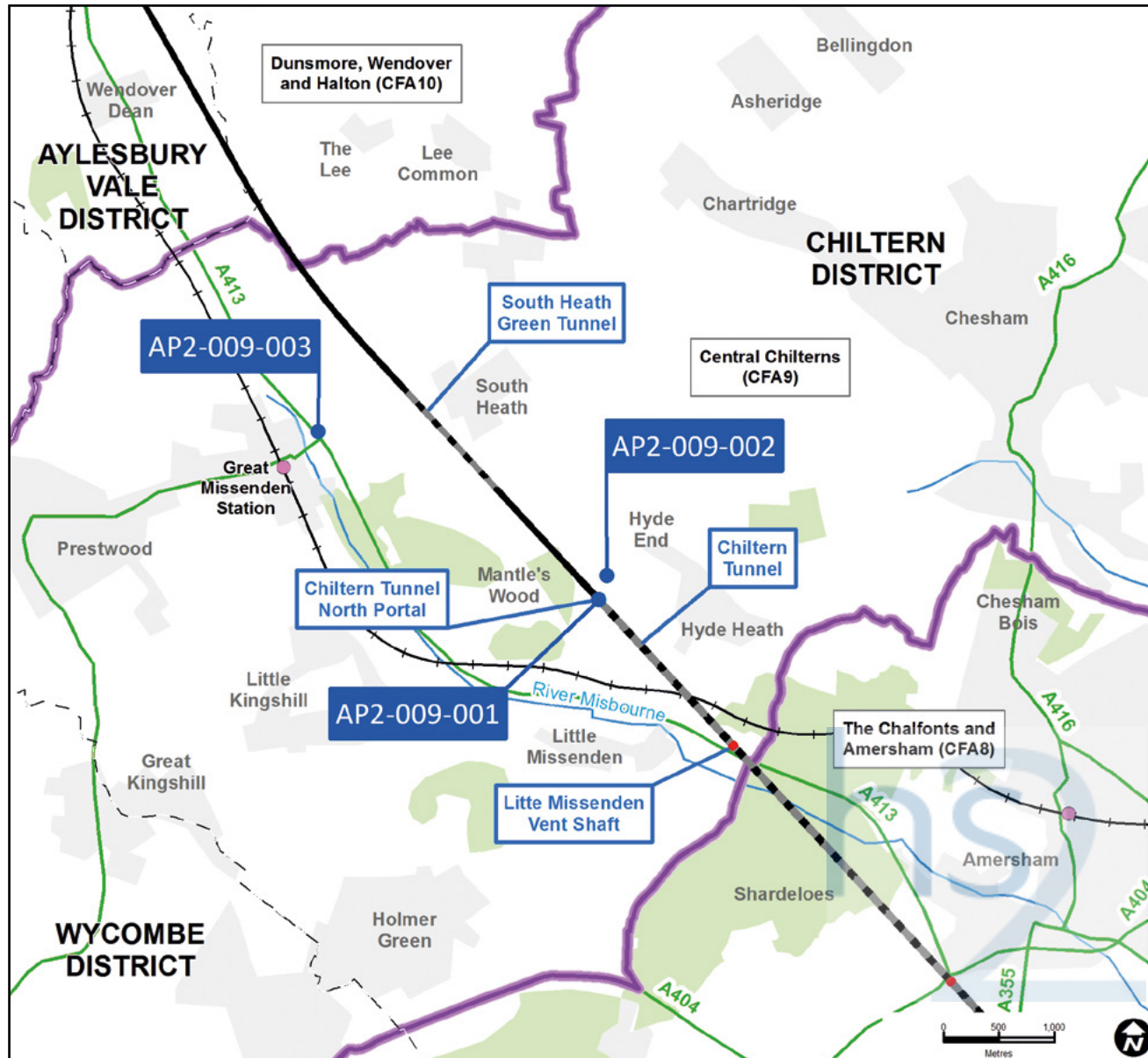
Figure 14: Approximate location of AP2 amendments for Community Forum Area 7 - Colne Valley



**Table 16: Summary of AP2 amendments within CFA7 - Colne Valley**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
Air rights required for utility works at Hillingdon (AP2-007-001)	The Bill provides for the permanent diversion of overhead power lines at the Colne Valley viaduct. The power lines between the pylons either side of Lower Lodge, south of Breakspear Road and 50m east of Harvil Road would be restrung as part of the works.	The need for permanent air rights to permit cranes to pass above Lower Lodge during construction and for maintenance has been identified.  These air rights are outside the existing powers of the Bill.
Additional land required for the revised alignment of the diverted 275kV overhead cables (AP2-007-002)	The Bill provides for the permanent diversion of pylons and overhead power lines from their existing alignment (50m north of Hillingdon Outdoor Activity Centre) to a new alignment. The power lines would cross the HS2 route east of the realigned Harvil Road, in the South Ruislip to Ickenham area (CFA6). This would involve the removal of five pylons and the installation of seven new pylons, including two new pylons in CFA6.	The need to alter this permanent diversion has been identified and therefore the location of four of the pylons is to be amended. An additional 0.5ha of land will also be required temporarily to provide a working area around two of the diverted pylons that will lie south of the Chiltern Main Line and west of the existing alignment of Harvil Road. An additional pylon will be installed adjacent to the proposed electricity feeder station in CFA7.  The additional land required is outside the existing powers of the Bill.
Additional land required for the realignment of a construction access at Buckinghamshire Golf Club (AP2-007-003)	The Bill provides for a temporary construction route for utilities to the location of the power line diversion works in Denham Country Park.  The construction route would be along Denham Court Drive, across Buckinghamshire Golf Course and past the club house, along the west bank of the River Colne and east across the River Colne via a temporary bridge.	The temporary construction route for utilities will be realigned to avoid disruption to the operation of the golf course and club house. Access will be provided along Denham Court Drive, via the existing golf course car park and then across the River Colne on a new temporary bridge.  Approximately 0.9ha of additional land is required temporarily, which is outside the existing powers of the Bill.
Temporary closure of Bridleway Rickmansworth 004 (AP2-007-004)	The Bill provides for the permanent provision of an overbridge, up to approximately 1m above the existing ground level, to enable the realigned Tilehouse Lane and Bridleway Rickmansworth 004 to pass over the HS2 route.	The need for powers for the temporary stopping up of Bridleway Rickmansworth 004 has been identified.

Figure 15: Approximate location of AP2 amendments for Community Forum Area 9 - Central Chilterns

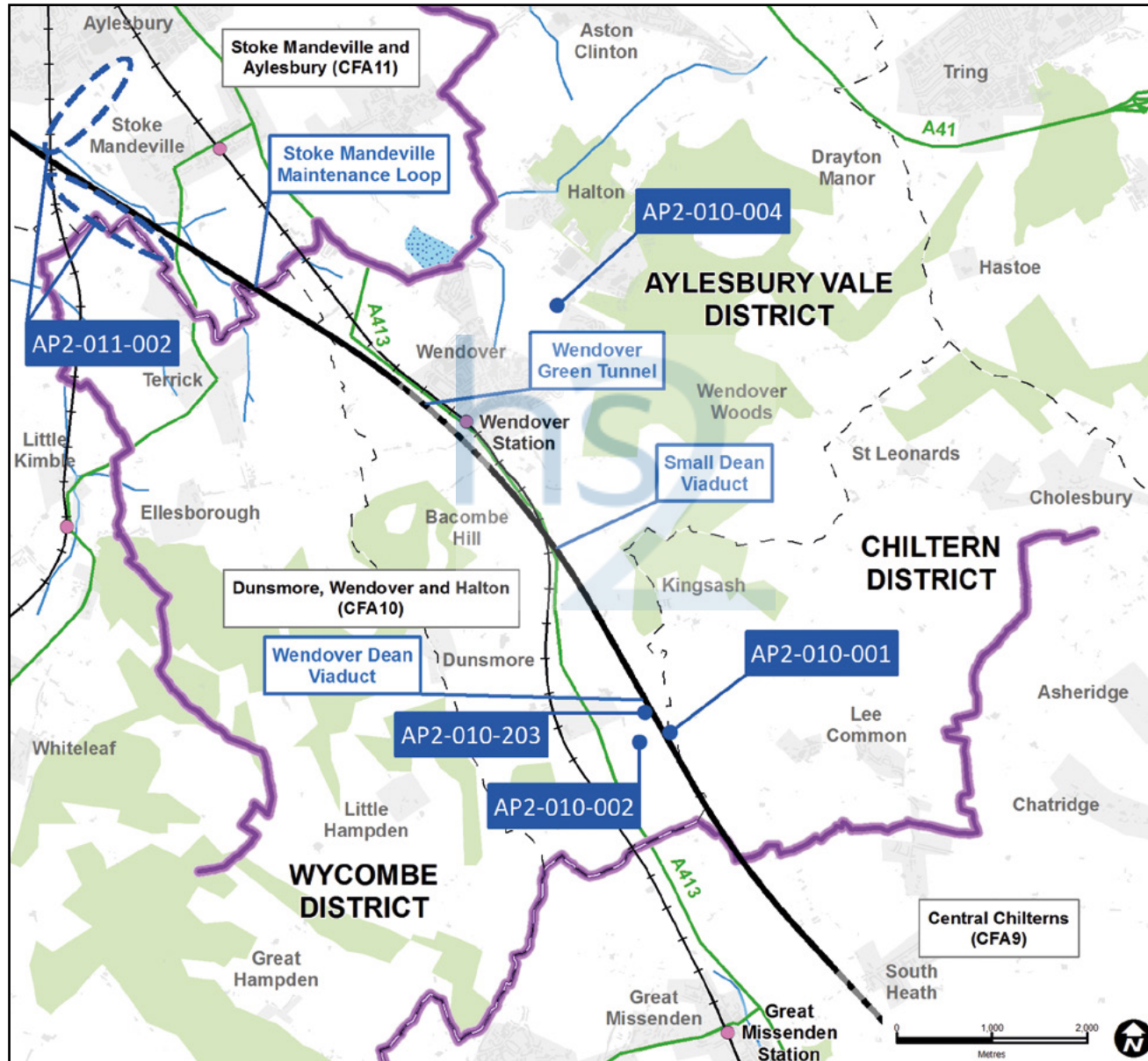


**Table 17: Summary of AP2 amendments within CFAg - Central Chilterns**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Change to land required in Mantle’s Wood for the Chiltern tunnel north portal (AP2-009-001)</p>	<p>The Bill provides for the Chiltern tunnel north portal (i.e. entrance/exit), including a portal building, access track and a 100m long porous portal (i.e. a perforated structure at the tunnel entrance), located approximately 600m west of Hyde Heath. Approximately 6.2ha of land within Mantle's Wood (which is ancient woodland) would be required.</p>	<p>Following additional aerodynamic modelling of the proposed tunnel portal, the amendment provides for a 220m long porous portal tunnel at the north entrance, extending the original length by 120m. The north portal building will be relocated approximately 120m north-west to accommodate the longer tunnel portal. The portal building access track and the engineering earthworks will be extended by approximately 120m in length.</p> <p>The amendment requires approximately 0.4ha less ancient woodland than the original scheme. However, a change in location of the access track requires 0.1ha of land permanently outside of Bill limits, leading to an approximate net reduction of 0.3ha of land.</p>
<p>Realignment of Footpaths LMI/21 and GMI/23 (AP2-009-002)</p>	<p>The Bill provides for the permanent diversion of footpaths LMI/21 and GMI/23 along Hyde Heath Road.</p>	<p>The amendment provides an alternative route to avoid diversion of the footpaths LMI/21 and GMI/23 along Hyde Heath Road. The footpaths will be diverted via an existing track through Mantle’s Wood and will then connect to the current alignment of Footpath GMI/23 adjacent to the HS2 route, east of Hyde Farm.</p> <p>Approximately 450m of this track is located within Mantle’s Wood on land outside the existing powers of the Bill.</p>
<p>Additional land required for an access track to drainage infrastructure from the A413 Aylesbury Road (AP2-009-003)</p>	<p>The Bill provides for a permanent land drainage area adjacent to the A413 Aylesbury Road, approximately 100m to the north of the junction with the A4128 Link Road, on the northern side of Great Missenden. The Bill does not provide for access to the land drainage area from the A413 Aylesbury Road.</p>	<p>The amendment provides for a permanent access road off the northern side of the roundabout, at the junction of the A413 Aylesbury Road and A4128 Link Road. The access road to the land drainage area will include a turning head (i.e. turning point) and a parking space for maintenance vehicles. The access road will run parallel to the A413 Aylesbury Road, then north-west for approximately 100m to the land drainage area.</p> <p>Approximately 0.2ha of land is required permanently that is outside the existing powers of the Bill.</p>



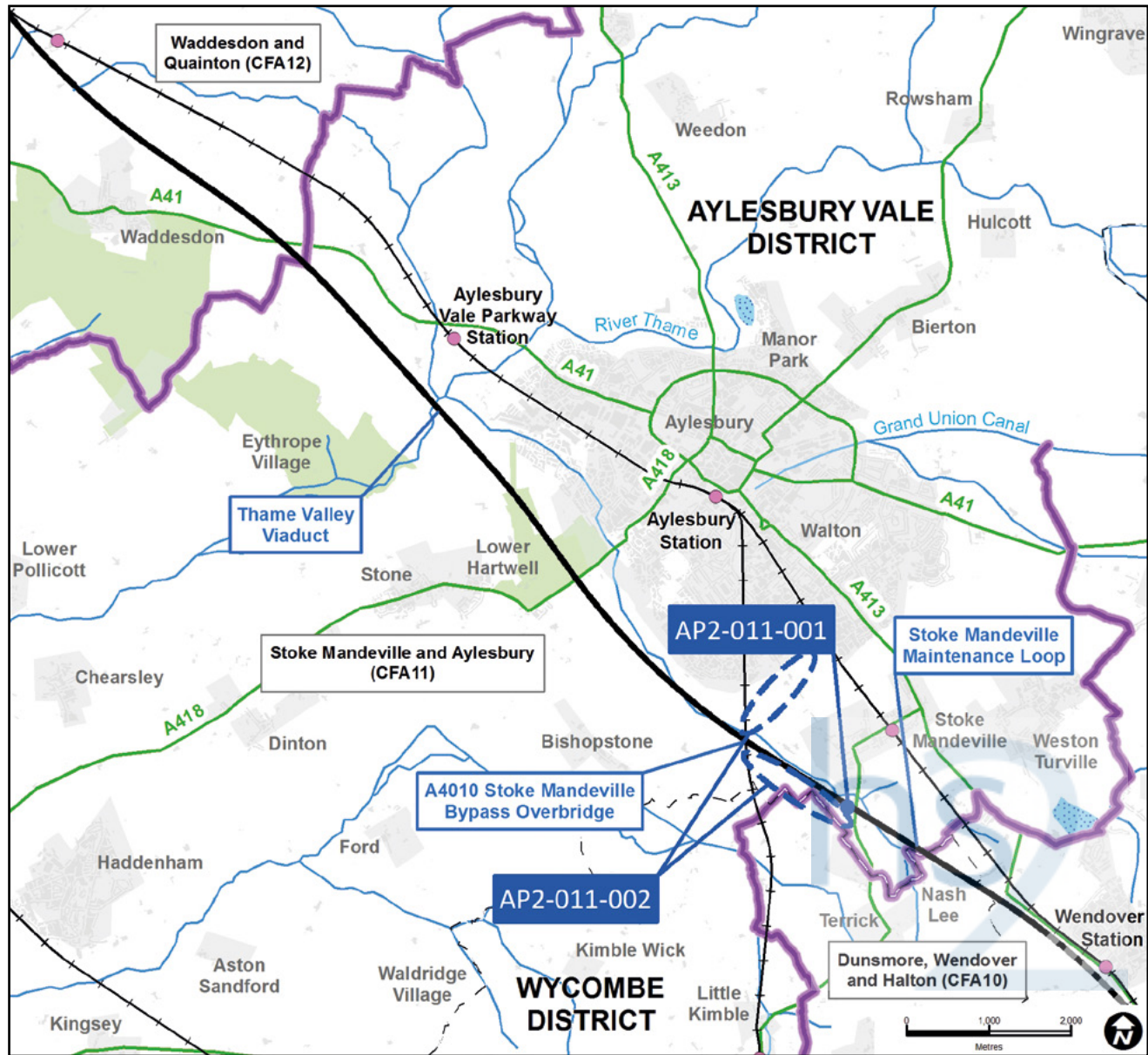
Figure 16: Approximate location of AP2 amendments for Community Forum Area 10 - Dunsmore, Wendover and Halton



**Table 18: Summary of AP2 amendments within CFA10 - Dunsmore, Wendover and Halton**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Additional land required for the reconfiguration of a construction access and material stockpile at Jones' Hill Wood (AP2-010-001)</p>	<p>The Bill provides land for a temporary construction access and material stockpile. Approximately 0.3ha of land partly within Jones' Hill Wood ancient woodland would be required, on the east side of the HS2 route.</p>	<p>Further design refinement has identified that it is practicable to move the stockpile outside the woodland, to the south-east, adjacent to the Bowood Lane overbridge satellite construction compound. The relocated stockpile is within the existing powers of the Bill.</p> <p>Part of the construction access will be relocated to the north, to avoid the woodland, with a 15m offset from the woodland edge.</p> <p>Approximately 0.4ha of additional land outside the existing powers of the Bill is required.</p>
<p>Additional land required for access to a balancing pond at Wendover Dean (AP2-010-002)</p>	<p>The Bill provides for a balancing pond for railway drainage to the east of Wendover Dean Farm, approximately 400m to the west of the HS2 route.</p>	<p>A permanent access to the balancing pond will be provided for maintenance. The access point will be off Bowood Lane and will incorporate a turning head (i.e. turning point). The access track will be approximately 100m in length.</p> <p>Approximately 440m<sup>2</sup> of additional land is required that is outside the existing powers of the Bill.</p>
<p>Minor highway improvements at the existing access track at Durham Farm, Wendover Dean (AP2-010-003)</p>	<p>The Bill provides for permanent maintenance access along an existing track within land located at Durham Farm, Wendover Dean.</p>	<p>The existing access track will be permanently widened so that it is suitable for use by maintenance vehicles.</p> <p>A change to existing Bill powers is required and there is no need for additional land.</p>
<p>Additional land required for the relocation of Ellesborough Road cricket ground and pavilion for Wendover Cricket Club (AP2-010-004)</p>	<p>The Bill provides for the construction of Wendover green tunnel and associated temporary works within part of Ellesborough Road cricket ground and pavilion, on the west side of the HS2 route, approximately 100m to the north-west of Pound Street, Wendover. This requires the demolition of Ellesborough Road cricket ground and pavilion, to the west of Wendover.</p>	<p>The cricket ground and pavilion will be relocated to an area adjacent to the B4009 Tring Road and south of Halton Community Combined School, approximately 1km to the north-east of the existing cricket ground.</p> <p>Approximately 2.9ha of additional land is required that is outside the existing powers of the Bill.</p>
<p>Noise mitigation on the A4010 Stoke Mandeville bypass (AP2-011-002)</p> <p>This amendment is applicable to both CFA10 and CFA11</p>	<p>The Bill provides for construction of the A4010 Stoke Mandeville bypass. The existing A4010 Risborough Road would be closed where it is crossed by the HS2 route, approximately 200m to the south of Stoke Mandeville. The bypass would connect the A4010 Risborough Road from a junction approximately 250m south of the HS2 route and would be aligned around the west of Stoke Mandeville to a junction with B4443 Lower Road, on the north-west of Stoke Mandeville.</p>	<p>The need for traffic noise mitigation from the Stoke Mandeville bypass has been identified. The mitigation will involve the construction of three earth bunds for a total length of approximately 1km (two bunds 300m and 340m long on the east side of the bypass near properties on Old Risborough Road and one bund approximately 400m long along the north-west side of the bypass from the northern extent of the noise barrier to the junction of the bypass and B4443 Lower Road). A 70m noise barrier along the east side of the bypass near properties on Old Risborough Road and a 335m long noise barrier along the north-west side of the bypass will also be constructed as part of this mitigation.</p> <p>Approximately 1.6ha of additional land is required that is outside the existing powers of the Bill.</p>

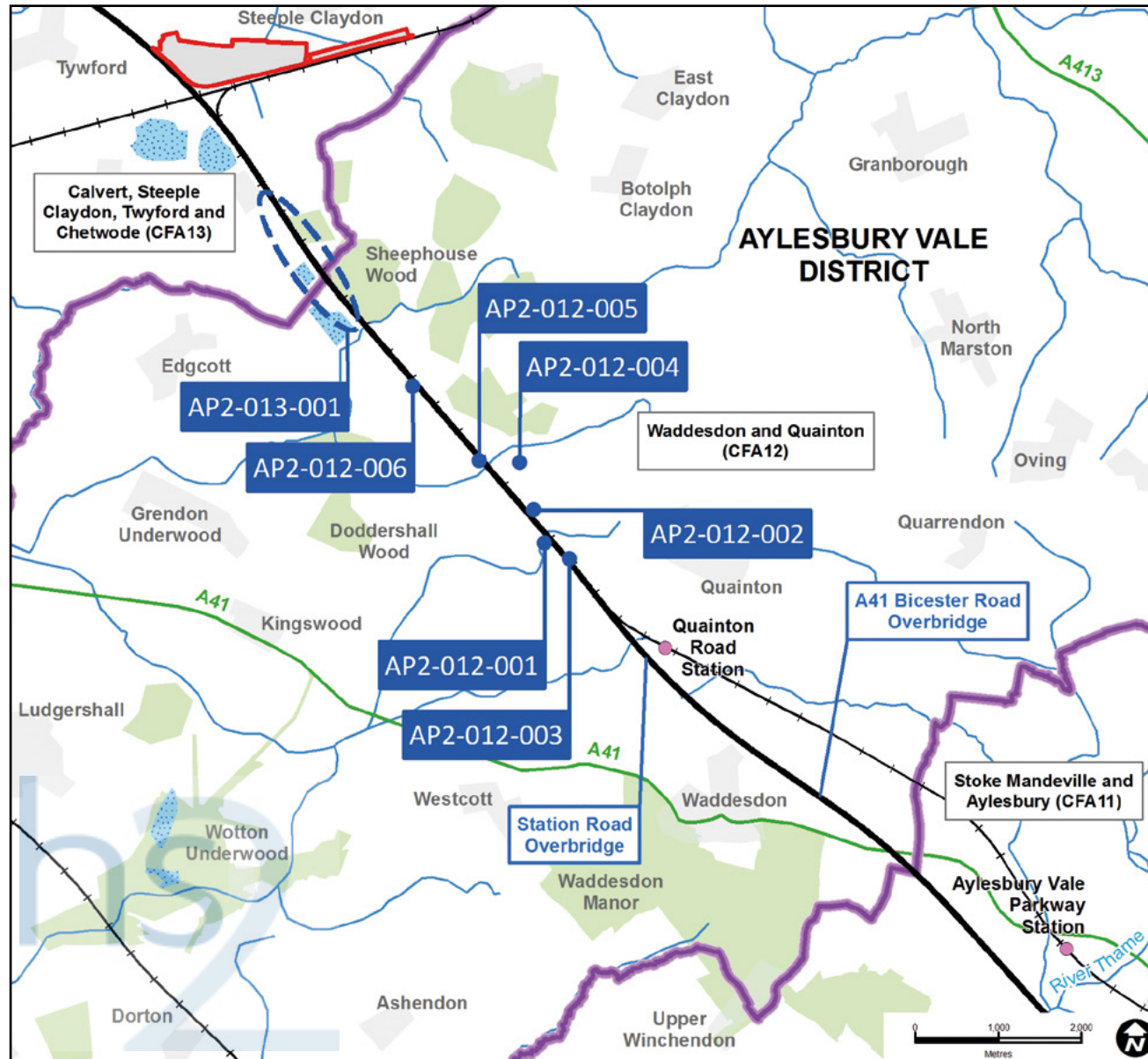
Figure 17: Approximate location of AP2 amendments for Community Forum Area 11 - Stoke Mandeville and Aylesbury



**Table 19: Summary of AP2 amendments within CFA11 - Stoke Mandeville and Aylesbury**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Additional land required for Old Risborough Road maintenance access point and turning head (AP2-011-001)</p>	<p>The Bill provides for the closure of Old Risborough Road, to the south of Stoke Mandeville. An access point and a turning head (i.e. turning point) would be provided off Old Risborough Road on the east side of the HS2 route for maintenance access to a proposed ecological mitigation pond.</p>	<p>The need for a permanent maintenance access point including parking on the west side of the HS2 route has been identified. This maintenance access point, parking area and turning head will be located to the south of Old Risborough Road and adjacent to the HS2 route.</p> <p>The majority of land required is within the existing powers of the Bill. However approximately 20m<sup>2</sup> of additional land is outside the existing powers of the Bill.</p>
<p>Noise mitigation on the A4010 Stoke Mandeville bypass (AP2-011-002)</p>	<p>For information on this see AP2-011-002 in Table 18.</p>	<p>For information on this see AP2-011-002 in Table 18.</p>

Figure 18: Approximate location of AP2 amendments for Community Forum Area 12 - Waddesdon and Quainton



**Table 20: Summary of AP2 amendments within CFA12 - Waddesdon and Quainton**

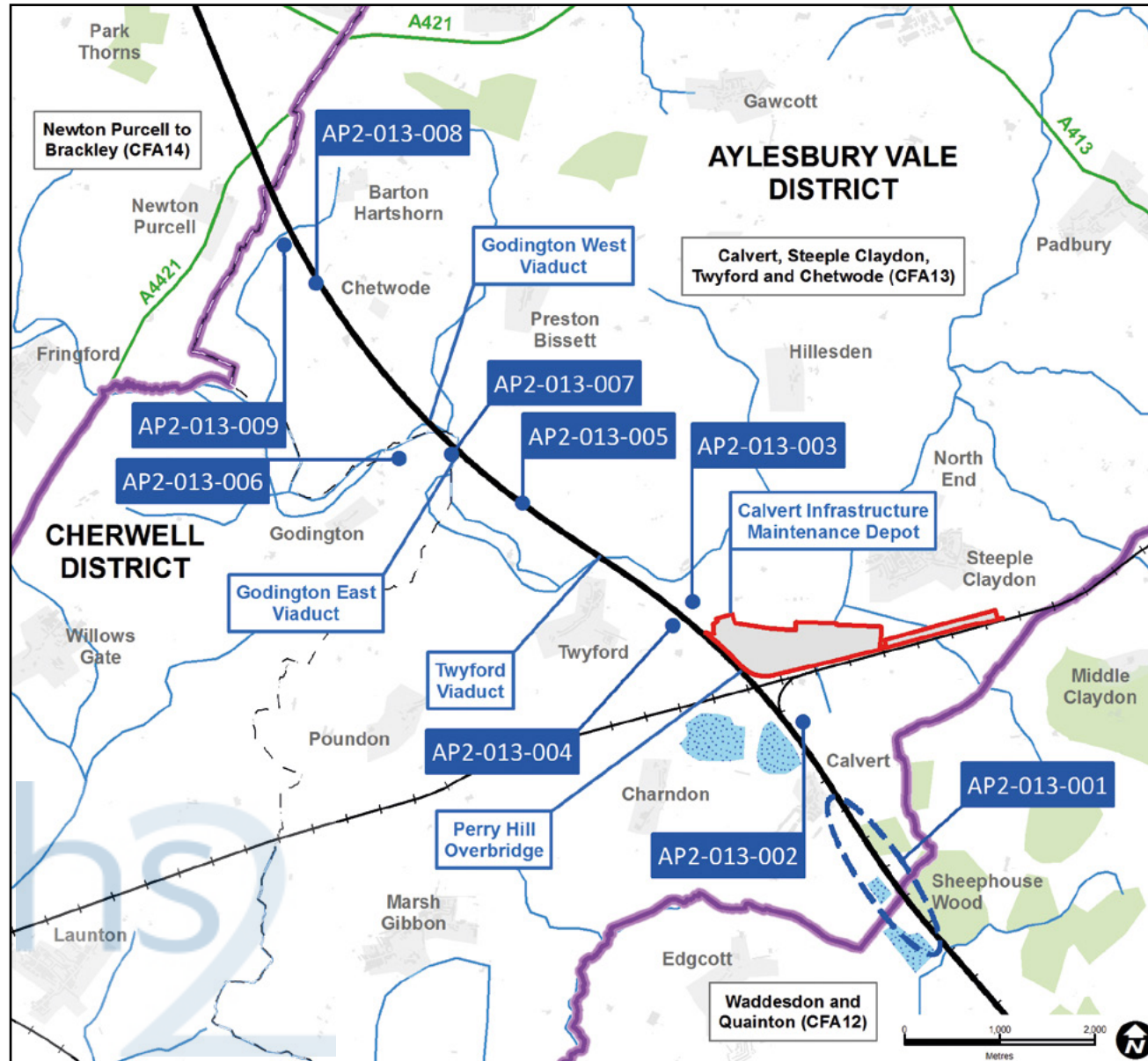
Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Additional land for drainage south of Footpath QUA/26 accommodation underbridge (AP2-012-001)</p>	<p>The Bill does not provide for the re-grading of the ditch south of Footpath QUA/26 accommodation underbridge.</p>	<p>The need for additional land is required to deepen an existing ditch south of Footpath QUA/26 accommodation underbridge. The section of ditch, west of the HS2 route is approximately 100m long. The drainage works will require re-grading and widening from a point 30m north of where it is crossed by Footpath QUA/24 to the track running east from Doddershall House.</p> <p>Approximately 0.1ha of additional land is required permanently for the ditch regrading. Of this, approximately 600m<sup>2</sup> is outside the existing powers of the Bill.</p>
<p>Balancing pond at Footpath QUA/26 accommodation underbridge (AP2-012-002)</p>	<p>The Bill provides for a section of railway drainage north of Footpath QUA/26 accommodation underbridge. The discharge from this drainage will be to a balancing pond south-east of the accommodation underbridge.</p>	<p>The need for an additional outfall and balancing pond to drain this section of railway has been identified. An additional balancing pond will be constructed north of Footpath QUA/26 accommodation underbridge. The balancing pond proposed in the original scheme will be retained but will be reduced to approximately half its originally proposed size.</p> <p>Approximately 0.4ha of additional land is required permanently and is outside the existing powers of the Bill.</p>
<p>Extension of Bridleway QUA/28A overbridge for farm vehicles (AP2-012-003)</p>	<p>The Bill provides for the construction of a bridleway overbridge along the route of Bridleway QUA/28A which will also be used by the diverted Footpath QUA/24A to cross the HS2 route.</p>	<p>The need to provide farm access across the HS2 route in this locality has been identified. The proposed overbridge for Bridleway QUA/28A and Footpath QUA/24A will be extended, widened and the surface improved so it will be suitable to accommodate farm vehicles.</p> <p>A wider bridge and path leading to the bridge from either side will be required. The carriage width will be approximately 3.5m, with verges of 1.5m on one side and 0.5m on the other side.</p> <p>Approximately 400m<sup>2</sup> of additional land is required permanently and is within the original powers of the Bill.</p>

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Revised location of the National Grid substation near Quinton (AP2-012-004)</p>	<p>The Bill provides for an electricity substation to be constructed north-west of the HS2 route, close to Edgcott Road overbridge. The substation will supply electricity to Quinton auto-transformer feeder station.</p>	<p>An alternative location is proposed for the substation immediately east of the location reported in the main ES, following a review of connection complexities and construction constraints.</p> <p>A cable sealing end compound (used to join overhead power lines to underground cables) will be constructed to the north of the substation footprint proposed in the original scheme. During the construction of the substation approximately 1.25km of overhead power lines will be temporarily re-routed to the east of the substation and then reinstated on an altered alignment. A balancing pond will be constructed to drain the access road and hard standing. It will be located north of the final alignment of the overhead power lines, north of the substation and east of the cable sealing end compound, discharging into the nearby River Ray.</p> <p>Exterior operational lighting will be installed at the substation. Lights will only be turned on when engineers need to attend the substation during hours of darkness, on average once every six months.</p> <p>Footpath QUA/35/2 will be permanently realigned prior to construction of the substation. The footpath length will increase by approximately 30m.</p> <p>Approximately 14.7ha of additional land is required permanently for the works, which is outside the original powers of the Bill. However, there is approximately 2.8ha in the original scheme that is no longer required either temporarily or permanently.</p>
<p>Balancing pond at Adam's accommodation underbridge (AP2-012-005)</p>	<p>The Bill provides for a section of railway drainage north of Footpath QUA/26 accommodation underbridge. This drainage will discharge into a balancing pond south-east of the accommodation underbridge.</p>	<p>The amendment addresses the need for an additional outfall and balancing pond to drain this section of railway. The additional balancing pond will be constructed west of the HS2 route at Adam's accommodation underbridge. In the original scheme this railway drainage would have discharged to a balancing pond south-east of Footpath QUA/26 accommodation underbridge.</p> <p>A turning head (i.e. turning point) will be constructed on the east side of the balancing pond to allow access for maintenance vehicles. The turning head will be accessed from the farm access track between Edgcott Road and Woodlands Farm.</p> <p>Approximately 200m<sup>2</sup> of additional land is required permanently which is outside the existing powers of the Bill.</p>
<p>Diversion of Greatmoor Energy from Waste (EfW) facility access road (AP2-012-006)</p>	<p>The Bill identified land needed for diversion of the access road, but powers were limited to provision of environmental mitigation. The proposed route of the Greatmoor EfW facility access road, between Edgcott Road and the waste facility is along part of the HS2 route.</p>	<p>The EfW access track has been constructed and the affected section will be permanently diverted parallel to the HS2 route, between Bridleway QUA/36 accommodation green overbridge and Bridleway GUN/28 accommodation green overbridge. The revised section of the access road is south-east of Upper Greatmoor Farm and will be routed west of the HS2 route and across the HS2 route via Bridleway/28 accommodation green overbridge.</p> <p>Approximately 0.4ha of the additional land is required permanently and is within the existing powers of the Bill. The amendment requires a change of land use which results in the need to change the powers of the Bill.</p>

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Bridleway diversion and footpath upgrades at Calvert Landfill site</p> <p>(AP2-013-001)</p> <p>This applies to both CFA12 and CFA13.</p>	<p>The Bill provides for three bridleways CAG/3/1, GUN/25/1 and SCL/18/2 near Calvert Green, to be diverted from their existing locations and instead run parallel to the HS2 route.</p>	<p>The diverted bridleways proposed as part of the original scheme would lie between the HS2 route and the access road to Calvert landfill site. This route is not considered suitable for horse riders. Therefore, an alternative bridleway route will be provided that crosses the boundaries of both CFA12 and CFA13.</p> <p>The permanent new bridleway route will pass west of Calvert Landfill site via three bridleways GUN/35/1, GUN/36/1 and GUN/36/2, and six footpaths GUN/24/1, GUN/23/1, CAG/1/1, EDG/12/1, CAG/4/3 and CAG/5/1, which will be upgraded to bridleways. Approximately 3.2km of footpath will be upgraded to bridleway and the additional length of permanent bridleway diversion will be approximately 2.2km.</p> <p>The PRoW diversion proposed in the original scheme will be implemented, as a footpath and not a bridleway as included in the original scheme.</p> <p>Approximately 0.7ha of additional land will be required permanently which is outside the existing powers of the Bill.</p>



Figure 19: Approximate location of AP2 amendments for Community Forum Area 13 - Calvert, Steeple Claydon, Twyford and Chetwode



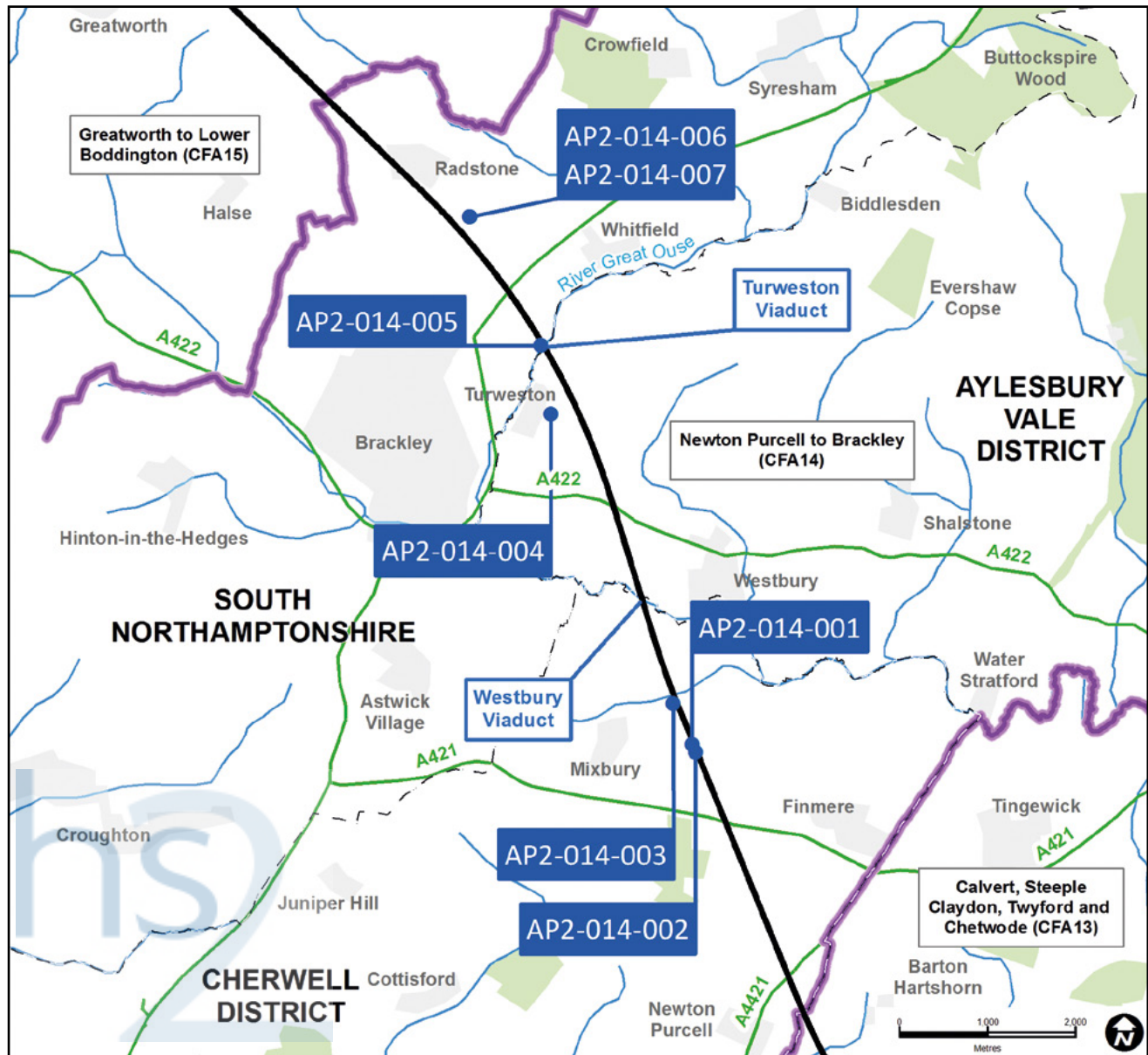
**Table 21: Summary of AP2 amendments within CFA13 - Calvert, Steeple Claydon, Twyford and Chetwode**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
Bridleway diversion and footpath upgrades at Calvert Landfill site  (AP2-013-001)	See AP2-013-001 in Table 20 (CFA12 amendments) for details.	See AP2-013-001 in Table 20 (CFA12 amendments) for details.
Alteration of access track to Shepherd's Furze Farm  (AP2-013-002)	The Bill provides for an existing access track off Addison Road to Shepherd's Furze Farm in Steeple Claydon to be used as a construction and maintenance access for the scheme.	The existing access track off Addison Road to Shepherd's Furze Farm will be widened for use by construction and maintenance vehicles.  The amendment requires a change in land use which results in a need to change the existing powers of the Bill.
Realignment of Footpath TWY/18  (AP2-013-003)	The Bill provides for the permanent diversion of Footpath TWY/18 at Twyford, which closed on the east of the HS2 route, approximately 140m west of where the footpath crosses Perry Hill. A new footpath will be constructed from this location south across a field to West Street then crossing the proposed West Street overbridge. The realigned footpath will then follow the route of the disused Great Central Main Line (GCML) railway to Twyford.	The proposed diversion of the footpath has been changed in two areas:  The footpath will be realigned along the wide verges of Perry Hill and West Street rather than crossing the field west of Perry Hill. The footpath will be closed at Perry Hill, approximately 80m further east than in the original scheme. The diverted footpath will be aligned along the verges of Perry Hill, and then west along West Street to join the route proposed in the original scheme. The new diversion will be approximately 70m shorter than in the original scheme.  West of the HS2 route, Footpath TWY/18 will be extended approximately 170m along West Street to avoid the steep slope of a proposed embankment.  The two changes will add 160m to the length of the footpath compared to the original scheme.
Reconfiguration of access to Twyford sewage treatment works  (AP2-013-004)	The Bill provides for permanent access to Twyford sewage treatment works to the west of the HS2 route. The junction for the access road will be on the northern side of West Street and would currently only be suitable for vehicles approaching from the south.	The junction will be upgraded to allow vehicle access to Twyford sewage treatment works from both directions. The design of the sewage treatment works access track will include two passing places and the 120m section of access track between West Street and the balancing pond, south of West Street will be improved for use by maintenance vehicles.  Approximately 750m <sup>2</sup> of additional land will be required permanently. This land is outside the existing powers of the Bill.
Closure of Restricted Byway PBI/5A/2 and provision of a replacement access road at Cowley Farm  (AP2-013-005)	The Bill provides for Footpath PBI/5A accommodation overbridge.  The AP1 revised scheme removes this accommodation overbridge and diverts Footpath PBI/5 across the HS2 route via Restricted Byway PBI/5A accommodation overbridge.  The temporary diversion of Restricted Byway PBI/5A via the Footpath PBI/A accommodation overbridge is removed from the AP1 revised scheme, which will require permanent closure of Restricted Byway PBI/5A/2.	This amendment seeks additional powers to close Restricted Byway PBI/5A and provide a permanent replacement, as the AP1 revised scheme did not seek the powers. The environmental impact of this amendment has been assessed in the AP1 amendments AP1-013-018 and AP1-013-019.

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Widening of Bridleways CHW/24 and 225/4 for HS2 maintenance access</p> <p>(AP2-013-006)</p>	<p>The Bill provides for permanent maintenance access along bridleways CHW/24 and 225/4. The bridleways are also used as a farm access track which extends from The Green, a road north-east of the HS2 route, to Moat Farm south-west of the HS2 route. A new section of access track further south along the HS2 route, between Bridleway 225/4 and Footpath PBI/9, would also be provided.</p>	<p>Bridleways CHW/24 and 225/4 will be upgraded, widened and passing points installed to ensure they are wide enough for maintenance vehicles. Approximately 10m either side of the centreline of the bridleway will be used for the construction of drainage and fencing.</p> <p>The new section of access road parallel to the eastern side of the HS2 route will be removed from the AP2 revised scheme as it is no longer required.</p> <p>Approximately 2ha of additional land is required permanently. This is outside the existing powers of the Bill.</p>
<p>Revised location for wetland habitat creation at Moat Farm, Godington</p> <p>(AP2-013-007)</p>	<p>The Bill provides for an area of approximately 3ha of ecological mitigation on farmland within Moat Farm in Godington. The area would be located in a field to the east of the HS2 route and used for wetland habitat creation.</p>	<p>A suitable alternative location for the ecological mitigation that is not on farmland has been identified, between the HS2 route and the disused GCML railway. The area is adjacent to where the HS2 route is crossed by Padbury Brook; The amendment will not affect the banks of the brook.</p> <p>The area of land required permanently will be similar in size to the area within the original scheme. This land is outside the existing powers of the Bill.</p>
<p>School End temporary realignment at Chetwode</p> <p>(AP2-013-008)</p>	<p>The Bill provides for the temporary closure of School End (a road), with users diverted a distance of approximately 7km via the A4421 to enable the construction of the School End overbridge.</p>	<p>School End will remain open during construction, with a temporary realignment immediately north of the proposed School End overbridge. The temporary realignment will cross the HS2 route at existing ground level and allow the road to remain open during the construction of the overbridge.</p> <p>Approximately 0.6ha of additional land is required temporarily. This land is outside the existing powers of the Bill.</p>
<p>Minor works to upgrade an access track in Barton Hill Farm</p> <p>(AP2-013-009)</p>	<p>The Bill provides for a maintenance access track to railway drainage balancing ponds. The access track would run northwards from School End (a road), parallel to the HS2 route approximately 350m north-east of Barton Hill Farm, and then along the south and west sides of an existing farm pond adjacent to the HS2 route.</p>	<p>The amendment seeks to change powers to enable realignment of the access track along the north and east sides of the farm pond, to avoid access disturbance to the existing pond. No additional land is required.</p>

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Figure 20: Approximate location of AP2 amendments for Community Forum Area 14 - Newton Purcell to Brackley



**Table 22: Summary of AP2 amendments within CFA14 - Newton Purcell to Brackley**

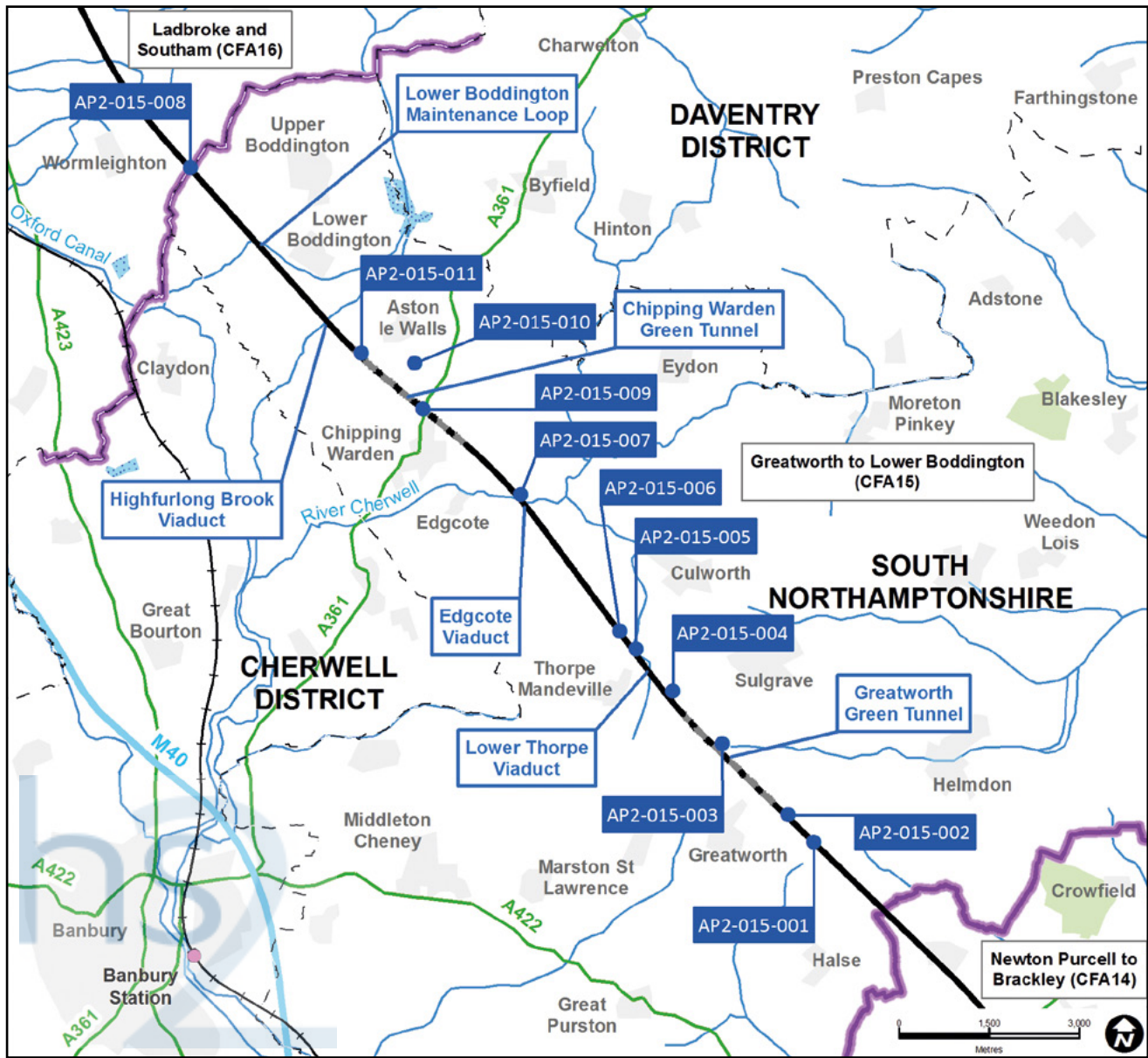
Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Temporary diversion of Featherbed Lane and relocation of Featherbed Lane overbridge satellite compound (AP2-014-001)</p>	<p>The Bill provides for the temporary closure of Featherbed Lane (Fulwell Lane) during construction, with a diversion via the A421 London Road. The road would be reopened following construction. The Featherbed Lane overbridge satellite construction compound would be located north of Featherbed Lane, bordering the road.</p>	<p>Featherbed Lane will remain open during construction and a temporary diversion along a new section of road adjacent to Featherbed Lane will be provided. To enable this, Featherbed Lane overbridge satellite construction compound will be relocated to the south-east with an access road onto the diverted Featherbed Lane. Access to the satellite construction compound will be via a dedicated construction access road along the eastern side of the HS2 route with a new temporary access off the A421 London Road. The relocated satellite construction compound will be the same size as the compound proposed in the original scheme (approximately 0.6ha).</p> <p>The majority of the temporary road diversion will be within the Bill powers, with 1.8ha outside of the existing Bill powers.</p>
<p>Realignment of Footpath 303/7 (AP2-014-002)</p>	<p>The Bill provides for the diversion of Footpath 303/7 over Featherbed Lane overbridge, on the eastern side of the HS2 route. A temporary alternative route for Footpath 303/7 would be provided to the north for up to one year. Following this period it would then be permanently diverted across Featherbed Lane overbridge adding 100m to the length of the footpath.</p>	<p>The permanent realignment of the footpath as part of the original scheme has been revised to avoid crash barriers at the footpath’s intersection with Featherbed Lane. The realigned footpath will turn east from the route proposed in the original scheme along a new access track to meet Featherbed Lane, further east than proposed in the original scheme. The footpath will then continue west over Featherbed Lane overbridge.</p> <p>The land required for this amendment is within the existing powers of the Bill. However, the Bill powers will need to be amended to change the route of the diversion.</p>
<p>Mossycorner Spinney ancient woodland ecological avoidance and mitigation (AP2-014-003)</p>	<p>The Bill provides for a temporary stockpile (approximately 350m long) parallel to the HS2 route, east of Tibbetts Farm, partially within Mossycorner Spinney, a 7.4ha area of woodland. The Bill also provides for the permanent use of part of this woodland, as the HS2 route will pass through it.</p>	<p>Natural England has identified part of Mossycorner Spinney (approximately 0.6ha) as ancient semi-natural woodland.</p> <p>The amendment provides for relocating an area of approximately 400m<sup>2</sup> of temporary stockpile to another location within the powers of the Bill to avoid the ancient woodland. Approximately 2.9ha of woodland will be planted in two areas to compensate for the loss of ancient woodland at Mossycorner Spinney. The mixed deciduous woodland will be planted at two locations adjacent to Mossycorner Spinney south-west and north-east of the HS2 route.</p> <p>Approximately 2.9ha of additional land is required permanently for the mitigation planting, which is outside the existing powers of the Bill.</p>
<p>Turweston replacement playing fields (AP2-014-004)</p>	<p>The Bill provides for approximately 0.8ha (40%) land to be acquired temporarily at Turweston playing fields to allow for the construction of a cutting and the diversion of an overhead power line. The majority of the land will be returned to its previous use after construction, with 8% of the playing fields required permanently for the scheme.</p>	<p>Permanent replacement playing fields will be provided to the west of Turweston Glebe. This will accommodate all of the facilities currently provided at the site of the existing playing fields, which would not have been possible in the original scheme.</p> <p>Approximately 2.7ha of additional land is required permanently outside the existing powers of the Bill.</p>

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Realignment of Footpath BD8 (AP2-014-005)</p>	<p>The Bill provides for the temporary diversion of Footpath BD8 to the east, and alongside, the HS2 route, close to the proposed A43 Oxford Road overbridge. The temporary diversion would add approximately 800m to the length of the footpath.</p> <p>Following construction, the footpath would then be permanently realigned, approximately 400m to the east of the HS2 route, under Turweston viaduct, adding an additional 700m to the length of the footpath.</p>	<p>The temporary diversion and permanent realignment of footpath BD8 will be relocated to the west of the HS2 route, as a requirement to take the footpath further from the HS2 route has been identified. The footpath will cross under Turweston viaduct and link with Bridleway BD10 on the western side of the HS2 route.</p> <p>As with the original scheme, the temporary diversion will increase the length of the footpath by approximately 800m, and the permanent realignment will increase the length by approximately 700m in total.</p> <p>Approximately 300m<sup>2</sup> of additional land is required. This land is outside the existing powers of the Bill.</p>
<p>Provision of green bridge at Radstone, changes to environmental mitigation and realignment of PRoW (AP2-014-006)</p>	<p>The Bill provides for the creation of approximately 7ha of lowland calcareous grassland and scrub ecological compensation area. This would be provided to mitigate impacts on the Helmdon Disused Railway SSSI which will be crossed by the HS2 route. Approximately 0.8ha of the SSSI would be directly affected by the original scheme, of which 0.1ha is lowland calcareous grassland.</p> <p>The Bill also provides for a barrier to be constructed on both sides of the HS2 route as it crosses the Helmdon Disused Railway SSSI to reduce the risk of Natterer's bats that roost near Radstone being struck by passing trains.</p>	<p>The amendment includes the provision of a green bridge approximately 24m wide at Radstone that will follow the route of the Helmdon Disused Railway SSSI to enable bats using this flight path to fly safely over the HS2 route. Brackley Culvert will also be enlarged to be made suitable for use as a bat route.</p> <p>Due to the provision of the green bridge a smaller area of ecological mitigation will be provided than the area proposed in the original scheme. Approximately 1ha of ecological compensation (woodland planting) will be maintained adjacent to Fox Covert LWS (Glyn Davies Wood) and Helmdon Disused Railway SSSI. The location and extent of ecological mitigation included in the original scheme will be revised following consultation with Natural England. Approximately 2ha of woodland habitat mitigation proposed under the original scheme will not be provided. Additional hedgerow habitat mitigation will be provided to encourage the movement of bats towards the green bridge and to provide visual screening for the village of Radstone.</p> <p>There will be consequential changes to footpaths in this area. The existing bridge that carries Bridleway AX14 over the disused railway will be demolished and the green bridge constructed to the north. The green bridge will be approximately at ground level, with the base of the Helmdon Disused Railway SSSI cutting approximately 8m below.</p> <p>Approximately 1.9ha of additional land outside the existing powers of the Bill is required permanently, and 9.2ha of land within the Bill powers is no longer required.</p>
<p>Footpath AX7 diversion (AP2-014-007)</p>	<p>The Bill provides for Footpath AX7 to remain open during construction of the scheme. It would then be permanently realigned approximately 200m to the west across the realigned Radstone Road. The diversion would increase the length of the footpath by approximately 300m. This footpath would follow a field boundary close to Manor Farm.</p>	<p>Footpath AX7 will be diverted to take the footpath further from Manor Farm than the original scheme. The footpath will follow the current alignment until it reaches the earthworks adjacent to the HS2 route. The footpath will then follow the embankment and join Footpath AX15 to the east. It will then divert south over the proposed green bridge at Radstone. The diversion would increase the length of the footpath by approximately 500m.</p> <p>The land required for this amendment is within the existing powers of the Bill. However, Bill powers are required to change the route of the diversion.</p>

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Figure 21: Approximate location of AP2 amendments for Community Forum Area 15 - Greatworth to Lower Boddington



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**Table 23: Summary of AP2 amendments within CFA15 - Greatworth to Lower Boddington**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Additional powers to enable the permanent widening of the existing access track</p> <p>(AP2-015-001)</p>	<p>The Bill provides for an access track on the east side of the HS2 route, off the B4525 Welsh Road in Greatworth.</p>	<p>The amendment requires additional powers within the Bill to permanently widen the existing access track.</p> <p>The land required for this amendment is within the existing powers of the Bill.</p>
<p>Greatworth Hall revisions to earthworks, land drainage area and access</p> <p>(AP2-015-002)</p>	<p>The Bill provides for permanent planted landscape earthworks along both sides of the HS2 route to integrate it with the surrounding environment. The landscape earthworks include a gap near Greatworth Hall to allow for access across the HS2 route, along the route of a disused railway.</p> <p>Two land drainage areas would be provided on the east of HS2 route either side of the disused railway, each being approximately 0.3ha in size. The maintenance access tracks would be provided on the eastern side of the HS2 route.</p>	<p>A number of design changes are proposed to minimise the potential disruption on farming operations.</p> <p>The landscape earthworks on the east of the HS2 route and west of Greatworth Hall will be extended across the gap proposed in the original scheme near Greatworth Hall.</p> <p>The two land drainage areas proposed will be replaced with a single drainage area approximately 1ha in size. The landscape earthworks will be reshaped around the single land drainage area.</p> <p>Maintenance access to the drainage area will be via the tunnel portal access track, routed between the realigned Helmdon Road and over the landscape earthworks. This maintenance access will be shared with the landowner for farm use by combining a farm access track to Greatworth Hall farm with construction and maintenance operation access. The road will be widened and two passing points will be added.</p> <p>No additional land will be required; however the access tracks will be extended within Bill powers which require a change to Bill powers.</p>
<p>Realignment of temporary diversion of Footpath AN4</p> <p>(AP2-015-003)</p>	<p>The Bill provides for the temporary closure of footpaths AN4 and AN4o.</p> <p>Footpath AN4 would be diverted at a location approximately 150m north of Greatworth village, west across a field in Greatworth Park for approximately 300m until it meets Footpath AN4o. Footpath AN4o would be stopped up at this location, in a north easterly direction.</p>	<p>Footpath AN4 will be temporarily diverted along the field boundary in Greatworth Park, rather than across the field.</p> <p>Footpath AN4 will be routed north for approximately 150m from Helmdon Road along the existing route through Greatworth Park, then turn west across a field boundary for approximately 150m before turning south. The footpath will follow the field boundary west until it meets Footpath AN4o. This re-route will extend the footpath by approximately 40m.</p> <p>Approximately 340m<sup>2</sup> of additional land is required temporarily. The additional land is outside the existing powers of the Bill.</p>
<p>Additional land required for environmental mitigation at Lower Thorpe</p> <p>(AP2-015-004)</p>	<p>The Bill provides for land permanently for the Thorpe Mandeville cutting satellite construction compound and for the construction of Banbury Road overbridge.</p>	<p>Two parcels of land (approximately 380m<sup>2</sup> in total) were identified as missing from the original Bill plans, although they were assessed in the main ES.</p> <p>The eastern parcel of land is required for ecological mitigation, approximately 100m to the east of the HS2 route.</p> <p>The western parcel is required for landscape mitigation and will be approximately 70m from the HS2 route.</p>

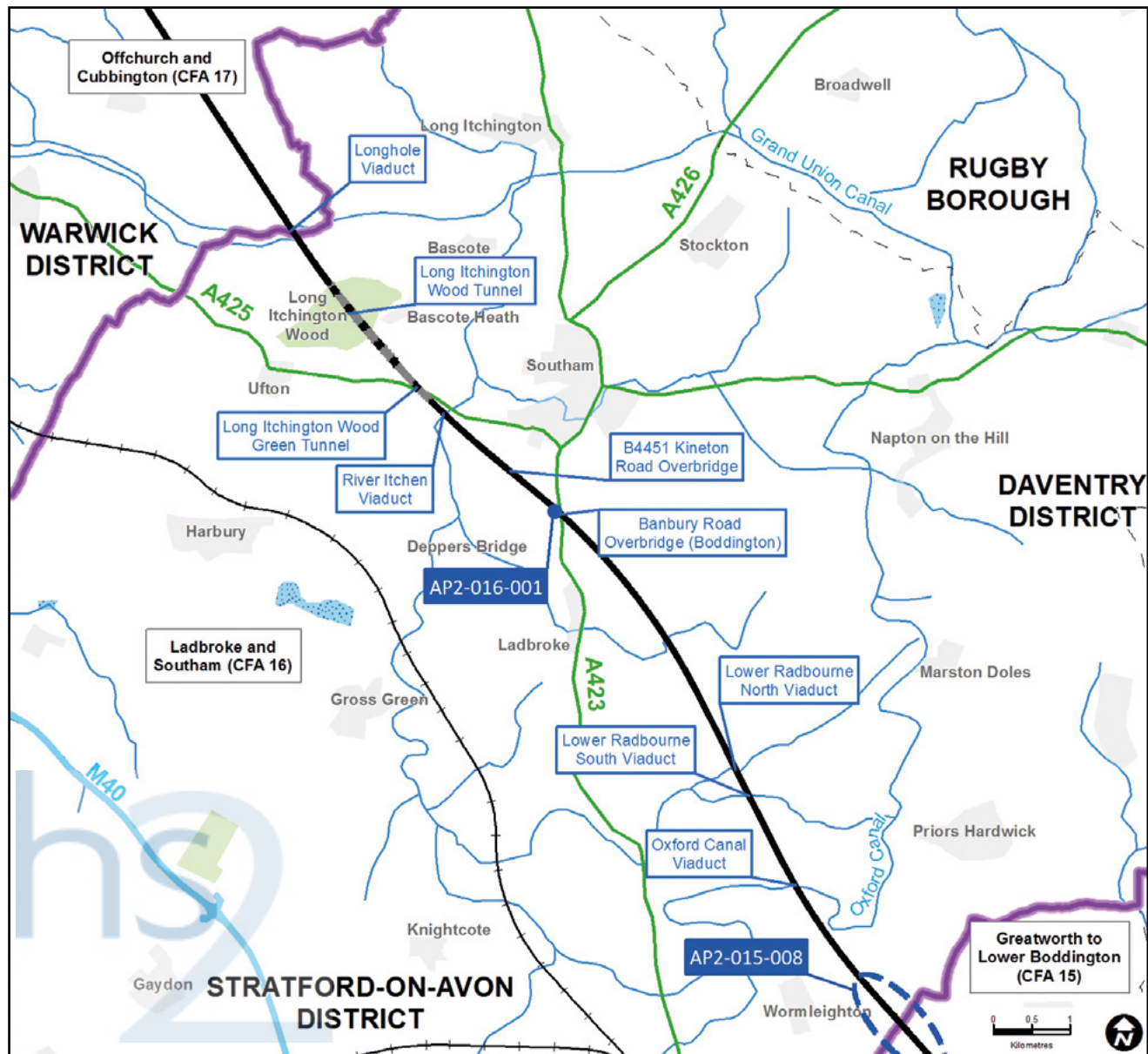
Amendment	Description of the original scheme	Description of the AP2 revised scheme
Provision of an access to Lower Thorpe viaduct satellite compound (AP2-015-005)	The Bill provides for the use of Banbury Lane to service the Lower Thorpe viaduct satellite construction compound. Access would also be required for the purpose of constructing the maintenance access to a balancing pond located south of Banbury Lane and west of the HS2 route.	In order to reduce traffic levels on Banbury Lane, a new temporary 300m long construction access will be provided adjacent to the HS2 route from Banbury Road to the Lower Thorpe viaduct satellite construction compound.  Approximately 0.1ha of additional land is required temporarily. This land is outside the existing powers of the Bill.
Provision of turning heads on Banbury Lane (AP2-015-006)	The Bill provides for the temporary closure of Banbury Lane to allow for construction works associated with the Lower Thorpe viaduct. A temporary alternative route will be provided via Banbury Road. Following construction, Banbury Lane will reopen.	Two temporary turning heads (i.e. turning points) will be provided on Banbury Lane at the dead ends created by the temporary closure of the road.  Approximately 400m <sup>2</sup> of additional land is required temporarily. This land is outside the existing powers of the Bill.
Relocation of drainage infrastructure at Culworth Mill Pond (AP2-015-007)	The Bill provides for a permanent railway balancing pond on the east side of the HS2 route with an approximate storage capacity of 4,150m <sup>3</sup> . The outfall from the pond would be carried southwards and discharge into the River Cherwell. Access to the pond would be from Welsh Road along a new access track and turning head (i.e. turning point).	In order to reduce disruption to farming activities, the balancing pond will be located approximately 50m to the north-west of the location proposed within the original scheme, to the north-west corner of the same field. The outfall from the balancing pond will be to the west, into Osierbed Spinney culvert.  The proposed maintenance access to the balancing pond from Welsh Road will be approximately 190m north of the location within the original scheme.  Approximately 500m <sup>2</sup> of additional land will be permanently required. This land is outside the existing powers of the Bill.

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Reconfiguration of the Warwick Road and Banbury Road junction (AP2-015-008)</p> <p>This amendment applies to both CFA15 and CFA16</p>	<p>The Bill provides for a 1.3km cutting, maintenance loops, the permanent realignment of approximately 1km of Banbury Road and Wormleighton Road with alteration of the Banbury Road/Warwick Road junction and a new green bridge over the HS2 route.</p> <p>The Bill also provides for a permanent realignment of Banbury Road between the existing junction of Wormleighton Road and Stoneton Lane to the east of Wormleighton.</p>	<p>This amendment includes changes in both CFA15 (Greatworth to Lower Boddington) and CFA16 (Ladbroke to Southam). The original scheme junction priority at the intersection will be changed to reflect the dominant traffic movement through the junction.</p> <p>The amendment involves permanent alteration of Warwick Road where it crosses the HS2 route on an overbridge and will connect to Wormleighton Road. Banbury Road will follow its existing alignment closer to the HS2 route between Claydon Road and Warwick Road and an access road to Hill Farm from Warwick Road will be provided. Stoneton Lane diversion will be rerouted from its original scheme location on the north-east side of the HS2 route, to cross Boddington cutting on a green highway bridge at a right angle to the junction with Banbury Road to the south-west of Boddington cutting.</p> <p>The original realignment of Stoneton Lane is no longer required. Banbury Road green overbridge in the original scheme will now be a standard highway overbridge as habitat connectivity will be provided across the cutting by the Stoneton Lane green overbridge.</p> <p>The removal of the Stoneton Lane diversion through Fox Covert (Glyn Davies Wood) will necessitate a temporary diversion of Banbury Road during construction. Banbury Road will be temporarily diverted from near the existing junction of Banbury Road with Stoneton Lane to near the proposed new permanent junction of Banbury Road with Stoneton Lane.</p> <p>The Boddington auto-transformer station will be located closer to Stoneton Lane. Additional mitigation planting will be included along the CFA15/16 boundary west of the realigned Wormleighton/Banbury Road to improve connectivity of hedgerows.</p> <p>The amendment will reduce permanent land required by approximately 2.7ha and the area of land temporarily required by approximately 0.8ha compared to the original scheme.</p>
<p>Provision of a Chipping Warden bypass (AP2-015-009)</p>	<p>The Bill provides for the temporary realignment of the A361 Byfield Road, east of Chipping Warden, to approximately 150m north, during the construction of the green tunnel past Chipping Warden. The road would then be permanently reinstated along its existing alignment over the green tunnel.</p>	<p>The realignment of the A361 Byfield Road will be extended southwards, to the west of Chipping Warden, to divert construction traffic around Chipping Warden, rather than through the village. The realignment of the A361 Byfield Road will be retained permanently to provide a bypass of Chipping Warden. Noise fence barriers along the east of Chipping Warden bypass will provide noise mitigation.</p> <p>Approximately 0.2ha of additional land will be required temporarily and approximately 6.3ha of additional land will be required permanently. This land is outside the existing powers of the Bill.</p>

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Addition of information on Footpaths AA7 and AE17 maps (AP2-015-010)</p>	<p>The main ES reported the environmental effects of construction on Footpaths AA7 and AE17. Footpath AE17 connects to the A361 Byfield Road and runs along the eastern edge of Chipping Warden (disused) Airfield near Aston le Walls, approximately 880m of this footpath will be temporarily stopped up during construction. Footpath AE17 joins Footpath AA7 at the edge of Chipping Warden (disused) Airfield and continues north through farmland to Appletree Lane and also into Aston le Walls.</p>	<p>The amendment is a correction to the Bill plans to stop up footpaths AE17 and AA7 temporarily within Bill powers. The missing 'Footpath AA7' label has been added on to maps. The missing footpath alignment for 'Footpath AA7' and labels for 'Footpath AE17' and 'Footpath AA7' have been added on to the parliamentary plans. The environmental effects of stopping up these footpaths have already been reported in the main ES.</p>
<p>Additional land for the relocation of Chipping Warden midpoint auto-transformer station (AP2-015-011)</p>	<p>The Bill provides for a permanent auto-transformer station, portal building and associated access tracks on the east side of the HS2 route at the Chipping Warden tunnel north portal.</p>	<p>The auto-transformer station, portal building and associated access track will be relocated to the west side of the HS2 route to reduce disruption to farming operations.</p> <p>The land and railway drainage design and the pond access arrangements will be amended to reflect the new layout.</p> <p>The Chipping Warden tunnel north portal satellite construction compound will be relocated from the east to the west of the HS2 route.</p> <p>Approximately 0.6ha of additional land is required. This land is outside the existing powers of the Bill.</p>

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Figure 22: Approximate location of AP2 amendments for Community Forum Area 16 - Ladbroke and Southam

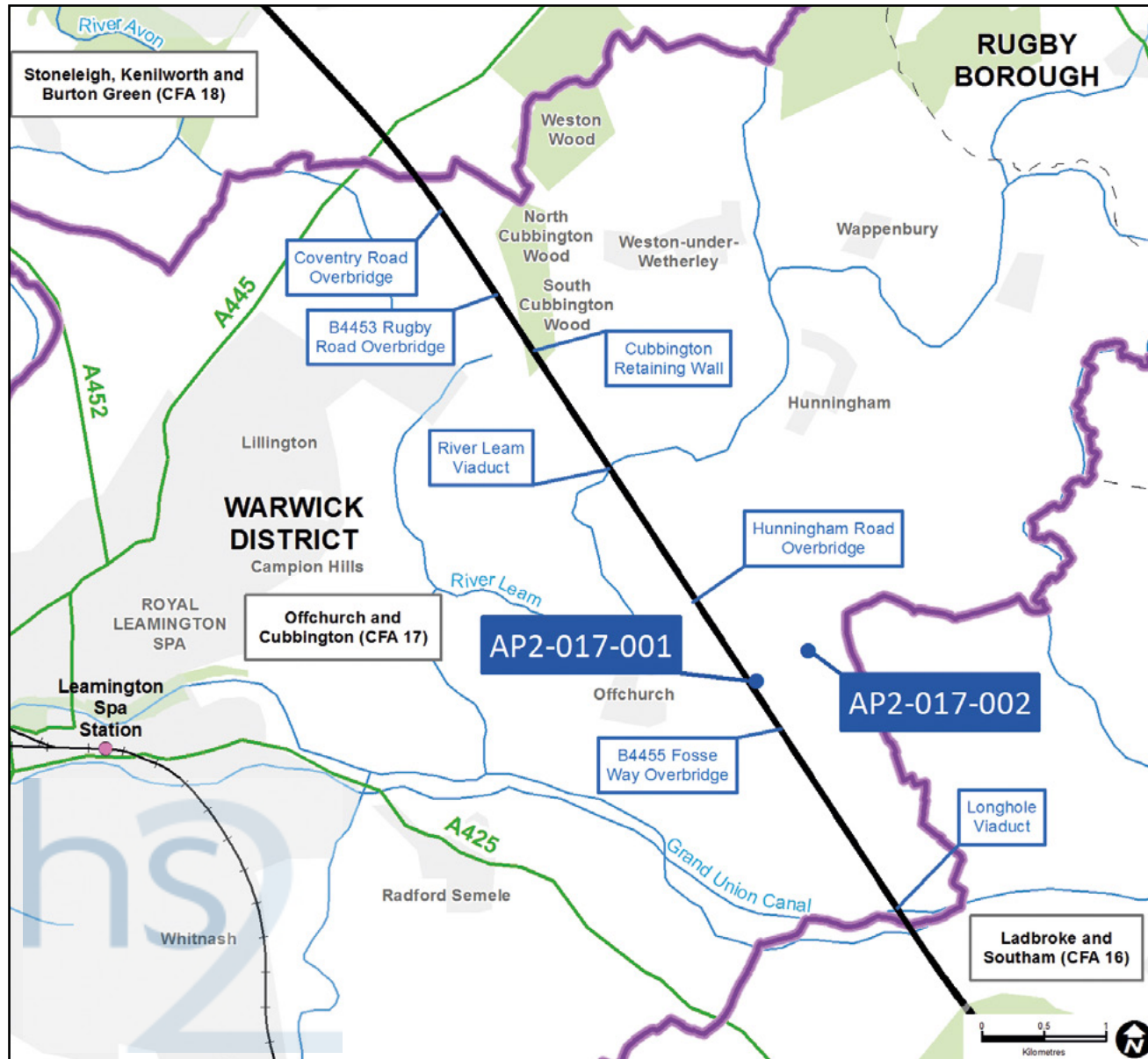


**Table 24: Summary of AP2 amendments within CFA16 - Ladbroke and Southam**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
Cycleway between Ladbroke and Southam (AP2-016-001)	<p>The Bill provides for the permanent realignment of the A423 Banbury Road to the west of its existing alignment, including a 1.5m wide footway along the western verge to accommodate realigned Footpath SM33 and the closed section of Footpath SM89. The highway improvement works would be approximately 1,250m in length, and include a connection to Footpath SM89 at the southern end.</p> <p>Footpath SM89 would be temporarily closed during construction and permanently closed during operation.</p>	<p>The revised scheme will provide a permanent cycleway/footway alongside the realigned A423 Banbury Road, comprising a 2m wide shared use path in place of the originally proposed 1.5m wide footway. The shared use cycleway/footway will be extended at the Southam end to meet the current SM33 route. This amendment has been made to accommodate consented housing development near to this location that includes the upgrade of Footpath SM33 outside of Bill limits to a segregated footway/cycleway. In addition, the 1.5m wide footpath at the southern end near Southam Road will be widened to 2m.</p> <p>Footpath SM89 will be maintained during operation of the revised scheme, with an extension to join the existing route to the realigned Banbury Road, including a non-signalised crossing point over the realigned Banbury Road to join SM89 with the combined footway/cycleway. Footpath SM89 will be temporarily closed during construction of the revised scheme.</p> <p>No additional land is needed, however modifications are required to the Bill to implement the amendment.</p>
Reconfiguration of the Warwick Road and Banbury Road junction (AP2-015-008)	For information on this amendment see AP2-015-008 in Table 23.	For information on this amendment see AP2-015-008 in Table 23.



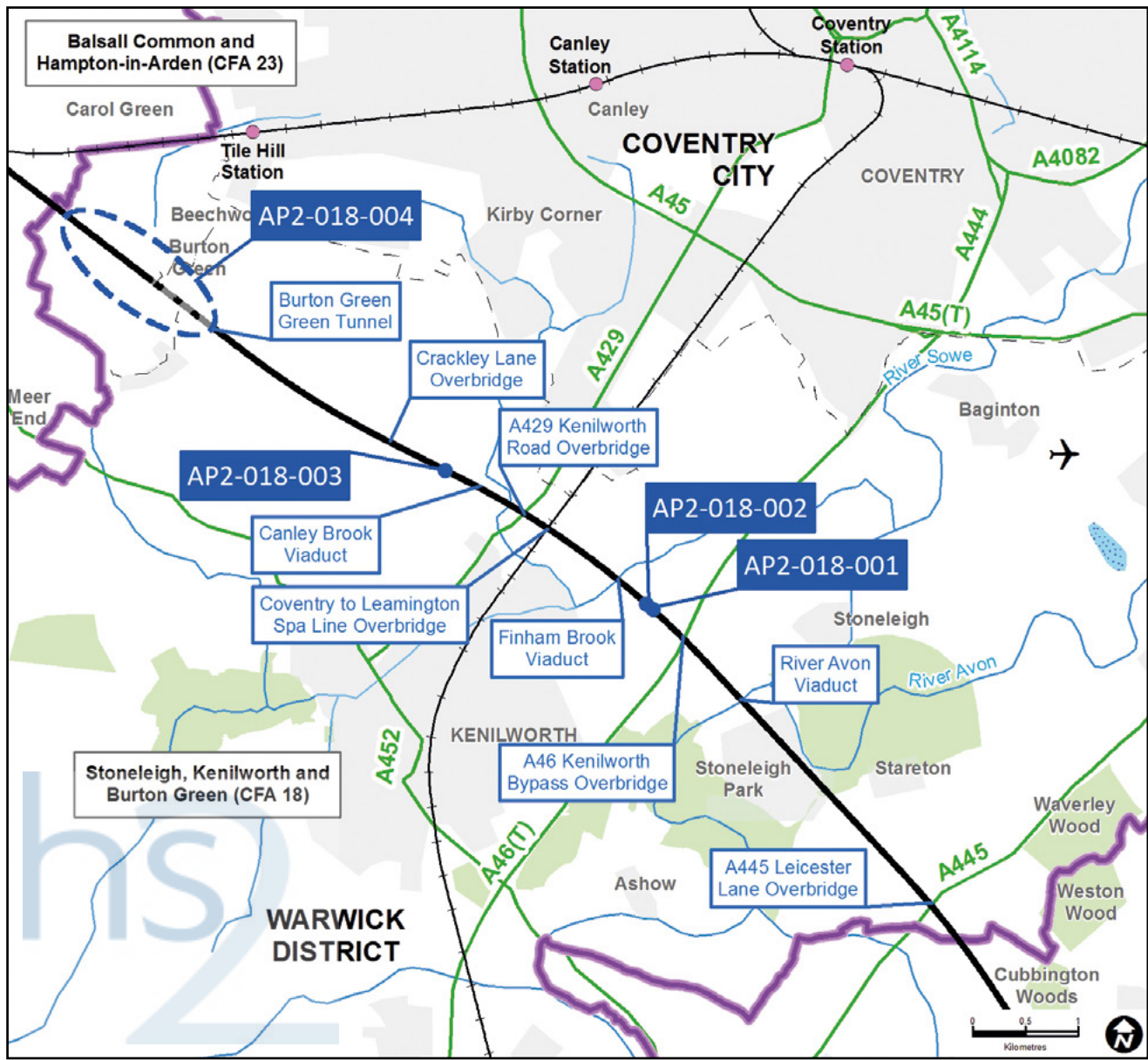
Figure 23: Approximate location of AP2 amendments for Community Forum Area 17 - Offchurch and Cubbington



**Table 25: Summary of AP2 amendments within CFA17 - Offchurch and Cubbington**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Additional land for drainage infrastructure to the east of Offchurch cutting  (AP2-017-001)</p>	<p>The Bill provides for highway drainage east of the HS2 route into a spinney via a 'swale' (a shallow drainage area) along the top of Offchurch cutting at Offchurch Greenway.</p>	<p>The drainage design will be revised to replace the swale with an open lined ditch passing between the spinney and the top of the cutting. The ditch will be extended to pass under the Offchurch Greenway via a culvert to connect to the existing watercourse.</p> <p>Approximately 0.8ha of land is required temporarily of which 0.3ha will be required permanently.</p> <p>The additional land required for this change is outside the existing powers of the Bill.</p>
<p>Provision of the Offchurch Greenway cycle bridge over Fosse Way  (AP2-017-002)</p>	<p>The Bill provides for the diversion of National Cycle Route 41 from Long Itchington Road onto Offchurch Greenway over a new green bridge crossing the HS2 route and then across a field to re-join its existing route on Fosse Way.</p>	<p>The revised scheme replaces the cycleway link between the existing Offchurch Greenway and Fosse Way proposed in the original scheme with a new cycle and pedestrian bridge over Fosse Way. A ramp will connect the bridge to the north-east side of Fosse Way. A 2m wide cycle path on the east verge of Fosse Way will connect the bridge to Long Itchington Road. A link between Footpath W192 and Offchurch Greenway will also be provided. Landscape mitigation planting will be provided on the new earthworks.</p> <p>Approximately 1.5ha of additional land is required permanently, of which 0.27ha is agricultural land.</p> <p>The additional land required for this change is outside the existing powers of the Bill.</p>

Figure 24: Approximate location of AP2 amendments for Community Forum Area 18 - Stoneleigh, Kenilworth and Burton Green



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**Table 26: Summary of AP2 amendments within CFA18 - Stoneleigh, Kenilworth and Burton Green**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Relocation of the Footpath K29 overbridge in the vicinity of New Kingswood Farm house (AP2-018-001)</p>	<p>The Bill provides for the scheme to cross the route of Footpath K29 to the east of Kenilworth golf course. The Bill provides for the construction of a new overbridge to carry the footpath over the railway adjacent to New Kingswood Farm.</p> <p>The earthworks require the demolition of the New Kingwood Farm house at this location.</p>	<p>The revised scheme relocates the Footpath K29 overbridge to the south of the HS2 route to allow extended habitation of New Kingswood Farm house prior to demolition. As a result Footpath K29 will be realigned and will cross the HS2 route via the overbridge before reconnecting with its existing alignment to the east of the access track serving the residence at New Kingswood Farm.</p> <p>The revised scheme will continue to require the demolition of the residential property at New Kingswood Farm, due to earthworks in this location.</p> <p>Approximately 0.25ha of additional land will be required on a temporary basis to accommodate the revised alignment.</p> <p>The additional land required for this change is outside the existing powers of the Bill.</p>
<p>Relocation of the woodland habitat creation area in the vicinity of Kingswood Farm house (AP2-018-002)</p>	<p>The Bill provides for a permanent area of woodland habitat creation to the north-east of the HS2 route in the vicinity of Kingswood Farm house between the edge of Glasshouse Wood cutting and Four Winds property boundary.</p> <p>The woodland planting would tie in with landscape mitigation planting located to the west between the railway cutting and Dalehouse Lane. To the east, it would tie in with the Footpath K29 overbridge and new hedgerow planting along the edge of the railway cutting.</p>	<p>The revised scheme relocates the woodland habitat creation area from the north-east side of the HS2 route to the south-west side, north of Kenilworth Golf Club.</p> <p>Despite the relocation of the woodland habitat creation area, new hedgerow planting alongside the railway cutting, proposed as part of the original scheme, will be retained on the east of the HS2 route to extend the screening from the remaining landscape planting area to Footpath K29 overbridge.</p> <p>An additional 1.2ha of land is required permanently to the south-west of the HS2 route to provide connectivity with existing woodland and grassland habitats adjoining Kenilworth Golf Club which will also be effective as landscape integration planting.</p> <p>The additional land required for this change is outside the existing powers of the Bill.</p>
<p>Revision to gradient and construction phasing of eastern approach to Bridleway W164 overbridge (AP2-018-003)</p>	<p>The Bill provides for the construction of the Bridleway W164 overbridge where the bridleway crosses the HS2 route, as it is in cutting to the north-west of Canley Brook viaduct.</p> <p>Its construction avoids permanent severance of Bridleway W164 (also known as the Connect2 Kenilworth Cycleway).</p>	<p>The scheme reduces the slope of the eastern approach to the overbridge to meet design requirements. This will require additional earthworks.</p> <p>The construction programme has been revised to allow for the permanent realignment of Bridleway W164, earlier than originally proposed. This will avoid the need for any temporary diversion or closure ensuring that the route remains available for continued use throughout the construction period.</p> <p>An area of approximately 0.4ha will be required permanently to accommodate this amendment.</p> <p>The additional land required for this change is outside the existing powers of the Bill.</p>

Amendment	Description of the original scheme	Description of the AP2 revised scheme
Burton Green area amendment (AP2-018-004)		
A number of opportunities have been identified to improve the design and reduce the environmental effects of the HS2 route as it passes through Burton Green. Geographically, this amendment stretches from Broadwells Wood in the south, through to the north of Waste Lane and the border with CFA23 in the north. Two communities fall within this geographic area; the village of Burton Green and the smaller community of Beechwood that lies just to the north-east of the scheme adjacent to Waste Lane.		
Burton Green tunnel revised length and vertical alignment	<p>The Bill provides for a 620m long green tunnel through Burton Green, including 100m long porous portals (porous portals ensure that the noise of trains moving through a tunnel are controlled at each end.</p> <p>The Bill also provides for the realignment of approximately 700m of the Kenilworth Greenway, to run alongside/ parallel to the HS2 route when in cutting and above the green tunnel through the centre of the village.</p> <p>Additional components of the original scheme include:</p> <ul style="list-style-type: none"> <li>• tunnel portal buildings adjacent to the south portal on the west side of the scheme, with a permanent maintenance access from Red Lane;</li> <li>• permanent realignment of Footpath W168 beneath the scheme;</li> <li>• areas of raised earthworks and landscape and ecological planting areas to screen the scheme and reduce adverse ecological effects; and</li> <li>• provision of a balancing pond to the east of the scheme, with a maintenance access taken from Crackley Lane.</li> </ul>	<p>A modification has been made to the vertical alignment of the HS2 route as it passes through the Burton Green 'green' tunnel, with a lowering at the south portal and an increase in height as the HS2 route emerges from the north portal. The tunnel will also be extended by 50m at each end.</p> <p>Additional components of this element of the amendment include:</p> <ul style="list-style-type: none"> <li>• tunnel portal buildings will be relocated to the north-east of the HS2 route with access from Bockendon Road;</li> <li>• additional landscaping works at the portals to improve visual screening;</li> <li>• relocation of a balancing pond from the east to the west of the HS2 route;</li> <li>• Footpath W168 underpass will be located 100m north out of Broadwells Wood and extended mitigation earthwork adjacent to the footpath;</li> <li>• the Kenilworth Greenway will be realigned beneath Cromwell Lane instead of the at-grade crossing; and</li> <li>• incorporation of landscape mitigation earthworks to improve screening of the railway for users of the Kenilworth Greenway.</li> </ul>

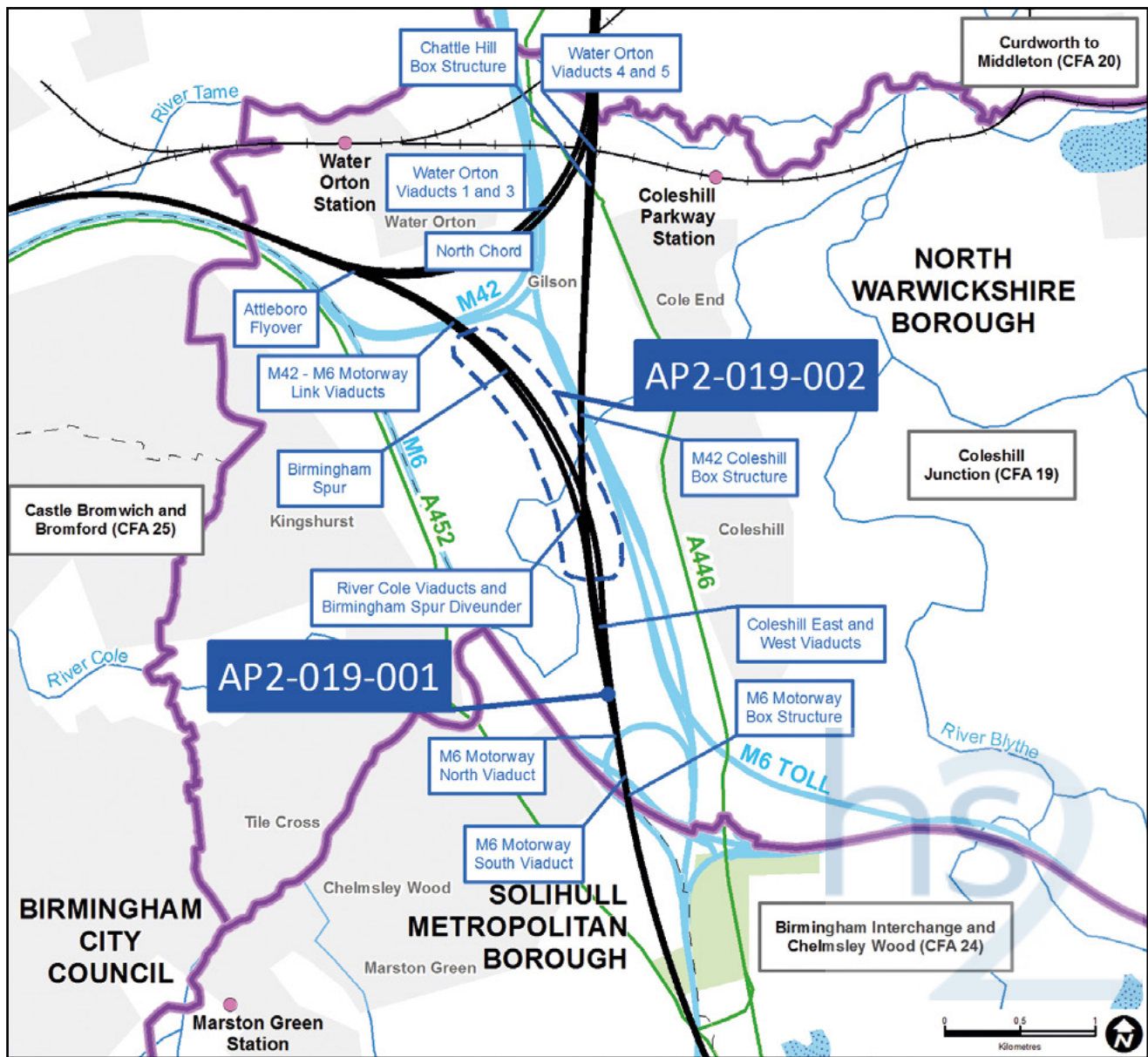
Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Revision to the design and access to compounds in the Waste Lane/Burton Green area</p>	<p>The Bill provides for the identification of land for the Burton Green 'green' tunnel south portal satellite construction compound on the west side of the HS2 route, with construction traffic access from Balsall Common direction via Hob Lane/Red Lane.</p> <p>The Cromwell Lane satellite construction compound would be located to the north-west of Cromwell Lane, with access from the Balsall Common direction and via Cromwell Lane.</p>	<p>This element of the amendment relocates the Burton Green 'green' tunnel south portal satellite construction compound to the east side of the HS2 route with access via Bockendon Road. It will be increased in size and will be used for longer. The compound will be used for both civil works and rail systems works.</p> <p>The Cromwell Lane satellite construction compound is relocated northwards with access from the B4101 Waste Lane along the Kenilworth Greenway. The compound will be increased in size to cover the proposed construction activity.</p> <p>These modifications will remove the need for construction traffic to be routed through Burton Green via Hob Lane, Cromwell Lane and Red Lane. Use of the B4101 Waste Lane by construction traffic will continue to be necessary.</p>
<p>Relocation and reduction in size of the material transfer stockpile area adjacent to Broadwells Wood</p>	<p>The Bill provides for land to the north-west of Broadwells Wood, between the route and the Kenilworth Greenway, to be used temporarily during construction as a material transfer stockpile area. Access to the area is from Crackley Road.</p>	<p>The revised scheme relocates the material transfer stockpile area to land immediately east of the HS2 route, and north of Broadwells Wood. The overall size of the material transfer stockpile area will be reduced.</p> <p>Access to the area will be via Bockendon Road. The haul road that follows the alignment of the HS2 route will be used by heavy goods vehicles.</p> <p>The construction and maintenance access from Bockendon Road will be aligned with Footpath W168a which will be widened to accommodate the proposed track.</p> <p>An additional 0.9ha of land will be required temporarily which is outside the existing powers of the Bill.</p>
<p>Replacement of propped retaining walls with an earthwork cutting adjacent to Berkswell substation</p>	<p>The Bill provides for a retaining structure to the west of the Berkswell substation.</p> <p>The Bill also provides for a permanent underground diversion of power lines, including a section along Footpath M186 and works to connecting overhead power lines elsewhere in the Burton Green area.</p>	<p>The revised scheme involves the replacement of the propped retaining walls at Berkswell substation with an earthwork cutting beneath the overhead power lines adjacent to Berkswell substation.</p> <p>The works will require approximately 1.6ha of additional agricultural land permanently, due to the additional width of the cutting slope along the western side of the HS2 route.</p>
<p>Relocation of the Waste Lane east and westbound roadhead to the north of Waste Lane</p> <p>This applies to both CFA18 and CFA23</p>	<p>The Bill provides for a roadhead to be sited on land south of B4101 Waste Lane on either side of the HS2 route in the vicinity of Little Beanit Farm.</p> <p>Access to the roadhead will be directly from the B4101 Waste Lane, with construction traffic routed from the M42 via the A45, the A452 Kenilworth Road, Kelsey Lane and Waste Lane.</p>	<p>The Waste Lane east and westbound roadhead will be relocated to the site of the material transfer stockpile area, which is proposed at Beechwood Farm to the north in CFA23. Access will continue from the B4101 Waste Lane.</p>

Amendment	Description of the original scheme	Description of the AP2 revised scheme
Revised mitigation earthworks and planting south of the Burton Green tunnel	The Bill provides for raised earthworks and landscape mitigation planting along the east side of the Bockendon cutting. These features were designed to provide visual screening to the south of Burton Green, but will result in the permanent loss of agricultural land.	The revised scheme proposes a shallower slope on the outer side of the raised earthworks and a reduction in the extent of landscape mitigation planting. This will enable more land on the east side of the HS2 route to be returned to agricultural use.
Additional visual screening of auto-transformer feeder station for residents on Hodgett's Lane	The Bill provides for planting to the south-east of the auto-transformer feeder station between Hodgett's Lane and the HS2 route to supplement existing vegetation. The planting would be along the eastern boundary of the auto-transformer feeder station, parallel with Hodgett's Lane.	Additional landscape planting is proposed to provide further permanent visual screening of the auto-transformer feeder station to limit views from the closest residential properties on Hodgett's Lane.  Additional planting is also proposed beside the access track that runs adjacent to the auto-transformer feeder station's eastern boundary and along its southern boundary to reinforce the effectiveness of the screening.
Reclassification of the realigned Footpath M187 to a permissive bridleway	The Bill provides for the permanent realignment of Footpath M187 to the south to connect with the realigned Kenilworth Greenway.	The permanently realigned Footpath M187 will be upgraded to permissive bridleway status to compensate for the loss of the permissive bridleway through the proposed auto-transformer feeder station' site to the north. This will enable access to the realigned Kenilworth Greenway for horse riders as well as pedestrians and cyclists. The revised alignment will be amended slightly to allow for an increase in width from 1.5m to 3m.
Relocation of Footpath M186 accommodation overbridge in the vicinity of Berkswell sub-station and Little Beanit Farm	The Bill provides for the permanent realignment of Footpath M186 to a new shared footpath/accommodation overbridge to prevent footpath severance and maintain agricultural land holding connectivity between the Berkswell substation and Little Beanit Farm.  The design of the overbridge would, however, require farm traffic to cross the path of the realigned Kenilworth Greenway.	This element of the amendment will remove potential conflict between users of the Kenilworth Greenway and farm traffic/operations. This amendment will relocate Footpath M186 accommodation overbridge northwards to facilitate provision of a two span structure to cross over both the Kenilworth Greenway and the railway, similar in design to the B4101 Waste Lane overbridge.
Provision of a stepped ramp to connect Footpath M184 to the Kenilworth Greenway in the vicinity of Little Beanit Farm	The Bill provides for the realignment of B4101 Waste Lane resulting in the loss of the connection between Footpath M184 and Waste Lane.	The revised scheme provides for the reconnection of Footpath M184 and the B4101 Waste Lane via a stepped ramp down to the Kenilworth Greenway.
Relocation of the temporary realignment of the Kenilworth Greenway at the crossing of B4101 Waste Lane	The Bill provides for the temporary diversion of Kenilworth Greenway which encroaches into the front garden of a residential property named Dragonflies, preventing access to the property's garage and affecting mature boundary vegetation.	The temporary diversion for the Kenilworth Greenway will be realigned to cross the B4101 Waste Lane approximately 40m to the east. This design change will avoid encroachment into the boundary of Dragonflies.

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Figure 25: Approximate location of AP2 amendments for Community Forum Area 19 - Coleshill Junction



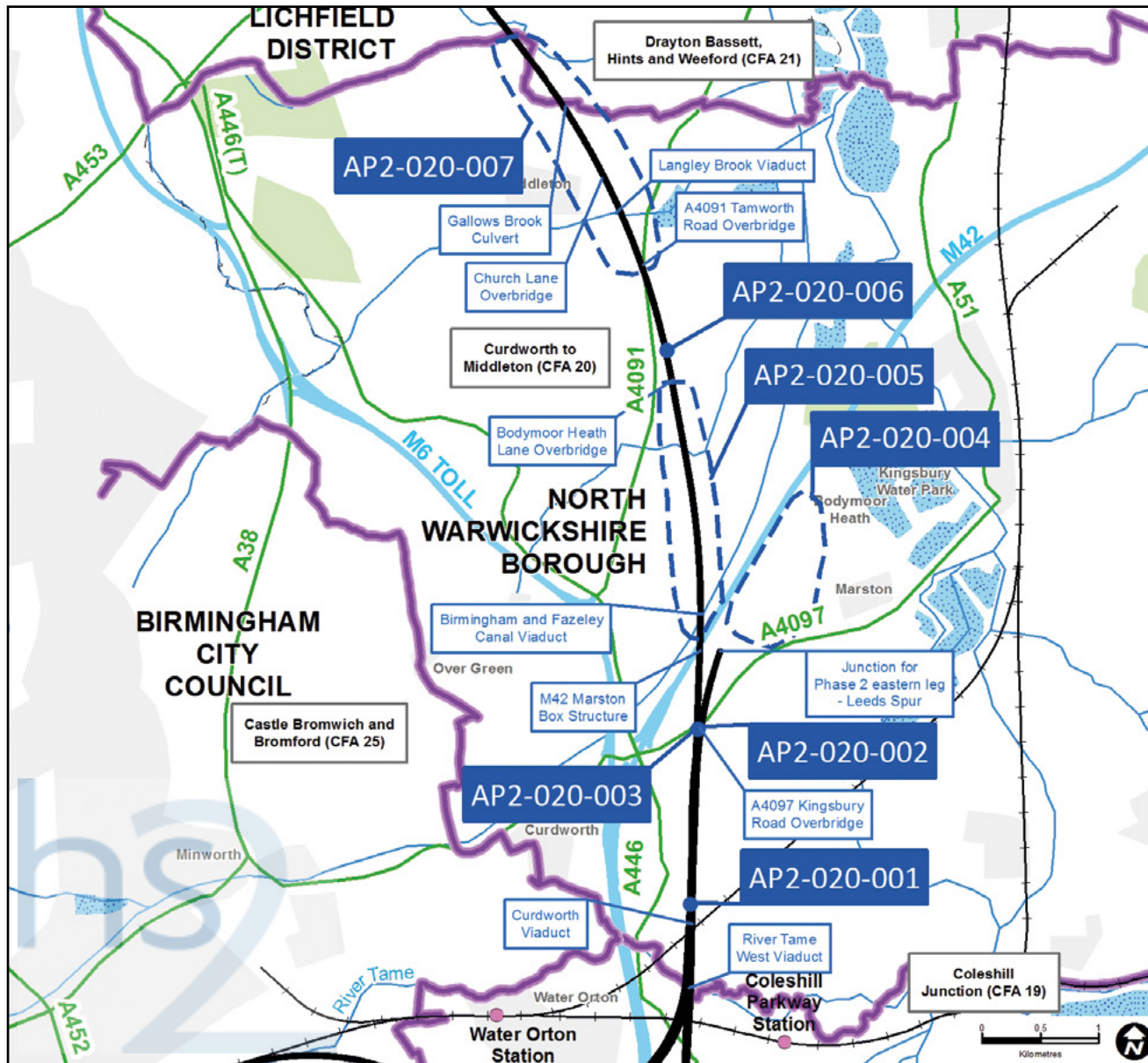
**Table 27: Summary of amendments within CFA19 - Coleshill Junction**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Access to agricultural land between the River Cole, the M6 and the HS2 route  (AP2-019-001)</p>	<p>The Bill provides for an access track between the River Cole, M6 and the HS2 route, for the realigned Footpath M77/ M72 under the new viaducts, as well as the access to M77 Package substation, maintenance access points and a balancing pond.</p>	<p>Permanent access will be provided to the farmland that would have been cut off by the HS2 route. The proposed access track will be extended to the south-east to connect to the field boundary, close to the current farm access route. The access route will provide shared access for farm and HS2 maintenance vehicles and will be extended by approximately 70m to the boundary of the area of land that would have been cut off by the original scheme.  Additional access rights outside the existing powers of the Bill are required.</p>
<p>Coleshill Manor amendments  AP2-019-002:  The Coleshill Manor amendments collectively require 2.1ha additional land.</p>		
<p>Revised alignment of Manor Drive and segregation of construction traffic</p>	<p>The Bill provides for the diversion of Manor Drive from a T junction with the B4114 Birmingham Road, to closely follow the bottom of the embankment to the Birmingham Spur and cross over the realigned River Cole on a new bridge.</p> <p>Temporary access arrangements would need to be provided during the diversion of the River Cole.</p> <p>Landscape planting would be provided on the west side of the road.</p> <p>The existing roundabout between the B4114 Birmingham Road and Manor Drive would be left in place for access to farmland and for HS2 maintenance.</p> <p>A roadhead and several satellite construction compounds would be accessed from Manor Drive, and construction traffic would share the use of Manor Drive with private users.</p> <p>A haul road would be located between Manor Drive and the HS2 railway earthworks. Haul road traffic would join Manor Drive to use the new bridge over the River Cole.</p> <p>Manor Drive/River Cole West viaducts satellite construction compound would be located to the west of the Birmingham Spur north of the River Cole and accessed via M42 Coleshill box structure satellite construction compound.</p> <p>Footpath M58 is diverted onto Manor Drive.</p>	<p>Alignment of Manor Drive will be revised to retain more open views on the approach to the Coleshill Manor office campus and to segregate campus traffic from HS2 construction traffic.</p> <p>From a new roundabout with the B4114 Birmingham Road, Manor Drive will be diverted approximately 30m to the west to follow the HS2 earthworks and landscape planting positioned between the drive and the earthworks.</p> <p>A bridge will carry the diverted Manor Drive over the River Cole diversion at a location where this will also cross the existing River Cole, avoiding the need for further temporary arrangements.</p> <p>The existing roundabout between the B4114 Birmingham Road and Manor Drive will be removed and replaced with a priority junction for access to farmland and for HS2 maintenance.</p> <p>Access on the existing Manor Drive to the satellite construction compounds and roadhead will only be permitted once the new Manor Drive is constructed and brought into use.</p> <p>A haul road will be provided on the east side of the HS2 route and a temporary bridge will be provided to cross the River Cole.</p> <p>Manor Drive satellite construction compound for the construction of the new drive will be located to the west of the existing Manor Drive approximately 250m north of the proposed B4114 Birmingham Road roundabout.</p> <p>Footpath M58 is diverted onto Manor Drive.</p>

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Realignment and provision of footpaths in the parish of Coleshill</p>	<p>The Bill provides for a new length of footpath to join the M54/M57 footpaths to the north with Footpath M58 to the south.</p>	<p>The revised scheme will relocate the new length of proposed footpath to join footpaths M54/M57 to the north with Footpath M58 to the south to avoid the Coleshill Manor Office Campus. It will be routed under the River Cole viaduct, alongside the east side of the Birmingham Spur up to Gilson Drive, and will then follow the drive until it meets Footpath M54.</p>
<p>Reconfiguration of environmental mitigation and landscape planting near Coleshill Manor</p>	<p>The Bill provides for planting on both sides of the Birmingham Spur to provide visual screening and to tie into the area of woodland known as 'The Belt' (a local wildlife site), which will be crossed by the HS2 route. The planting would also tie in with existing planting around Coleshill Manor Office Campus, including the woodland known as 'The Catmore'.</p>	<p>Removal of planting between the foot of the landscape earthworks on the west side of the HS2 route, east of Coleshill Manor Office Campus.</p> <p>Removal of a westward section of woodland planting, extending from the foot of the landscape earthworks on the west side of the HS2 route, immediately adjacent to 'The Belt'.</p> <p>Woodland planting on the west side of the Birmingham Spur will be relocated approximately 100m north-west of 'The Belt'. This will create new woodland habitat of approximately 1.2ha to compensate for losses of woodland from 'The Belt'.</p>

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Figure 26: Approximate location of AP2 amendments for Community Forum Area 20 - Curdworth to Middleton



**Table 28: Summary of AP2 amendments within CFA2o - Curdworth to Middleton**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Alternative temporary diversion of Faraday Avenue (AP2-020-001)</p>	<p>The Bill provides for the lowering of Faraday Avenue to pass under the HS2 route via an underbridge. A temporary road diversion to the north would be implemented to provide a link between the A446 and Faraday Avenue. Under this junction arrangement, Faraday Avenue will be restricted to a single lane in each direction during construction.</p>	<p>Businesses along Faraday Avenue rely on the dual two lane carriageway as their sole commercial access. Through discussions with Warwickshire County Council and a number of companies in the business park, it was determined that the temporary arrangement described in the main ES would not be sufficient.</p> <p>An alternative temporary diversion has been designed which will connect into the existing roundabout rather than a temporary T-junction, maintaining a minimum of three lanes over two carriageways at all times. At other times all four lanes will remain open although traffic management may be used.</p> <p>An additional 26m<sup>2</sup> of land adjacent to the A446 Lichfield Road/Faraday Avenue roundabout will be temporarily required outside of the existing Bill powers.</p>
<p>Provision of access to severed land at Dunton Hall Farm (AP2-020-002)</p>	<p>The Bill provides for the HS2 route to pass across agricultural land associated with Dunton Hall to the east of the HS2 route. As a result an area of agricultural land would be cut off as no direct access would be provided from the road.</p>	<p>This amendment includes provision of two accesses to the area of land associated with Dunton Hall that would have been cut off by the original scheme.</p> <p>The first access will provide a connection for agricultural use only from the A4097 Kingsbury Road. The second access will provide a connection from Hams Lane to accommodate traffic associated with existing non-agricultural uses on this land. The access at Hams Lane will require additional land on both a temporary and permanent basis.</p> <p>The amendment will require an additional of 384m<sup>2</sup> of land on a permanent basis to accommodate the access to Hams Lane.</p>
<p>Revised access to Mullensgrove Farm (AP2-020-003)</p>	<p>The Bill provides for seven buildings at Mullensgrove Farm to be demolished and much of the holding to be acquired temporarily or permanently. The A4097 Kingsbury Road overbridge main construction compound, with worker accommodation would be provided west of the HS2 route.</p>	<p>The temporary worker accommodation within the A4097 Kingsbury Road overbridge main construction compound will be relocated to the west, away from the A4097 Kingsbury Road, so as not to prevent the future replacement of the demolished Mullensgrove Farm buildings by private planning application.</p> <p>Approximately 0.8ha of additional land is required temporarily to accommodate the new location for the temporary worker accommodation.</p>

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Kingsbury Road railhead area amendments (AP2-020-004)</p> <p>Kingsbury Road railhead area amendments will result in a net decrease of 0.35ha of land on a temporary basis and a net increase of 5.4ha of land required on a permanent basis, primarily as a result of the additional land needed for revised landscaping earthworks and mitigation planting proposals.</p>		
Amendments to landscape earthworks and planting	The Bill provides for mitigation planting for the area surrounding the north, east and southern portions of the Kingsbury Road railhead.	<p>The landscape mitigation design at the Kingsbury Road railhead has been enhanced to provide additional visual screening.</p> <p>Landscape mitigation will be provided around the area of the Leeds Spur, the headshunt track, reception sidings and the balancing ponds. Landscape mitigation earthworks around the railhead (north, east and southern sides) will be raised up to a maximum of 6m above rail level.</p> <p>Seeney Lane will be realigned to the north of the Seeney Lane route described in the main ES, to run along the bottom of the landscape earthworks to the north of the Kingsbury Road railhead.</p>
Revisions to the balancing pond	The Bill provides for a balancing pond to the north of the railhead.	The amendment provides for the division of the balancing pond into two and reorientation of the ponds into the area east of the Leeds Spur. This will allow for rearrangement of the pond design on the sloping ground alongside the headshunt track rather than across the slope.
Reclassification of Seeney Lane	The upgrading of Seeney Lane bridleway M23a to a byway open to all traffic to replace connectivity across the M42 lost by the closing of Marston Lane to vehicular traffic.	If upgraded to a byway open to all traffic, Seeney Lane could become a route for unwanted cut-through traffic. Seeney Lane will therefore be retained as a bridleway with private access, rather than a byway open to all traffic.
Temporary diversion of Footpath M23	The Bill provides for the closure of Footpath M23, which runs through the railhead area, until the permanent diversion of the footpath via Seeney Lane overbridge is available following closure of the Kingsbury Road railhead.	The amendment includes a temporary alternative alignment of Footpath M23 from the A4097 Kingsbury Road around the railhead so the footpath can remain open throughout construction. Footpath M23 will be routed around the east side of the railhead following the base of the revised landscape earthworks connecting to the existing Seeney Lane bridleway near the north-east corner of the railhead.

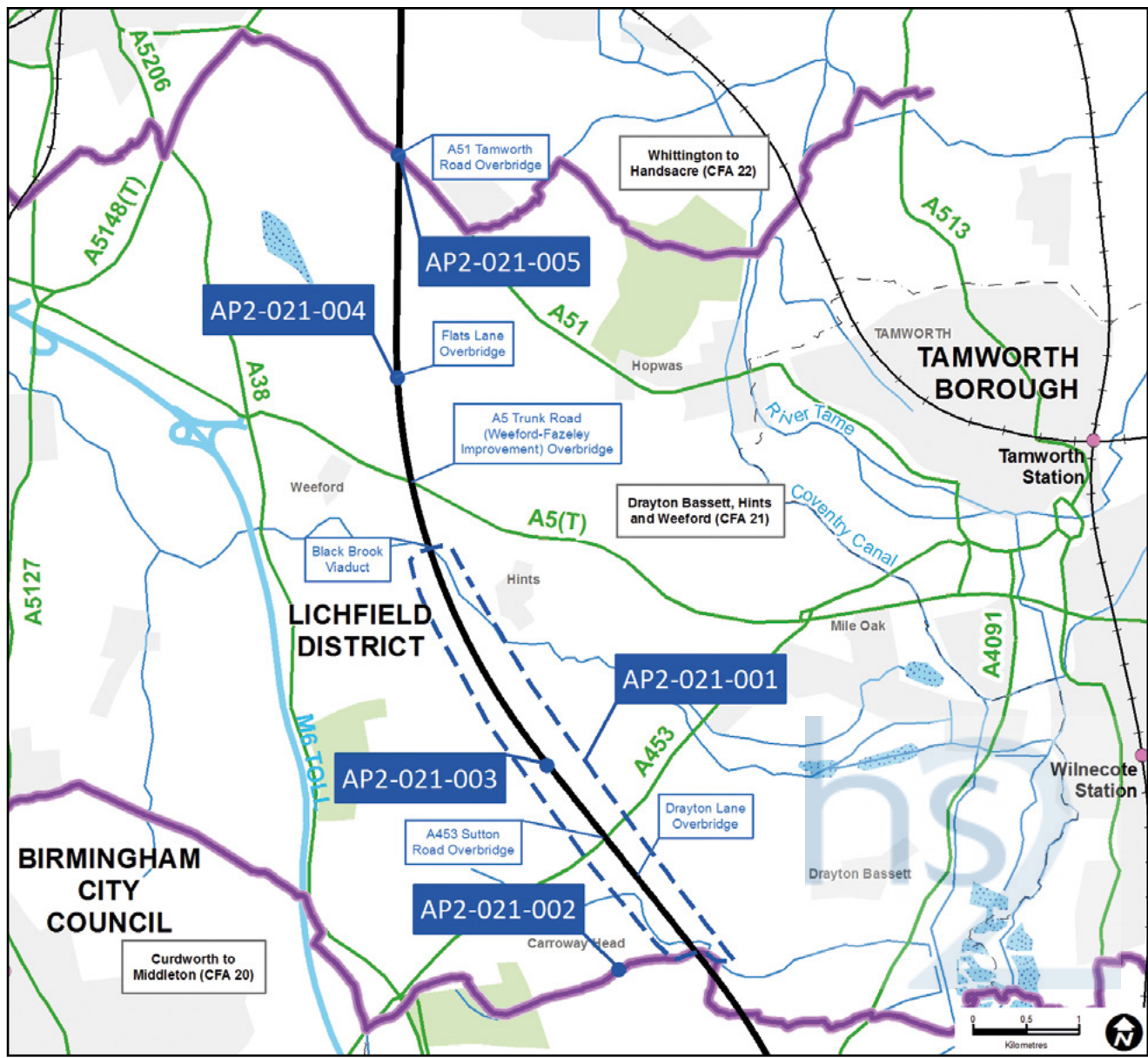
Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>North Wood area amendments (AP2-020-005)</p> <p>The North Wood area amendments will result in a net reduction of 4.3ha of land required on a temporary basis and a net increase of 3.2ha of land required on a permanent basis, primarily as a result of the revisions to the landscape earthworks and planting.</p>		
<p>Revised access route to the Cuttle Mill midpoint auto-transformer station and balancing pond to the east of Cuttle Mill Fishery</p>	<p>The Bill provides for Cuttle Mill midpoint auto-transformer station to be located to the west of the HS2 route, north of the Birmingham and Fazeley Canal, to the south of Cuttle Mill Fishery. Access to the midpoint auto-transformer station as well as a balancing pond would be provided from the A4091 Tamworth Road, via Cuttle Mill Lane, running to the south-west of the Cuttle Mill Fishery.</p>	<p>An alternative access route has been identified which will result in less land being removed from agricultural use in this area.</p> <p>The access to the midpoint auto-transformer station and balancing pond will be realigned to the east of Cuttle Mill Fishery, following the western toe of the North Wood Embankment landscape earthworks.</p>
<p>Revised access route to the balancing pond near North Wood</p>	<p>The Bill provides for access to the proposed balancing pond north of North Wood to be extended eastward from the A4091 Tamworth Road, following the southern boundary of North Wood and approaching the balancing pond from the south-west corner.</p>	<p>The access would have been located in a field boundary strip set aside as part of an environmental stewardship scheme. The access would have affected the edge of an ancient woodland.</p> <p>The access to the balancing pond to the north of North Wood will be realigned to follow an existing field boundary to the north and avoid the stewardship and ancient woodland areas.</p>
<p>Revisions to the landscape earthworks and planting between Cuttle Mill Fishery and Bodymoor Heath Lane</p>	<p>The Bill provides for permanent mitigation planting surrounding Cuttle Mill Fishery to compensate for the loss of ancient woodland from North Wood LWS; extending northward along the east side of the HS2 route.</p>	<p>It has been identified that the mitigation planting could be relocated to an area of lower quality agricultural land within the same agricultural holding to reduce the amount of higher quality agricultural land removed from use. The landscape earthworks and planting will therefore be revised on the east side of the route northward from Cuttle Mill Fishery to Bodymoor Heath Lane.</p>



Amendment	Description of the original scheme	Description of the AP2 revised scheme
Reduction in the width of the North Wood landscape earthworks	The Bill provides for landscape earthworks to be located between the Cuttle Mill underbridge and the North Wood Scheduled Monument, on the east side of the HS2 route near the North Wood embankment.	It has been identified that the outer slope of the landscape earthworks on the east side of the HS2 route at this location could be made steeper to minimise the amount of land temporarily disturbed and maximise the area of level agricultural land available for use on a permanent basis. The outer slope of the landscape earthworks will be landscape planted as the steeper slopes will make this area unsuitable for return to agricultural use.
Revised diversion of Footpath T17 at Bodymoor Heath Lane (AP2-020-006)	The Bill provides for Footpath T17 to be permanently realigned at Hunts Green Farm on the west side of the HS2 route along the realigned Bodymoor Heath Lane and over the realigned Bodymoor Heath Lane overbridge, reconnecting with the existing route of Footpath T17 on the east side of the HS2 route.	<p>It has been identified that a longer section of the existing footpath could be provided away from Bodymoor Heath Lane, which would improve connections to the local footpath network for leisure users.</p> <p>Footpath T17 will run along its existing alignment for a longer stretch on the western side of the HS2 route, then southward within the proposed landscape planting parallel to the A4091 Tamworth Road. The footpath will cross over the diverted Bodymoor Heath Lane overbridge to the east and then run northwards within the planting on the east side of the route, re-joining the existing Footpath T17 alignment at the area proposed for wetland habitat creation in the main ES.</p> <p>A shorter alternative route, which uses Bodymoor Heath Lane for a greater length will be provided for non-leisure users. The amendment will require a small area of additional land on a temporary and permanent basis. This diversion length will be approximately 160m, which is shorter than the diversion reported in the main ES.</p>

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Middleton area amendments (AP2-020-007)</p> <p>The Middleton area amendments will result in a net reduction of 3.1ha of land required on a temporary basis and a net reduction of 0.15ha of land required on a permanent basis, primarily as a result of the lowering of the HS2 route allowing the false cutting embankments to be reduced in width and revisions to planting.</p>		
<p>Lowering of the alignment of the HS2 route northwards of Middleton</p> <p>(continuing into CFA21 Drayton Bassett, Hints and Weeford AP2-021-001)</p>	<p>The Bill provides for the HS2 route between Park Lane, Middleton and CFA21) to alternate between cutting and embankment. Planting and landscape earthworks were proposed throughout this section. This amendment addresses only the section of the scheme within CFA20.</p> <p>The Bill included a viaduct with five spans approximately 90m long over Langley Brook (Langley Brook viaduct), an embankment approximately 120m long (Church Lane embankment) with a height of approximately 5m, and an embankment approximately 1.1km long (Trickley Coppice embankment) of varying heights extending just past Gallows Brook. Church Lane would be diverted to the north onto a new overbridge.</p>	<p>It has been identified that the section of HS2 route between Park Lane, Middleton and CFA21 could be lowered by a maximum of 3.3m to reduce the environmental impact of the scheme.</p> <p>The viaduct over Langley Brook will be lowered and shortened to 40m long, comprising three spans. The HS2 route will be lowered by approximately 0.75m at the southern end of the Langley Brook viaduct. At the Church Lane embankment, the HS2 route will be lowered by approximately 1.1m and the Church Lane overbridge lowered by approximately 2.1m. At the boundary with CFA21, the HS2 route will be lowered by approximately 2.5m to reduce visual intrusion and noise.</p> <p>To the north of Langley Brook viaduct, up to the CFA21 boundary, landscape earthworks will be adjusted to fit the new vertical alignment. The lowering of the HS2 route will allow earthworks to be generally reduced in width leading to a reduction in the land and earthmoving required.</p>
<p>Relocation of Church Lane overbridge satellite compound and balancing pond</p>	<p>The Bill provides for Church Lane overbridge satellite construction compound to the west of the HS2 route on the south side of Church Lane. A balancing pond would be provided to the east of the HS2 route.</p>	<p>The Church Lane overbridge satellite construction compound will be relocated to the east side of the HS2 route, south of Church Lane, to move the construction activities away from the village of Middleton. The balancing pond will be relocated to the same location as the construction compound adjacent to the HS2 route, immediately south of the realigned Church Lane.</p>
<p>Revision to planting to the south of Gallows Brook, west of the HS2 route</p>	<p>The Bill provides for Gallows Brook to be culverted below a proposed HS2 embankment, with an associated diversion along the western edge of the HS2 route.</p>	<p>It has been identified that the shape of the remaining land form to the west of the HS2 route would be difficult to farm productively. The mitigation planting design will therefore be revised to the south of Gallows Brook on the west side of the HS2 route, to include grading of earthworks such that they mirror the existing field boundaries. This revision will be part of the overall earthworks associated with AP-020-007.</p>

Figure 27: Approximate location of AP2 amendments for Community Forum Area 21 - Drayton Bassett, Hints and Weeford



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**Table 29: Summary of AP2 amendments within CFA21 - Drayton Bassett, Hints and Weeford**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Drayton Bassett to Hints area amendments (AP2-021-001) These amendments will require an additional area 3.6ha of land.</p>		
<p>Lowering of the alignment of the HS2 route to the west of Drayton Bassett (continuing from the lowering in CFA20 Curdworth to Middleton AP2-020-007)</p>	<p>The Bill provides for the HS2 route to pass over the Gallows Brook floodplain on the proposed Drayton Bassett viaduct, which will extend to 155m in length 5.8m above ground level.  A balancing pond will be positioned to the north-east of this viaduct.</p>	<p>The vertical alignment of the HS2 route will be lowered across the Gallows Brook floodplain at the interface with CFA20 by a maximum of 3.3m lower than the original scheme which will reduce visual intrusion and noise. The previously proposed viaduct and approach embankments will be replaced by an embankment with two underbridges (each spanning 10m).  The balancing pond, 100m south of Oak Dairy Farm will be expanded in area from 0.5ha to approximately 0.9ha, compensating for the removal of a previously proposed balancing pond south of Bangle Lane overbridge. The vertical alignment of the HS2 route will be lowered north of the Gallows Brook floodplain, with landscape earthworks and planting adjusted accordingly.</p>
<p>Lowering of Drayton Lane and Shirrall Drive</p>	<p>The Bill provides for the HS2 route to proceed into cutting, passing under Drayton Lane. Drayton Lane would be realigned across the HS2 route approximately 150m to the south of its current alignment. Shirrall Drive would be diverted at its eastern end to form a priority junction with the Drayton Lane realignment on the west side of the HS2 route.</p>	<p>The lowered alignment of the HS2 route described above allows the vertical alignment of Drayton Lane and Shirrall Drive to be lowered by approximately 3.2m. The horizontal alignment of Drayton Lane remains unchanged from the original scheme. The horizontal alignment of Shirrall Drive is moved slightly westwards to improve sight lines for road users.</p>

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Lowering of the alignment of the HS2 route to the west of Hints village</p>	<p>The Bill provides for the HS2 route to continue in cutting under the A453 Sutton Road, Drayton Bassett Footpath 11 and Bangley Lane flanked by combinations of hedgerow habitat creation, landscape mitigation planting, and landscape earthworks. A balancing pond would be located south east of Bangley Lane overbridge, linked to Bangley Lane by an access road.</p> <p>North of Bangley Lane, an underpass 3.3m in width with 2.6m clearance would be provided for Hints Footpath 9. Hints Footpath 8 would be diverted to share this crossing.</p> <p>The HS2 route will then cross under Hints Footpaths 13 and 14, then over Brockhurst Lane (also known locally as Rookery Lane) as it curves to the north and passes to the west of Hints.</p> <p>Between Roundhill Wood cutting and Brockhurst Lane underbridge the HS2 route will be in cutting with a depth of up to 15m below ground level through Roundhill Wood. The HS2 route will continue in cutting approximately up to Brockhurst Lane. Land will be required from the western edge of Roundhill Wood and from the eastern edge of Rookery Wood.</p> <p>Hints Footpaths 13 and 14 will be diverted, crossing the HS2 route on a green overbridge. Hints Footpath 11 will be diverted to Brockhurst Lane.</p> <p>The HS2 route then continues on embankment, crossing over Brockhurst Lane, reaching a maximum height of approximately 7m above ground level to Black Brook viaduct.</p> <p>Brockhurst Lane would be closed for a period of approximately one year during construction. Following the construction of the scheme, Brockhurst Lane would have a height restriction of 2.7m.</p> <p>Landscape earthworks will be provided on the east side of the HS2 route and landscape planting is provided on both sides of the HS2 route. Ecological mitigation areas will also be provided on both sides of the HS2 route.</p>	<p>In order to achieve the required drainage flows the northern section of Drayton Lane cutting rises approximately 0.4m above the original scheme. Correspondingly, the Bangley Lane overbridge increases in height slightly and the balancing pond located to the south-east is no longer required.</p> <p>The underpass for Hints Footpath 9 to the north of Bangley Lane will be modified to allow use by agricultural vehicles.</p> <p>The vertical alignment of the HS2 route adjacent to the west of Hints village will be lowered by up to approximately 3m. This will visually screen the scheme and reduce noise. A retaining wall will be introduced to reduce the amount of land lost at Rookery Wood by 1.1ha.</p> <p>Brockhurst Lane will remain open and will be realigned to the south of Rookery Wood, crossing the HS2 route on a green overbridge south of the current Brockhurst Lane, without a height restriction.</p> <p>Hints Footpaths 13 and 14 will be realigned to cross the HS2 route on the new Brockhurst Lane green overbridge.</p> <p>A false cutting to the east of the HS2 route will screen the realigned Brockhurst Lane from the village of Hints which will enhance landscape mitigation and reduce noise.</p>

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Additional land for utility works between Drayton Lane and Coppice Lane (AP2-021-002)</p> <p>Note that this amendment was described and assessed within AP1. It appears again within AP2 due to a drawing error on a Bill plan within the AP1 submission</p>	<p>Original scheme: The Bill provides for temporary access to facilitate earthing at three pylons running northwards from Gallows Brook to Drayton Lane.</p> <p>AP1 revised scheme: Access via Upper House Farm to a further pylon 100m west of the farm for earthing works was not included in the Bill but was included and assessed in the main ES. The temporary access via Upper House Farm to the pylon 100m west of the farm has now been added to the Bill plans. Temporary access off Coppice Lane to facilitate earthing of two additional pylons to the north and south of Coppice Lane. Temporary diversion of fibre optic cable within a 100m wide corridor of land running along the line of the pylons between Coppice lane and Drayton lane for approximately 1.4km.</p>	<p>This amendment was described and assessed in full within the AP1 ES, in which it was given a reference number AP1-021-040. The amendment appears within the AP2 revised scheme, with reference number AP2-021-021, in order to correct a printing error within hard copy versions of the published Bill (Bill plan replacement sheet number 3-56a). The electronic version of this plan, published at the same time did not contain the error.</p>
<p>Permanent access rights required over Bangley Lane (private road) for maintenance access (AP2-021-003)</p>	<p>The Bill provides access for the purposes of maintenance to the balancing pond south of Bangley Lane via a HS2 access road from Bangley Lane, east of Bangley Lane overbridge. Access to drainage and landscape and ecological compensation areas would be achieved directly from Bangley Lane.</p>	<p>The Bill incorrectly assumed that Bangley Lane was a public highway. Provision of permanent access rights for the purposes of maintenance over approximately 1.6km of Bangley Lane (private road), west of the east end of the Bangley Lane diversion to the junction with the A453 Sutton Road are required.</p>
<p>Revision of HS2 drainage in the Swinfen cutting area (AP2-021-004)</p>	<p>The Bill provides for drainage design proposed for this area of the original scheme which was not described in detail within the main ES.</p>	<p>Amendments to improve the drainage design in the Swinfen cutting area will permanently require approximately 1.7ha of additional land compared to the original scheme. Amendments in this area include:</p> <ul style="list-style-type: none"> <li>• changes to drainage to the north of the A5;</li> <li>• ground reprofiling and removal of Swinfen Hall aqueduct;</li> <li>• altered culvert and outfall at Moor Covert; and</li> <li>• changes to drainage and new soakaway at Horsley Brook Farm.</li> </ul>
<p>Removal of balancing pond at Freeford Home Farm and revision of the access route to Ingleyhill and Horsley Brook Farms (AP2-021-005)</p>	<p>The Bill provides for a balancing pond immediately to the south of the A51 Tamworth Road, approximately 75m west of the HS2 route. A new access road to Ingleyhill and Horsley Brook farms would be provided from the existing Freeford Home Farm access through fields adjacent to the west of the HS2 route, which would be diverted around the balancing pond.</p>	<p>A balancing pond is no longer required at Freeford Home Farm, allowing the alignment of the Ingleyhill Farm and Horsley Brook Farm joint access road to be moved approximately 60m closer to the HS2 route, reducing its length by approximately 40m, to form a junction directly with Tamworth Road.</p> <p>The amended design requires less agricultural land than the original scheme.</p>

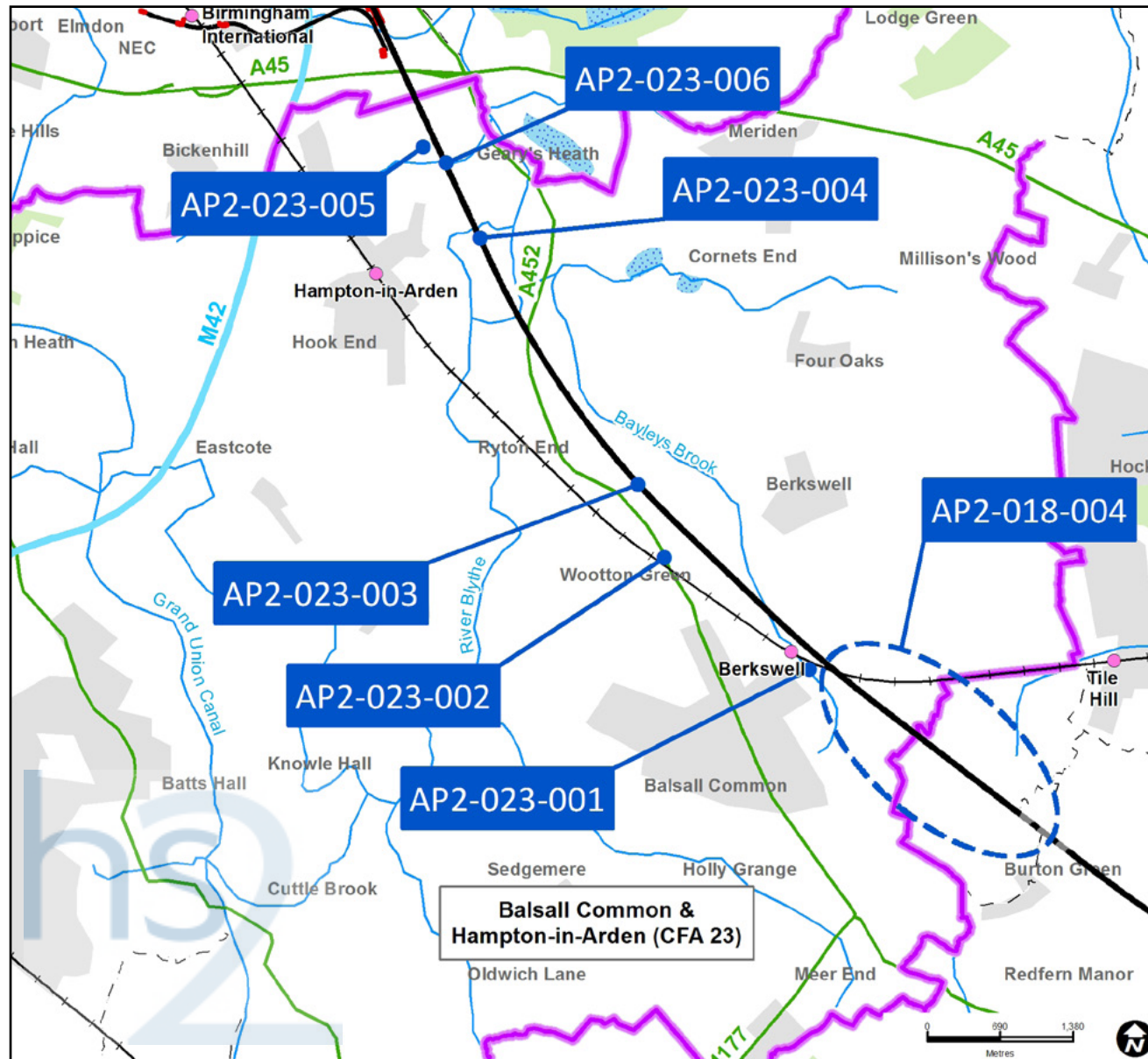


**Table 30: Summary of amendments within CFA22 - Whittington to Handsacre**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
Lichfield area amendments	<p>The Bill provides for the HS2 route to cross Whittington Heath Golf Club and proceed in a northerly direction. It will curve to the west, passing over the WCML, the South Staffordshire Line and the A38, to the east of Lichfield. Passing west of Fradley Business Park, the HS2 route will split to provide a spur for Phase Two of HS2 to Manchester, which will continue to just north of the Trent and Mersey Canal. The Phase One route will curve to the west on embankment, twice crossing over the Trent and Mersey Canal on viaduct, then Curborough Brook and through Ravenshaw Wood. The HS2 route will then pass over the existing A515, before connecting with the WCML to the south of Handsacre.</p> <p>An auto-transformer station will be located adjacent to Capper’s Lane and one will be located south-east of the Trent and Mersey Canal.</p> <p>The scheme will require the demolition of seven residential properties and Whittington Heath Golf Club in this area.</p> <p>Three main construction site compounds will be located at Capper’s Lane, A515 Lichfield Road and Handsacre. Twenty civil engineering and four rail system satellite construction compounds will be located in the area.</p> <p>Streethay construction sidings will receive bulk excavated material by rail and transfer onto vehicles for movement into the required locations for construction of the scheme.</p> <p>Four roads will be diverted or realigned. A section of Shaw Lane will be closed permanently.</p> <p>A number of utilities, including gas, water, telecommunications and electricity will be diverted.</p> <p>Landscape planting and ecological mitigation have been included within the scheme at a number of locations. For example, habitat creation will include a number of new woodlands to create linkage between existing woodland habitats adjacent to retained sections of Ravenshaw Wood, Black Slough and the Slaish.</p>	<p>Since publication of the main ES, there have been further refinements to the HS2 route arising from discussions with landowners and utility companies, parish, county and district councils.</p> <p>The revised scheme has been developed which lowers the HS2 route by a maximum of 22.3m from north of the A51 Tamworth Road to north of the A38, so that the HS2 route can run in cutting to the east of Lichfield and pass beneath the WCML, the South Staffordshire Line and the A38, instead of the original scheme alignment that ran on embankments and viaducts to cross above the existing transport infrastructure.</p> <p>The revised HS2 route will cross Whittington Heath Golf Club and proceed in a northerly direction. It will curve to the west, descending to pass under the WCML, the South Staffordshire Line and the A38, to the east of Lichfield. Passing further west of Fradley Business Park, the HS2 route will rise and split to provide a spur for Phase Two of HS2 to Manchester, which will continue to just north of the Trent and Mersey Canal. The Phase One route will curve to the west close to ground level, passing south of the Trent and Mersey Canal, crossing Curborough Brook on viaduct and through the southern area of Ravenshaw Wood. The HS2 route will then pass over the existing A515, before connecting with the WCML to the south of Handsacre.</p> <p>An auto-transformer station will be located adjacent to Capper’s Lane and one will be located south-east of the Trent and Mersey Canal.</p> <p>The project will require the demolition of two residential properties and Whittington Heath Golf Club in this area. Three main construction site compounds will be located at Capper’s Lane, A515 Lichfield Road and Handsacre. Sixteen civil engineering and eight rail system satellite construction compounds will be located in the area. Due to the reduced earthworks in this area, Streethay construction sidings are no longer required. Six roads will be diverted or realigned. A section of Shaw Lane will be closed permanently. A new road will be constructed to connect Shaw Lane to the A515 Lichfield Road.</p> <p>A number of utilities, including gas, water, telecommunications and electricity will be diverted. Landscape planting and ecological mitigation have been included within the project at a number of locations. For example, habitat creation will include a number of new woodlands to create linkage between existing woodland habitats adjacent to retained sections of Ravenshaw Wood, Black Slough and the Slaish.</p> <p>Following stakeholder engagement and design refinement, further changes in the AP2 revised scheme include:</p> <ul style="list-style-type: none"> <li>• an amended width and height of Whittington Footpath 16 underpass to permit use of the underpass by golf buggies and small maintenance vehicles;</li> <li>• provision of an access road, south of the A515 Lichfield Road for Ravenshaw Cottage;</li> <li>• a new road between A515 Lichfield Road and Shaw Lane to provide alternative access for Tuppenhurst Lane;</li> <li>• the inclusion of an area of land for landscape planting north of Shaw Lane on the west side of the WCML; and</li> <li>• relocation of a balancing pond and access at Handsacre from the west side to the east side of the HS2 route.</li> </ul>



Figure 29: Approximate location of AP2 amendments for Community Forum Area 23 - Balsall Common and Hampton-in-Arden



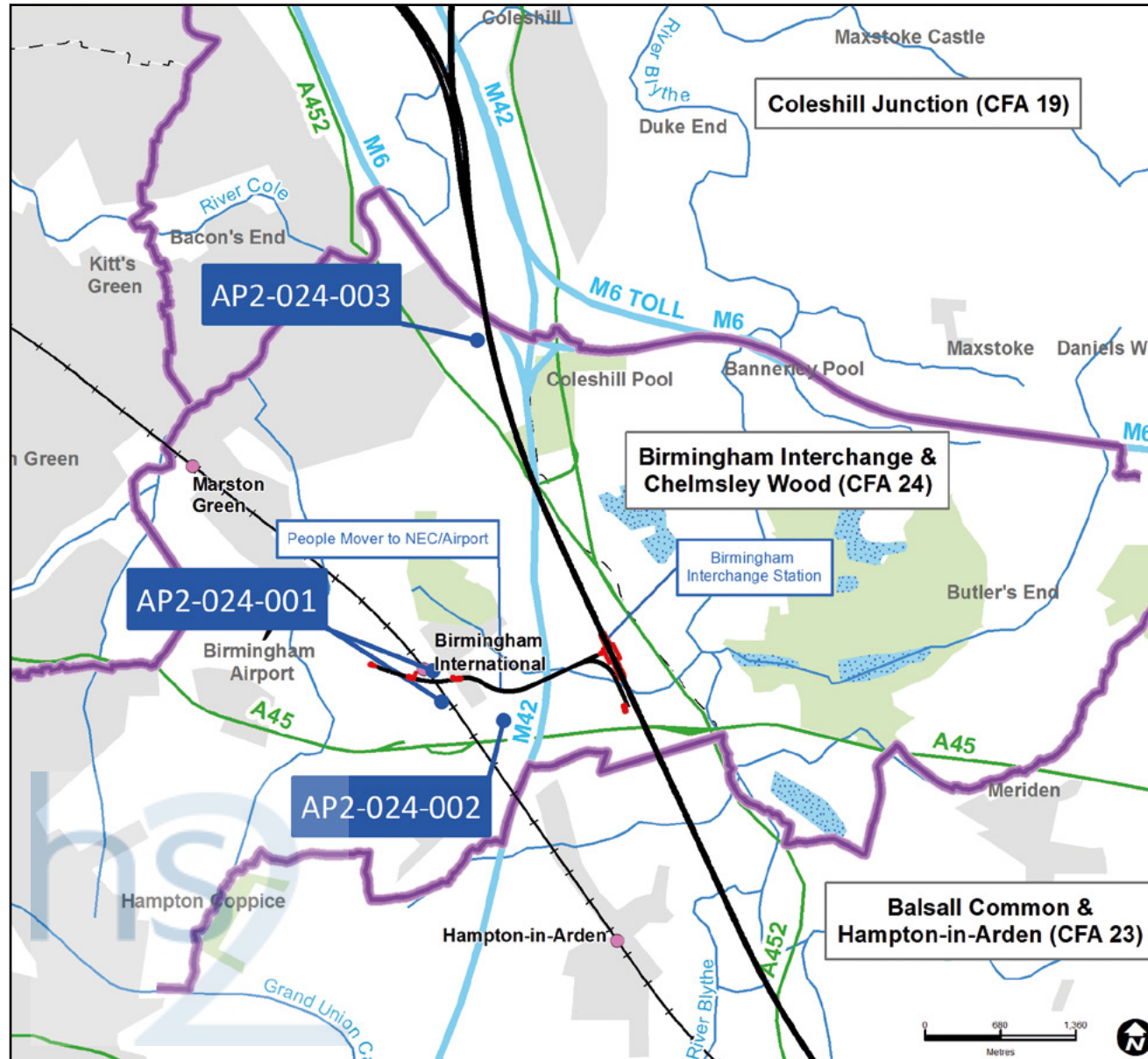
**Table 31: Summary of AP2 amendments within CFA23 - Balsall Common and Hampton-in-Arden**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Extension of the Kenilworth Greenway (AP2-023-001)</p>	<p>The Bill provides for approximately 850m of the Kenilworth Greenway to be used as a haul road transporting materials and waste from construction. The existing greenway route would be closed for approximately four years and three months with a temporary alternative route provided to the south-west of the existing Kenilworth Greenway, which is approximately 100m longer. To the north-west the alternative temporary route would join the existing Footpath M191 adjacent to Berkswell Station.</p> <p>Following construction, the Kenilworth Greenway would be reinstated along its existing alignment. A short section of the Kenilworth Greenway would be required occasionally during operation for maintenance access to proposed balancing ponds.</p>	<p>The reinstated Kenilworth Greenway will be extended by approximately 500m from the existing Kenilworth Greenway/ Footpath M191 intersection to improve connectivity between Burton Green, Berkswell and the Berkswell Station car park. The extension will be approximately 3.5m wide, with 1.5m verges and two passing places.</p> <p>Footpath M196 which runs alongside Berkswell Station car park will be permanently realigned to join the greenway extension. Footpath M191 will remain and will still provide an alternative access to the Kenilworth Greenway. Approximately 1.1ha of land required permanently for the Kenilworth Greenway extension is outside the existing powers of the Bill.</p> <p>The construction of the greenway extension will require the temporary closure of 470m of Footpath M196 between Station Road/Truggist Lane and the intersection of Footpath M196/M191. A temporary alternative route will be provided along Footpath M196, Barretts Lane, Sunnyside Lane, Station Road and Truggist Lane, adding an additional 860m to the proposed greenway route.</p> <p>During operation, maintenance access to the balancing ponds will be from the access road off Station Road/Truggist Lane and along the Kenilworth Greenway extension. Access will no longer be through Berkswell Station car park.</p>
<p>Retention of the temporary roundabout at Park Lane/A452 Kenilworth Road (AP2-023-002)</p>	<p>The Bill provides for a temporary roundabout during construction at the Park Lane/A452 Kenilworth Road junction to provide an improved junction arrangement to facilitate access to the Park Lane cutting main construction compound.</p>	<p>The temporary roundabout will now be retained post construction and form part of the operational scheme to improve traffic movements. A balancing pond and associated access track will be provided from the roundabout. An overhead power line currently above the location of the roundabout and a water main currently located within the central reserve of the A452 Kenilworth Road will be diverted around the eastern and western perimeter of the roundabout respectively.</p> <p>Approximately 0.8ha of additional land will be required temporarily for the installation of street lights and signage on the proposed roundabout and existing highway.</p> <p>The material stockpile area located within Marlowes woodland, originally required for the storage of topsoil, will no longer be required as the roundabout will remain. The removal of this stockpile will reduce the area of woodland loss at Marlowes woodland by approximately 1.3ha.</p>

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Additional land required at Marlowes woodland (AP2-023-003)</p>	<p>The Bill provides for the establishment of vegetation on Footpath M214 overbridge (Heart of England Way) and Footpath M215 overbridge as a precautionary measure to reduce the effect of habitat loss and fragmentation on barbastelle bat and other bat species.</p>	<p>Continued monitoring of barbastelle bat and other bat species in this area since submission of the Bill has identified that Marlowes woodland is not likely to support a core colony of barbastelle bat. However, Marlowes and adjacent woodland do support a diverse range of bat species which utilise this area for breeding. Accordingly, a number of revisions have been made.</p> <p>The proposed planting of Footpath M214 overbridge (Heart of England Way) will be removed and the width of the bridge reduced to 2m. Planting of Footpath M215 overbridge will remain as the original scheme. The width of M215 overbridge will be amended to approximately 21.6m and renamed Footpath M215 Accommodation Green overbridge.</p> <p>Broadleaved semi-natural woodland located in the Berkswell Estate between the HS2 route and the A452 Kenilworth Road will be reduced to a 20m strip. In addition, a hedgerow included in the original scheme between Footpath M215 overbridge and Marlowes woodland will be replaced with a minimum 20m strip of broadleaved semi-natural woodland.</p> <p>New broadleaved semi-natural woodland will be provided on landscaped earthworks to the east of the HS2 route between Marlowes woodland and Sixteen Acre. In addition, 5ha of Marlowes woodland, to the east of the HS2 route, will be acquired permanently for the enhancement of existing broadleaved semi-natural woodland.</p> <p>Marlowes Wood is outside of the existing powers of the Bill.</p>
<p>Extension of the River Blythe viaduct (AP2-023-004)</p>	<p>The Bill provides for the River Blythe viaduct for the HS2 route to cross over the River Blythe and associated floodplain. The viaduct would be approximately 150m long and approximately 10.5m above ground level. Prior to the viaduct, the HS2 route would cross over the B4102 Meriden Road, via the B4102 Meriden Road underbridge and continue on the Patrick embankment for approximately 260m.</p> <p>To compensate for the loss of floodplain associated with the Patrick embankment and the River Blythe viaduct, a replacement storage area adjacent to the River Blythe would be provided. Marshy grassland would be provided in the replacement flood storage area to compensate for loss elsewhere within the area. An existing water main and overhead power line would be diverted beneath the River Blythe viaduct. The overhead power line would be diverted underground around the Patrick embankment.</p>	<p>This section of the HS2 route has been redesigned in order to allow access between separated land holdings. The River Blythe viaduct will be extended to approximately 480m and will replace the section of Patrick embankment between the B4102 Meriden Road and the River Blythe, the B4102 Meriden Road underbridge, and the Patrick embankment to the south-east of the underbridge. The vertical alignment of the HS2 route through this section will remain unchanged.</p> <p>An additional private access to Patrick Farm will be provided adjacent to the southern abutment of the River Blythe viaduct, south of the B4102 Meriden Road. An access track off the B4102 Meriden Road for a balancing pond, as detailed in the original scheme, will be realigned closer to the HS2 route and Footpath M230A will be realigned accordingly. The underground diversion of the existing overhead power line would be diverted on a slightly different alignment to the original scheme under the viaduct.</p>

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Realignment of Diddington Lane (AP2-023-005)</p>	<p>The Bill provides for the permanent closure of Diddington Lane to vehicles, between a location to the north of the residential properties south of Diddington Lane and to the south of the access to Diddington Farm. Access for agricultural vehicles would be retained.</p> <p>The closed section of Diddington Lane would be reinstated as a bridleway, which would improve connectivity between the A45 Coventry Road, The Island Project School and Hampton-in-Arden. The bridleway would pass under the HS2 route via the Shadow Brook underbridge.</p> <p>During construction, Diddington Lane would be used as a construction traffic route providing access to Shadow Brook underbridge satellite construction compound and construction activities associated with the B4102 Meriden Road underbridge. Access to agricultural land would be provided by an overbridge (Pasture Farm accommodation overbridge).</p>	<p>Diddington Lane will be realigned to reduce the severance of agricultural land and disruption of agricultural vehicles. The road will be realigned to the west of the HS2 route, with sections on embankment, and will cross the HS2 route at Diddington cutting via a new bridge (Diddington Lane overbridge).</p> <p>The Shadow Brook underbridge satellite construction compound will be relocated approximately 75m east of the location proposed as part of the original scheme.</p> <p>Access to agricultural land holdings will be provided via the realigned road.</p> <p>Two new balancing ponds and associated access tracks will be required; one located to the east of Shadow Brook and the other in close proximity to where the new Diddington Lane ties into the existing Diddington Lane to the north.</p> <p>Pasture Farm accommodation overbridge will no longer be required, as access to Pasture Farm will be provided from the realigned Diddington Lane that straddles the HS2 route on an overbridge.</p> <p>Footpath M114 will be diverted along the existing Pasture Farm access road. This will increase the length of the footpath by approximately 125m.</p> <p>Land for this amendment is outside of the existing powers of the Bill. Approximately 1.5ha of additional land is required.</p>
<p>Agricultural land access across Shadow Brook (AP2-023-006)</p>	<p>The Bill provides for the permanent closure of Diddington Lane to vehicular traffic, between a location to the north of the residential properties, to the south of Diddington Lane, and south of the access to Diddington Farm. Access for agricultural vehicles would be retained.</p> <p>The closed section of Diddington Lane would be reinstated as a bridleway, which would improve connectivity between the A45 Coventry Road, The Island Project School and Hampton-in-Arden. The bridleway would pass under the HS2 route via the Shadow Brook underbridge.</p> <p>During construction, Diddington Lane would be used as a construction traffic route providing access to Shadow Brook underbridge satellite construction compound and construction activities associated with the B4102 Meriden Road underbridge.</p>	<p>The proposed bridleway will be realigned to reduce the severance of agricultural land. The bridleway and access track will run parallel to the HS2 route and cross Shadow Brook approximately 20m further east than in the original scheme.</p> <p>The land for the realignment of the bridleway and the access track is within the existing powers of the Bill. However a change to the Bill powers is required.</p>
<p>Burton Green area amendment (AP2-018-004)</p>	<p>For information on this amendment see AP2-018-004 in Table 26.</p>	<p>For information on this amendment see AP2-018-004 in Table 26.</p>

Figure 30: Approximate location of AP2 amendments for Community Forum Area 24 - Birmingham Interchange and Chelmsley Wood



**Table 32: Summary of AP2 amendments within CFA24 - Birmingham Interchange and Chelmsley Wood**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Additional access rights for construction traffic routes on Perimeter Road and Station Link Road</p> <p>(AP-024-001)</p>	<p>The scheme requires Perimeter Road and a section of Station Link Road to be used as construction traffic routes to undertake utility diversions and construction of the A45 Coventry Road embankment.</p>	<p>It has since been identified that Perimeter Road and Station Link Road are privately owned and access rights are therefore required.</p> <p>The temporary access rights are outside the existing powers of the Bill.</p>
<p>Additional access rights for a construction traffic route of an unnamed road off South Way/Pendigo Way and South Car Park Road</p> <p>(AP2-024-002)</p>	<p>The scheme requires the temporary use of an unnamed road off South Way/Pendigo Way as a construction traffic route to undertake utility diversions and construction of the A45 Coventry Road embankment.</p>	<p>It has since been identified that this road is privately owned and access rights are therefore required.</p> <p>A section of South Car Park Road will also be used as a construction traffic route to undertake construction of the M42 Junction 6 embankment. The temporary access rights are outside the existing powers of the Bill.</p>
<p>Provision of a pedestrian crossing on Coleshill Heath Road</p> <p>(AP2-024-003)</p>	<p>The Bill requires the temporary loss of approximately 3.9ha of open space from Heath Park and the permanent loss of approximately 0.8ha. An area was also identified for replacement open space adjacent to Colehill Heath Road.</p>	<p>The provision of the replacement open space has been agreed with Solihull Metropolitan Borough Council.</p> <p>To provide connectivity between the replacement open space and Bluebell Recreation Ground, an existing uncontrolled pedestrian crossing on Coleshill Heath Road will be removed and a new pelican pedestrian crossing will be provided.</p> <p>To facilitate the provision of the new pedestrian crossing, a bus stop will be relocated approximately 30m from its current location and the existing footpaths will be extended by approximately 40m to access the relocated stop. An existing footpath within Bluebell Recreation Ground will be extended approximately 35m to link it with the new pedestrian crossing.</p> <p>The additional land required for the minor extension of the existing footpath within Bluebell Recreation Ground will result in the permanent loss of 75m<sup>2</sup> of land.</p>

Figure 31: Approximate location of AP2 amendments for Community Forum Area 25 - Castle Bromwich and Bromford

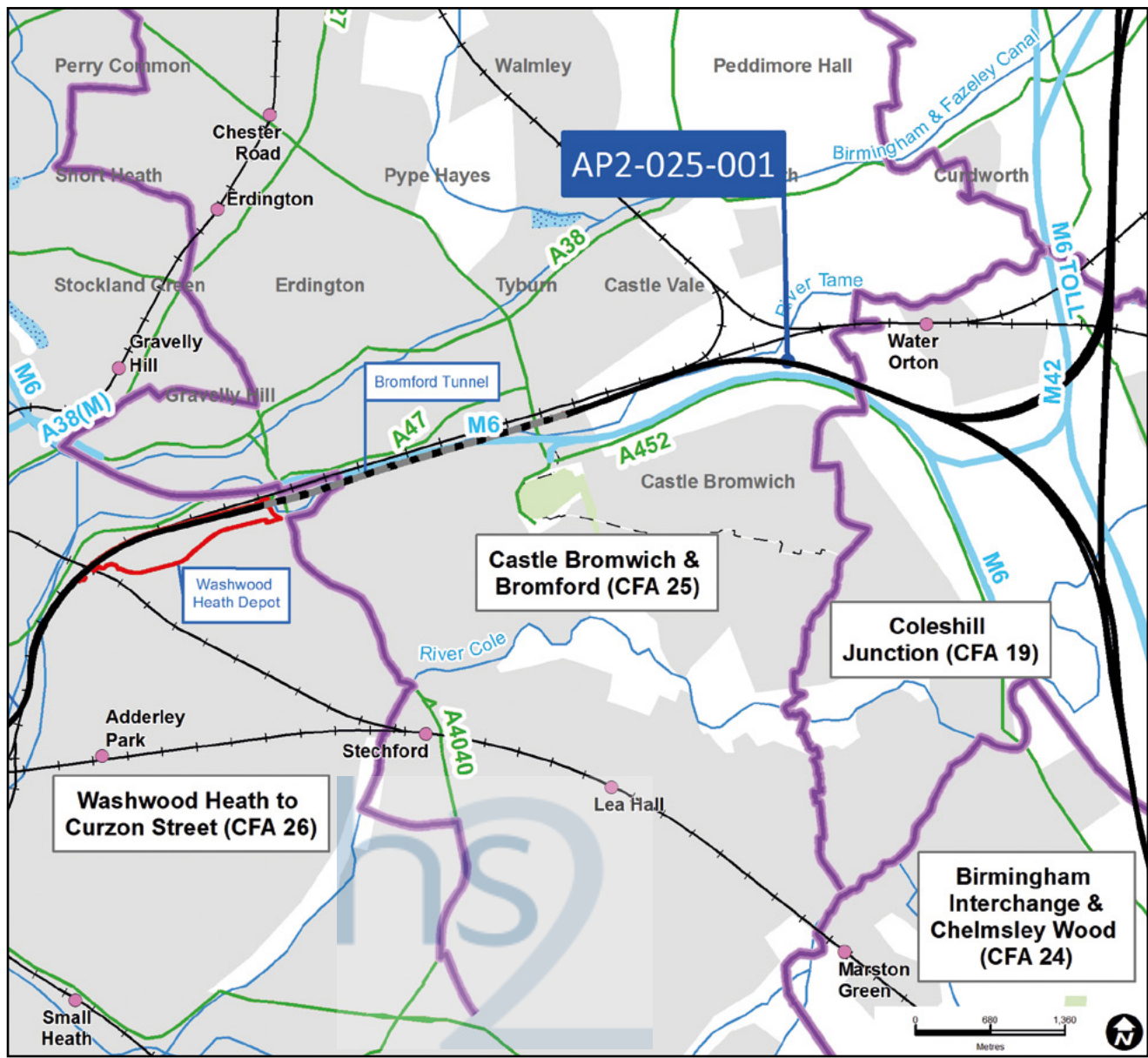
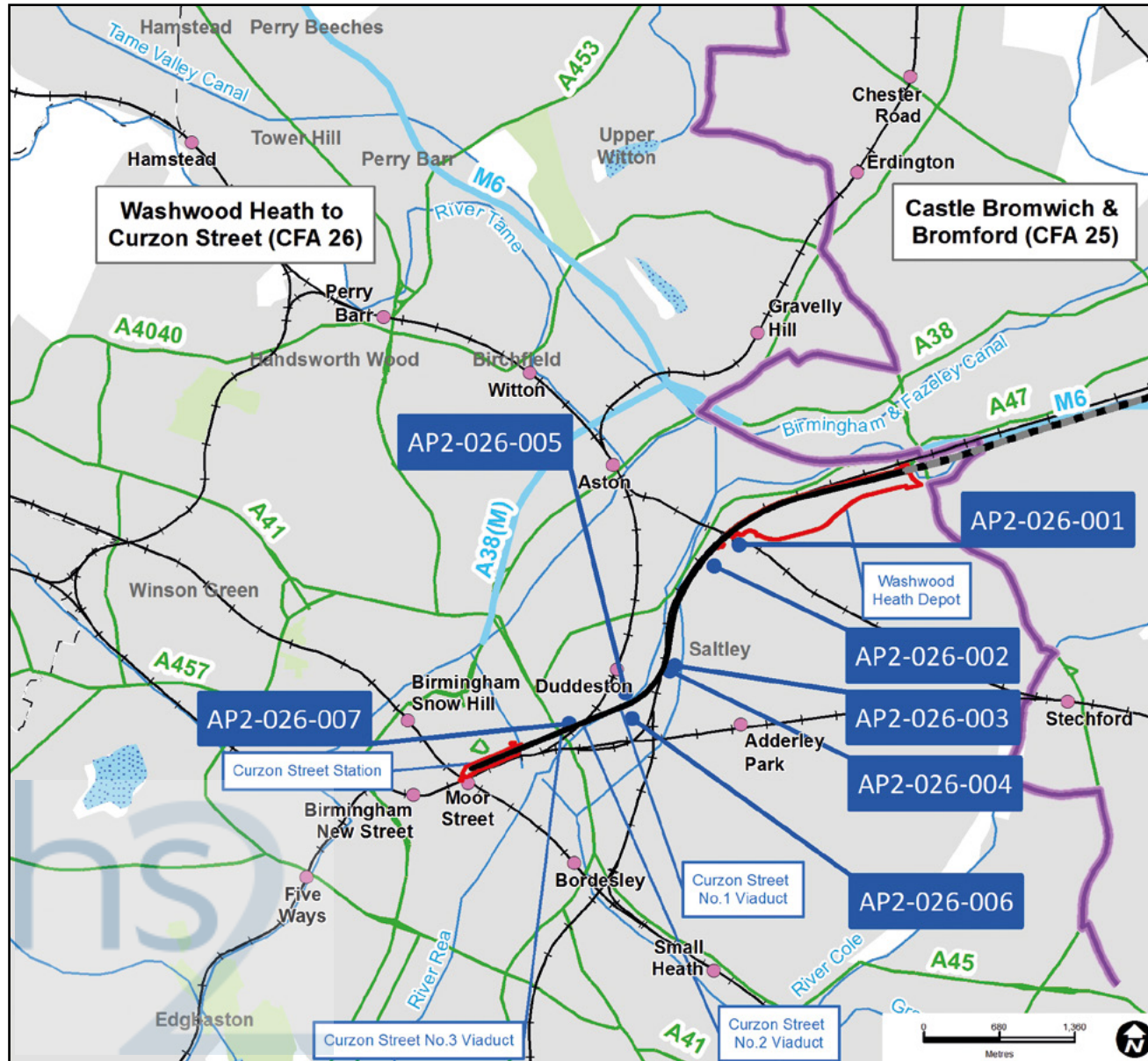


Table 33: Summary of AP2 amendments within CFA25 - Castle Bromwich and Bromford

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Additional land required to widen an access track at Park Hall Nature Reserve (AP2-025-001)</p>	<p>The Bill provides for the realignment of an existing access track from the B4118 Birmingham Road into the Park Hall Nature Reserve. The Bill also provides for a new access track off the existing track which will pass under the proposed River Tame viaduct and provide access to a proposed balancing pond adjacent to Park Hall Wood embankment.</p> <p>The realigned access track would be widened to a minimum width of 3.5m and include passing places, spaced approximately 200m apart. The access track would be used as a haul route during construction and afterwards would provide access to the nature reserve and for maintenance of the balancing pond.</p>	<p>The amendment provides for the widening of the remaining section of the existing track not included in the original scheme, to a minimum of 3.5m wide with passing places and 1.5m verges.</p> <p>Approximately 320m<sup>2</sup> of additional land is required permanently to facilitate the track widening. This land is outside the existing powers of the Bill.</p>



Figure 32: Approximate location of AP2 amendments for Community Forum Area 26 - Washwood Heath to Curzon Street



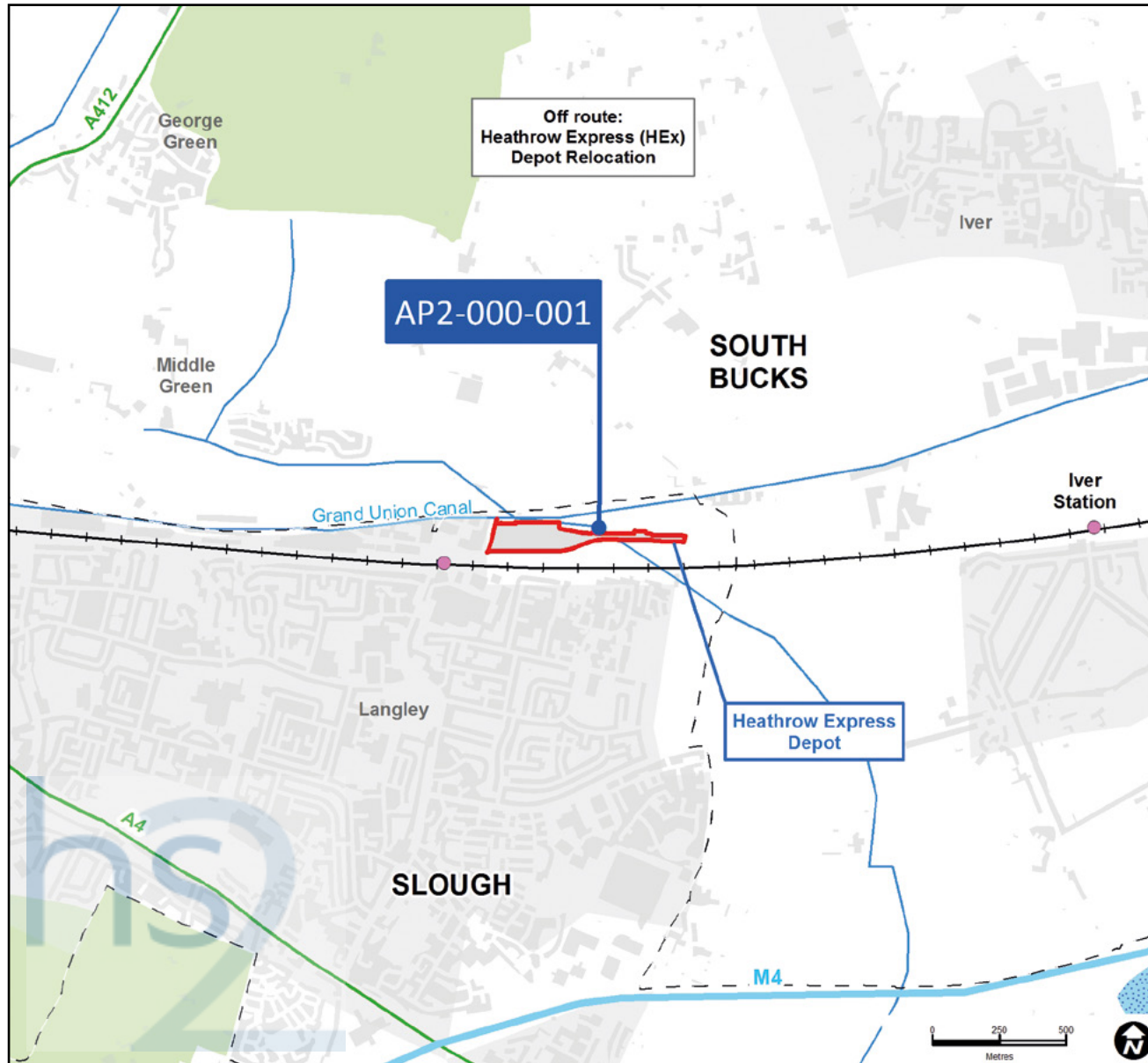
**Table 34: Summary of AP2 amendments within CFA26 - Washwood Heath to Curzon Street**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Improvement of Aston Church Road/Arley Road junction (AP2-026-001)</p>	<p>The Bill provides for Aston Church Road/Arley Road junction to be permanently realigned by approximately 3m to the north as part of construction of the Aston Church Road bridge.</p> <p>The Bill also provides for Aston Church Road and Arley Road to be used as construction traffic routes for works to be undertaken within Saltley Business Park, including demolition of commercial buildings, diversion of utilities and construction of the Aston Church Road bridge.</p>	<p>The Aston Church Road/Arley Road junction will be realigned 7m further north to allow HGVs to safely pass each other. All works will be within the existing powers of the Bill but land will now be required permanently rather than temporarily.</p>
<p>Additional access rights for maintenance and operational access on Cumbria Way (AP2-026-002)</p>	<p>The Bill provides for the use of an existing section of Cumbria Way as a construction traffic route for demolition of commercial properties within Saltley Business Park and to provide operational access to the proposed carriage wash for HS2 trains.</p>	<p>Permanent access rights are required along an additional section of Cumbria Way, to provide maintenance and operational access to the proposed carriage wash.</p> <p>The access rights to use an additional section of Cumbria Way are outside the existing powers of the Bill.</p>
<p>Additional access rights for construction traffic routes within Network Park Industrial Estate (AP2-026-003)</p>	<p>The scheme requires the temporary use of the road network within Network Park Industrial Estate as a construction traffic route to undertake utility works, construction of an embankment and a replacement bridge over Duddeston Mill Road.</p>	<p>It has been identified that the roads within the industrial estate are privately owned. Therefore temporary rights of access are required.</p>
<p>Additional land required for car parking at Network Park Industrial Estate (AP2-026-004)</p>	<p>The Bill provides for land to be acquired permanently at the Network Park Industrial Estate, where the HS2 route would pass through. The Bill also provides for the diversion of utilities within the industrial estate, resulting in a permanent loss of 30 car parking spaces and one loading bay.</p>	<p>The amendment provides for temporary and permanent replacement car parking spaces within the vicinity of those lost.</p> <p>The majority of land required for this replacement car parking is within the existing powers of the Bill. However, approximately 0.2ha of additional land temporarily required is outside the existing powers of the Bill.</p>
<p>Additional access rights for access to replacement car parking at Birmingham Museum Collections Centre (AP2-026-005)</p>	<p>The Bill provides for the acquisition of land within Birmingham Museum Collections Centre for the construction of Curzon Street No. 1 viaduct, part of which will be within the boundary of the centre. The Bill also provides for a construction haul route and the diversion of a sewer, both of which are within the collections centre rear delivery yard and resulting in restriction and the temporary loss of three loading bays and informal car parking for visitors to the centre.</p>	<p>In order to avoid disrupting its operation, a temporary access to Birmingham Museum Collections Centre rear delivery yard and loading bays will be provided from a private access off Dolman Street to the north-east of Birmingham Museum Collections Centre. The use of this private road is outside the existing powers of the Bill.</p> <p>An area of land, north of the delivery yard, has been identified which will be used to provide a turning area for HGVs, and will also act as informal car parking.</p> <p>The construction of the haul route will be phased so the rear delivery yard is accessible for the duration of the construction period.</p>

Amendment	Description of the original scheme	Description of the AP2 revised scheme
<p>Additional land for the reconfiguration of Freightliner Terminal depot and the provision of rail sidings</p> <p>(AP2-026-006)</p>	<p>The Bill provides for the permanent acquisition of part of the Freightliner Terminal depot for the Curzon Street No.1 viaduct which will pass through the depot site.</p> <p>This will result in the demolition of buildings to the south of the Birmingham and Bushbury line within the depot site and permanent loss of 40 HGV parking spaces.</p>	<p>The remaining area of the Freightliner Terminal depot will be temporarily acquired to reconfigure the depot site (relocation of a trailer park and storage area and reconfiguring internal roads, buildings and utilities) and to accommodate the new HGV trailer park, storage area and the new rail sidings off the Birmingham to Derby line.</p> <p>A new construction compound, Freightliner satellite construction compound, will be required to support the works which will be located within the depot site. Access to the compound will be via Landor Street.</p> <p>An additional construction route for Curzon Street No. 1 viaduct will be provided to the south of the River Rea, off Erskine Street.</p> <p>Approximately 10.6ha of additional land is required temporarily. This land is outside the existing powers of the Bill.</p>
<p>Additional land required for replacement car parking at West Midlands Fire Service headquarters</p> <p>(AP2-026-007)</p>	<p>The Bill provides for the construction of Curzon Street No.2 viaduct and Curzon Street No.3 viaduct. This will result in the loss of access to West Midlands Fire Service headquarters service yard and the adjacent off-site two storey car park at the West Midlands Fire Service headquarters. This will result in the temporary loss of 146 car parking spaces, all four loading bays, temporary acquisition of 0.1ha of the service yard and the permanent loss of up to 30 car parking spaces.</p> <p>Construction works would also require the removal of the existing ambulance dispatch point, access to four Network Rail owned railway arches leased by the West Midlands Fire Service, and other existing infrastructure such as the water tanks. This would impair the function of West Midlands Fire Service headquarters.</p>	<p>A permanent three storey car park will be provided on the site of the existing off-site two storey car park to mitigate loss of parking spaces. An additional area of approximately 260m<sup>2</sup> of land will be required temporarily for a demolition and construction working area and access. This land is outside the existing powers of the Bill.</p> <p>Construction works will be phased and a number of car parking solutions will be implemented to mitigate the temporary loss of car parking. These are within the existing powers of the Bill.</p>

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Figure 33: Approximate location of the proposed Heathrow Express (HEX) depot at Langley in Slough (off-route)



**Table 35: Summary of amendments within off-route areas (i.e. locations outside the CFAs)**

Amendment	Description of the original scheme	Description of the AP2 revised scheme
Proposed Heathrow Express depot, Langley (AP2-000-001)	The Bill provides for the relocation of the HEx depot from its existing location at Old Oak Common to the former Eurostar Depot site at North Pole (East).	The HEx depot is now proposed to be relocated to Langley in Slough.  Approximately 40ha of land is required temporarily during construction of the proposed HEx depot. Approximately 18.8ha of this land is required permanently. The land needed to meet this requirement is not within the existing powers of the Bill.
Additional land on the WCML for track modifications east of Colwich (AP2-000-002)	The Bill provides for land within the WCML rail boundary to install a new track crossover east of Colwich and make associated changes to the overhead line equipment.	Since submission of the Bill it has been identified that insufficient land to enable installation of the crossover was included within the Bill.  Approximately 0.7ha additional land outside the existing powers of the Bill is required temporarily.
Additional land for construction access east of Colwich (AP2-000-003)	The Bill provides for land immediately to the north of the WCML to access and construct a temporary crane platform to install a new signal gantry on the WCML.	An alternative location for the crane platform has been identified on the south side of WCML which will provide easier access arrangements. Access from the A51 to the crane platform location will be via the existing farm access track and then through agricultural fields alongside the WCML.
Additional land for construction access east of Colwich for revised signal gantry location (AP2-000-004)	The Bill provides for land within the operational WCML to install a new signal gantry immediately to the west of the A51. It also provides for land required temporarily to the south of the WCML for access to and construction of a crane platform to install the gantry.	An alternative location is required due to operational railway signal sighting requirements. Therefore an alternative location for the signal gantry and associated construction crane platform will be required on the east side of the A51.



## 8. Summary of residual environmental effects for AP2 amendments

### 8.1 Summary of residual environmental effects

In a number of cases, new or different likely significant effects have been identified as a result of the AP2 amendments. Those which remain after mitigation has been put in place are referred to as 'residual effects'. The significant effects referred to in the remainder of this NTS are residual effects.

#### CFA4 (Kilburn (Brent) to Old Oak Common)

##### *Cultural heritage*

##### **Effects arising during construction**

As part of the alteration of land requirements at Atlas Road (AP2-004-006), Plantagenet House (a 1920s factory building) at 55 Victoria Road will be demolished. The loss of this non-designated asset will result in a significant moderate adverse effect.

##### *Landscape and visual assessment*

##### **Effects arising during construction**

Construction of the proposed flyover (as part of amendment AP2-004-004) will be visible from residential properties on the south-eastern corner of Wells House Road. Therefore views from these properties will be subject to a major adverse significant effect during construction of the scheme. This effect did not occur as part of the original scheme.

##### **Effects arising during operation**

The proposed flyover (as part of amendment AP2-004-004) will be highly visible from residential properties on the south-eastern corner of Wells House Road. Therefore views from these properties will be subject to a major adverse significant effect during operation of the scheme. This effect did not occur as part of the original scheme.

##### *Sound, noise and vibration*

##### **Effects arising during construction**

The main ES reported that there would be significant noise effects in the evenings in the

vicinity of 30 residential properties on Wells House Road as a result of construction activities. The construction of a new flyover on the GWML and three turnback sidings south of Wells House Road (AP2-004-004), will result in noise effects in the vicinity of an additional 80 residential properties in the evenings. They would be affected for between eight months and up to three years and three months, which is a greater duration than was reported in the main ES.

The main ES reported that significant noise effects would occur in the vicinity of 100 residential properties on Wells House Road during the daytime. Although the amendment would not increase the number of residential properties that would experience this effect, the duration of the effect will increase from between approximately one year and three months – four years and six months (as reported in the main ES), to between nine months and up to five years and ten months. The main ES also reported that there would be significant noise effects in the vicinity of approximately 40 dwellings on Wells House Road at night time. The amendment will not change the amount of properties affected. However, the



duration of the effect will decrease slightly from 40-60 months as reported in the main ES, to 39-59 months.

The main ES reported that 100 residential properties would experience significant noise effects and were estimated to qualify for noise insulation. As a result of construction of a new flyover on the GWML and three turnback sidings south of Wells House Road (AP2-004-004) an additional 17 residential properties on Wells House Road will experience significant noise effects and are estimated to qualify for noise insulation. The noise insulation will reduce noise inside these properties to a level where it would not significantly affect residents.

## CFA5 (Northolt Corridor)

### *Traffic and transport*

#### **Effects arising during construction**

The additional land required for access to the F-sidings satellite construction compound (AP2-005-001) require the temporary loss of 22 car parking spaces (including two disabled parking bays). The temporary loss of parking spaces designated for use by people with disabilities will result in a new moderate adverse significant

effect compared to that reported in the main ES. Mitigation could be provided by reallocation of existing parking spaces as disabled bays on the public highway, subject to agreement with the local highway authority, which would fully mitigate the effect.

## CFA9 (Central Chilterns)

### *Ecology*

#### **Effects arising during construction**

The changes to the land required for the Chiltern tunnel north portal in Mantle's Wood as part of amendment AP2-009-001 will reduce the overall loss of ancient woodland within Mantle's Wood by 0.26ha. This will result in a different significant effect on the designated sites and habitats within Mantle's Wood but will not change the overall level of the significant effect reported in the main ES.

## CFA10 (Dunsmore, Wendover and Halton)

### *Agriculture, forestry and soils*

#### **Effects arising during construction**

The main ES reported that a moderate effect would occur on Bank Farm, as 31.7ha of agricultural land would be required temporarily for the scheme. As part of AP2-010-004, Ellesborough Road cricket ground and pavilion will be relocated adjacent to the B4009 Tring Road and south of Halton Community Combined School. Part of this relocated area is also within Bank Farm. This will increase the area of land within the farm temporarily required to 34.6ha. This will result in a different significant effect for the farm as the land required is in a different location, however the level of significance (moderate adverse) remains as reported in the main ES.

### *Community*

#### **Effects arising during construction**

The main ES reported that the community will experience a permanent major adverse significant effect as a result of the loss of Ellesborough Road cricket ground and pavilion

for the construction of the Wendover green tunnel. However, as part of amendment AP2-010-004, a replacement cricket ground and pavilion will be provided for the community in a different location. Therefore this effect will be avoided. The new cricket ground may not be functional before the loss of Ellesborough Road cricket ground. Until the replacement cricket ground is operational the community may experience a temporary major adverse significant effect.

HS2 Ltd is seeking an agreement with the landowner and Wendover Cricket Club, which may enable the replacement cricket ground and pavilion to be brought forward at an earlier date.

### *Cultural heritage*

#### **Effects arising during construction**

The replacement cricket ground will be located in an archaeological notification area. The construction will result in the removal of all or part of the asset, resulting in a new major adverse significant effect.

### *Ecology*

#### **Effects arising during construction**

The main ES reported a significant effect on Jones' Hill Wood ancient woodland, as 1ha would be lost as part of the scheme. As part of AP2-010-001, the stockpile proposed as part of the original scheme will no longer be located within the wood. This will reduce the amount of ancient woodland required to 0.7ha. The amendment will therefore result in a different significant effect on the ancient woodland, however the level of significance remains as reported in the main ES.

### *Landscape and visual assessment*

#### **Effects arising during construction**

The construction of the replacement cricket ground will be visible from The Beeches (a residential area) and Wendover Church of England Junior School resulting in a moderate adverse significant effect. Construction activities will also be visible from PRoW WEN/63A/2 and PRoW WEN/1/1, running along a dismantled railway line. This will result in moderate adverse significant visual effects.

## **CFA11 (Stoke Mandeville and Aylesbury)**

### *Agriculture, forestry and soils*

#### **Effects arising during construction**

The main ES reported that Stoke House would experience a permanent adverse moderate significant effect, as approximately 14% of the holding would be required for the scheme. As part of the provision of noise mitigation on the A4010 Stoke Mandeville Bypass (AP2-011-002), an additional 1.6ha of agricultural land is permanently required. This gives rise to a different significant effect, but the level of significance of the effect remains as reported in the main ES.

### *Landscape and visual assessment*

#### **Effects arising during construction**

As part of amendment AP2-011-002 earthworks for noise mitigation will be constructed alongside the A4010 Stoke Mandeville bypass to reduce noise effects. There will be clear views of the construction works for three months from Hall End. This will result in a new moderate adverse significant effect.

## *Sound, noise and vibration*

### **Effects arising during operation**

The main ES reported that significant noise effects would occur at properties in the vicinity of Westfield and Batt Furlong, and the Booker Park Primary School, as a result of traffic noise from the proposed Stoke Mandeville bypass. However, as a result of the introduction of earthworks to reduce noise levels (as part of amendment AP2-011-002), these significant noise effects will be avoided.

## **CFA12 (Waddesdon and Quainton)**

### *Cultural heritage*

#### **Effects arising during construction**

The main ES reported that effects would occur as a result of losses of parts of the Doddershall deserted medieval village (major adverse), historic hedgerow (major adverse) and the Doddershall medieval landscape (moderate adverse), as a result of the construction of the scheme. As part of AP2-012-002, an additional drainage outfall and balancing pond will be provided. This will require additional

groundworks, which may result in additional losses from these assets. This would result in a different significant effect, however the level of significance remains as reported in the main ES.

### *Landscape and visual assessment*

#### **Effects arising during construction**

The main ES reported that moderate adverse significant effects would occur on views south-west from residential properties near Middle Farm, Shipton Lee, as a result of the presence of construction activity. As part of AP2-012-004, the location of the substation near Quainton proposed as part of the original scheme has been revised. The revised location will bring construction activities closer to these residential properties and will be more noticeable. This will result in a different significant effect, with the level of significance increasing from moderate adverse to major adverse.

#### **Effects arising during operation**

The main ES reported that a moderate adverse significant effect at year one of operation of the scheme would occur on views south-west from residential properties near Middle Farm, Shipton Lee, as the proposed substation and the Quainton auto-transformer feeder station and

other scheme infrastructure would be visible. By year 15 of operation, scheme planting would have matured to screen views from these residential properties to reduce the effects on views to a level that is not significant. However, as part of AP2-012-004, the location of the proposed substation near Quainton proposed as part of the original scheme has been revised and will be closer to these residential properties and will be more noticeable. This will result in a different significant effect on views from these residential properties, increasing from moderate to major at year one of operation. Once scheme planting has matured, it will help screen views of the substation. However, the views cannot be fully screened and a moderate significant effect will remain.

### *Traffic and transport*

#### **Effects arising during operation**

The original scheme provides for the diversion of bridleways CAG/3/1, GUN/25/1 and SCL/18/2 near Calvert Green, to run parallel to the HS2 route. As part of amendment AP2-013-001, the proposed diversion will be rerouted. This rerouted bridleway will be 2.2km longer than that proposed in the main ES. As a result of the increased travel distance, horse riders using bridleways GUN/25/1, SLC/18 and CAG/3/1

(some of which is in CFA13) will experience new minor adverse significant effects.

## CFA13 (Calvert, Steeple Claydon, Twyford and Chetwode)

### *Traffic and transport*

#### **Effects arising during construction**

The original scheme provides for the diversion of bridleways CAG/3/1, GUN/25/1 and SCL/18/2 near Calvert Green, to run parallel to the HS2 route. As part of amendment AP2-013-001, the proposed diversion will be rerouted. This rerouted bridleway will be 2.2km longer than that proposed in the main ES. As a result of the increased travel distance, horse riders using bridleways GUN/25/1, CAG/3/1 and SCL/18 will experience a minor adverse significant effect.

As part of the original scheme, School End (a road) would be temporarily closed at Chetwode. Traffic would be temporarily diverted for 7km, via the A4421. The main ES reported that the increased travel distances would result in a significant effect for all users of this road. The traffic would be diverted along Manor Farm Lane. The main ES reported that this would result in a significant moderate adverse effect

on pedestrians as a result of an increase in the number of vehicles making it more difficult for pedestrians to cross the road. However, as part of amendment (AP2-013-008), School End will now be temporarily realigned, removing the need for the road to be closed during construction. This will remove the need for the 7km diversion and the two significant effects reported within the main ES will be avoided.

## CFA14 (Newton Purcell to Brackley)

### *Agriculture, forestry and soils*

#### **Effects arising during construction**

The main ES reported a significant moderate adverse effect on Radstone Manor (a farm holding) as a result of 42.5ha of agricultural land being permanently required for the scheme. The provision of a green bridge at Radstone, changes to environmental mitigation and realignment of a PRoW as part of amendment AP2-014-006 will reduce the total area of land required permanently at Radstone Manor farm to 33.4ha. As a result, less than 10% of the total area of the holding that is farmed will now be required and the significant effect on the farm holding will be avoided.

### *Community*

#### **Effects arising during construction**

The main ES reported that a major adverse significant effect on community would occur as areas of land at Turweston playing fields would be both temporarily and permanently required for the scheme. However, as part of amendment AP2-014-004, replacement playing fields at Turweston Glebe will be provided. The replacement playing fields will not be provided until construction of the scheme in the area is completed. As a result, the temporary significant effect reported within the main ES will remain, but the permanent significant major adverse effect will be avoided.

### *Cultural heritage*

#### **Effects arising during construction**

As a result of providing a replacement playing field at Turweston Glebe (AP2-014-004), archaeological remains (ridge and furrow) will be removed. This will result in a significant moderate adverse effect.

The relocation of an area of approximately 400m<sup>2</sup> of temporary material stockpile (AP2-014-003) will reduce the impact on the ancient woodland at Mossycorner Spinney. This will give rise to a

different construction effect, but will not change the level of significance of the effects reported in the SES (major adverse).

### *Ecology*

#### **Effects arising during construction**

The relocation of an area of approximately 400m<sup>2</sup> of temporary material stockpile (AP2-014-003) will reduce the loss of ancient woodland habitat from Mossycorner Spinney to approximately 0.3ha. This will result in a different significant effect to that reported in the SES, but the level of significance will not change. Approximately 2.9ha of woodland will be provided to compensate for the loss at Mossycorner Spinney, which will result in a significant beneficial effect on the conservation status of the woodland when it matures.

The SES scheme reported that a new significant effect would occur on Natterer's bats at Radstone as surveys recorded greater numbers of Natterer's bats using the Helmdon Disused Railway SSSI than was previously reported within the main ES. The green bridge and associated planting (AP2-014-006) will provide routes for bats to safely cross the HS2 route. This amendment will avoid the significant effect.

### *Traffic and transport*

#### **Effects arising during construction**

The main ES reported that a significant moderate adverse effect would occur as a result of the closure of Featherbed Lane and the temporary diversion of approximately 7.6km during the construction of the scheme. However, as part of amendment AP2-014-001, Featherbed Lane will remain open to traffic during construction, via a temporary offline diversion to the south of its existing location. As a result of this amendment, the significant effect will be avoided.

The closure of Featherbed Lane reported in the main ES would have increased traffic flows on the associated temporary traffic diversion via Fulwell Road, Valley Road, Mere Road, Sandpit Hill and A421 London Road. This would have resulted in a moderate adverse significant effect on pedestrians due to the increased traffic making it difficult to cross the roads. However, amendment AP2-014-001 will result in a smaller increase in traffic on Fulwell Road. This will reduce the significant effect from moderate adverse to minor adverse.

## **CFA15 (Greatworth to Lower Boddington)**

### *Agriculture, forestry and soils*

#### **Effects arising during construction**

The main ES reported that 3.6ha of land at Spella House would be required temporarily. As part of the reconfiguration of the Warwick Road and Banbury Road junction (AP2-015-008), the amount of land required at Spella House will reduce to approximately 1.4ha (14% of the holding). Therefore the significance of the effect will reduce from major/moderate to moderate.

The main ES also reported that 2.3ha of land at Spella House would be required permanently. As part of the same amendment (AP2-015-008) the amount of land required at Spella House will reduce to approximately 1.4ha (14% of the holding). Therefore the significance of the effect will reduce from major/moderate adverse to moderate adverse, which remains significant.

The main ES reported that 1.9ha of land (63% of the holding) at Fox Covert (Glyn Davies Wood), would have been required by the original scheme. AP2-015-008 will reduce the amount of land required by approximately 0.6ha to approximately 1.3ha (43% of the holding).

This will reduce the permanent effect from moderate adverse (as reported in the main ES) to minor adverse, which is not significant.

### **Community**

#### **Effects arising during construction**

The main ES reported that land at the entrance and car park of Glyn Davies Wood would be required during construction. As a result, access to the nature reserve would not be possible for approximately one year, resulting in a significant moderate adverse effect for users of the wood. As part of amendment AP2-015-008 (reconfiguration of the Warwick Road and Banbury Road junction), less land will be required at the wood, however access will still not be available for one year. This will result in a different significant community effect. However, the level of significance of the effect reported within the main ES will not change.

The main ES reported a major adverse temporary effect on residential amenity for approximately ten residential properties along the eastern edge of the A361 Byfield Road in Chipping Warden as a result of a combination of HGV traffic movements and visual effects associated with construction activities. The construction of the

bypass (as part of AP2-015-009) will alter the combined effects experienced by residential properties in this location, giving rise to a different significant effect. However, the level of significance remains as reported in the main ES.

The main ES reported that Chipping Warden Primary School would experience a combination of HGV traffic effects, visual and noise effects as a result of construction activities. The construction of the Chipping Warden bypass (AP2-015-009) will alter the combined effects experienced by Chipping Warden Primary School, resulting in a different significant amenity effect. However, the level of significance remains as reported in the main ES.

These effects will be experienced for approximately one year until the main works of the bypass are completed, after which time all vehicle and HGV construction traffic will no longer need to pass along the A361 so the amenity effect on the residential properties and the school would be removed.

### **Cultural heritage**

#### **Effects arising during construction**

The original scheme requires land in an area where ridge and furrow earthworks are located

and in Fox Covert (Glyn Davies Wood) (which is likely to be added to the ancient woodland inventory). As a result of the reconfiguration of the Warwick Road and Banbury Road junction (AP2-015-008), the amount of ridge and furrow and land at Fox Covert (Glyn Davies Wood) required will be reduced. This will result in a different significant effect. However, the level of significance remains as reported in Part 1 of this non-technical summary (major adverse).

The original scheme would result in the loss of approximately 50% of the Chipping Warden airfield, resulting in a significant moderate adverse effect. The construction of the Chipping Warden bypass (AP2-015-009) will require an additional 2.2ha of land from the Chipping Warden airfield. However, this will not change the level of the significant effect reported within the main ES.

### **Ecology**

#### **Effects arising during construction**

The original scheme requires land in Fox Covert (Glyn Davies Wood) (which is likely to be added to the ancient woodland inventory). As a result of the reconfiguration of the Warwick Road and Banbury Road junction (AP2-015-008),

the amount of land at Fox Covert (Glyn Davies Wood) will be reduced. This will result in a different significant effect. However, the level of significance remains as reported in Part 1 of this non-technical summary.

### ***Landscape and visual assessment***

#### **Effects arising during construction**

As part of the original scheme, landscape earthworks will be constructed along both sides of the HS2 route. The main ES reported that a major adverse significant effect would occur as a result of views of the landscape earthworks from Greatworth Hall, looking south-west. As part of amendment AP2-015-002 a number of changes will occur, including moving the landscape earthworks approximately 70m north-west of the location proposed as part of the original scheme. This will result in a different significant visual effect. However, the level of the significant effects remains as reported within the main ES.

The main ES reported that The Middleton Cheney and Woodford Halse Undulating Hills and Valleys Landscape Character Area (LCA) would experience a moderate adverse significant effect as a result of the presence

of construction activity. The construction of the Chipping Warden bypass (AP2-015-009) will introduce additional construction activity. However, considering other construction activity outlined in the main ES that will occur within the LCA, the level of the significant effects reported within the main ES will not change.

Construction of the proposed Chipping Warden bypass (AP2-015-009) will be visible looking north-west from properties on the northern edge of Chipping Warden adjacent to Chipping Warden Primary School and looking north-west from properties on Appletree Road on the western edge of Chipping Warden. This will result in new major adverse effects.

During construction of the proposed Chipping Warden bypass (AP2-015-009), the view looking north-east from properties on the northern edge of Chipping Warden will be affected. The amendment will introduce additional construction activities approximately 200m from the viewpoint. This is a different significant effect, however it does not change the level of significance reported in the main ES (major adverse).

#### **Effects arising during operation**

The main ES reported a major significant effect during the first year of operation of the scheme as a result of views of trains, overhead line equipment, landscape earthworks and noise barriers, looking south-west from Greatworth Hall. The extension of the landscape bund and associated planting along the eastern side of the HS2 route as part of AP2-015-002 will help screen the views of the scheme from Greatworth Hall. While the earthworks help to screen views, the landscape bund will also result in an adverse effect, as it will reduce views of the surrounding area from Greatworth Hall. This will result in a different significant effect, however the level of significance remains as reported in the main ES.

As part of amendment AP-015-002, an additional access road will be constructed, passing around the Greatworth green tunnel portal and will extend along the eastern side of the HS2 route. This additional road will be visible from Footpath AN13. This will result in a different significant effect. However, this area will already be significantly affected by other scheme infrastructure (e.g. views of the tunnel portal), as reported within the main ES. Therefore, the significance of the effect on views from the

footpath will not change from that reported in the main ES as a result of the additional access road (major adverse at year one of operation, reducing to moderate adverse by year 15 of operation).

The proposed Chipping Warden bypass (AP2-015-009) will give rise to new and different significant effects. The influence of the amendment will extend operational effects across a wider area than that of the original scheme in terms of its effect on the setting of Chipping Warden. The diversion of traffic away from the centre of Chipping Warden will bring localised benefits to the village centre by reducing the influence of vehicles on the village setting.

### *Sound, noise and vibration*

#### **Effects arising during construction**

The main ES reported a significant construction noise effect on Chipping Warden Primary School during the construction of the Byfield Road realignment. This realignment is no longer required as a result of the construction of the Chipping Warden bypass (AP2-015-009). As a result of the construction of the bypass the school will still be subject to a significant noise effect, but for a longer duration than

proposed within the main ES. This is a different significant effect.

HS2 Ltd will continue to engage with the Chipping Warden Primary School in order to identify all reasonably practicable measures to further reduce or avoid these significant effects.

#### **Effects arising during operation**

The bypass will reduce the number of vehicles passing through Chipping Warden on Byfield Road and Banbury Road, resulting in a significant beneficial noise effect.

The amendment reduces the operational airborne noise levels to an extent that the residential dwellings at The Old Dairy and Greatworth Hall are no longer estimated to be likely to qualify for noise insulation from operational noise.

### *Traffic and transport*

#### **Effects arising during construction**

The main ES reported a major adverse significant effect as a result of construction traffic using the A361 Byfield Road through Chipping Warden, which would make it more difficult for pedestrians to cross the road. However, the amount of construction vehicles using this road

will be lower than proposed within the original scheme, due to changes in construction proposed as a result of the Chipping Warden bypass (AP2-015-009). As a result the significant effect will reduce from major adverse to moderate adverse. Following Stage 1 of construction, there will be a reduction compared to the future baseline in all vehicle and construction traffic on the A361 Byfield Road through Chipping Warden resulting in a major beneficial effect. A major adverse effect was reported in the main ES.

Amendment AP2-015-011 results in a reduction in all vehicle flows on Appletree Lane, between the route and Welsh Road during construction, compared to the original scheme. This results in the removal of the residual significant effect that would have occurred as a result of increases in traffic making it more difficult for pedestrians to cross the road at Appletree Lane, during construction (minor adverse effect reported in the main ES).

#### **Effect arising during operation**

Once the bypass is operational, there will be a reduction in all vehicles on the A361 Byfield Road through Chipping Warden. This will result in a new major beneficial effect for pedestrians crossing this road.



## CFA16 (Ladbroke and Southam)

### Ecology

#### Effects arising during construction

Part 1 (SES) of this non-technical summary reports a significant effect on Fox Covert (Glyn Davies Wood) as a result of the loss of woodland likely to be ancient. The reconfiguration of the Warwick Road and Banbury Road junction (AP2-015-008) will reduce the total habitat loss at the woodland by 0.6ha to approximately 1.2ha. The AP2 revised scheme will give rise to a different (reduced) significant effect, but this does not change the level of significance of the effects reported in the SES.

## CFA18 (Stoneleigh, Kenilworth and Burton Green)

### Agriculture, forestry and soils

#### Effects arising during construction

The Burton Green area amendment (AP2-018-004) will require an additional 1.1ha at farm holding CFA18/22 (4.4% of the holding). This will result in a new major/moderate adverse effect.

### Community

#### Effects arising during construction

The main ES identified a moderate adverse temporary effect on the users of Bridleway W164 (also known as the 'Connect2 Kenilworth' route and the Sustrans National Cycle Route No. 52), due to some temporary closures during construction of the scheme. The change to the phasing of the construction works which is now incorporated through AP-018-003 will enable the permanent diversion of the bridleway to be undertaken ahead of other construction works in this area and will avoid the need for any temporary closures. Therefore, the significant effect reported in the main ES will be avoided.

The amendments to the alignment of the Burton Green tunnel (AP2-018-004) will avoid a number of significant effects. The significant amenity effects during construction on users of the Kenilworth Greenway (visual effects and HGV construction traffic) (major adverse), the residents of Broadwell Woods mobile home park (noise and visual effects for a period of approximately one month) (moderate adverse) and the staff and children at Two Oaks Day Nursery (noise and visual effects) (moderate adverse), both on Red Lane, Burton Green will be avoided.

The temporary isolation effects (a sense of being cut off from nearby businesses and community facilities) during construction on residents in Burton Green will be avoided and the significant effects resulting from the realignment of the Kenilworth Greenway in the original scheme will also be avoided.

As part of the original scheme, Kenilworth Greenway would be permanently realigned. The greenway would have to cross Cromwell Lane at grade, and it would have to rise steeply over the green tunnel and the alignment would not be direct. However, as part of AP2-018-004, the greenway will pass under Cromwell Lane, avoiding an at grade crossing of the road. A new permanent access from Cromwell Lane is also proposed in the centre of the village and a more direct alignment is now possible both to the north and to the south of the village. Amendments to footpaths M186 and M187 will improve access to the greenway for horse riders and will reduce conflict with farm vehicles. This will avoid the effects on the Kenilworth Greenway reported in the main ES.

The number of residential properties at Cromwell Lane that would experience major adverse significant amenity effects (from a combination of noise and visual residual effects) is also reduced, from 22 (as reported in Part 1 of this NTS) to 15, with Nos. 279-291 no longer expected to experience a significant construction noise effect.

#### **Effects arising during operation**

The major adverse significant amenity effect (noise and visual effects) on the residents on nine properties on Red Lane during operation will be avoided.

#### ***Sound, noise and vibration***

##### **Effects arising during construction**

The amendments to the alignment of the Burton Green tunnel (AP2-018-004) will reduce construction noise levels so that the significant effects on 38 residential properties on Red Lane and ten residential properties on Cromwell Lane that were reported in the main ES will be avoided.

##### **Effects arising during operation**

The mitigation provided by the amendment will also remove the significant operational noise effects at residential properties on

Cromwell Lane and Red Lane, as well as the residential properties at Broadwell Woods Park.

The sound levels at Little Beanit Farm will be reduced to a level so that noise insulation is no longer required.

#### ***Traffic and transport***

##### **Effects arising during construction**

The amendments to the alignment of the Burton Green tunnel (AP2-018-004) will remove the significant severance effect reported in the main ES on Cromwell Lane and Hob Lane as the route is no longer required for construction traffic.

The main ES reported that a moderate adverse effect would occur at the A429 Kenilworth Road/ Gibbet Hill Road/Stoneleigh Road junction due to an increase in delay, congestion and journey times. Since submission of the main ES, a revised junction layout at the A429 Kenilworth Road/ Gibbet Hill Road/Stoneleigh Road junction has been constructed. As a result the significance of the effect will reduce from major adverse to moderate adverse.

A new moderate significant effect at Bockendon Road will occur for a few months during the construction of utility diversions. This is due to

increases in HGV movements making it more difficult for pedestrians to cross the road.

## **CFA19 (Coleshill Junction)**

#### ***Cultural heritage***

##### **Effects arising during construction**

The additional land required for the alternative alignment of Manor Drive (AP2-019-002) would combine with the additional land required for winching and fibre optic cable diversion in the proposed AP1 revised scheme near the M42 (AP1-019-032) and land required as part of the original scheme. This adds to the adverse effect during construction upon the former Coleshill Deer Park as reported in the main ES. This will result in a different likely significant cumulative effect, but will not alter the permanent high adverse and major adverse significant effect upon this asset.

## CFA20 (Curdworth to Middleton)

### *Agriculture, forestry and soils*

#### **Effects arising during construction**

The revised design for the balancing pond provided to the north-east of the Kingsbury Road railhead (AP2-020-004) will require 2ha less land from farm holding CFA20/21 (Land South of Bodymoor Heath Lane (B)). Therefore, the effect changes from major/moderate to negligible and removes the significant effect reported in the main ES.

The main ES reported that 50% of holding CFA20/17 (Land South of Parklands Stud) is required for the scheme, resulting in a major/moderate adverse significant effect. As part of AP2-020-004 the remaining 50% (0.2ha) of land at the holding will be required. This will result in a different significant effect, however the level of significance remains as reported in the main ES.

### *Community*

#### **Effects arising during construction**

The main ES reported a significant moderate adverse amenity effect on five residential properties on Church Lane and Crowberry Lane, Middleton from noise and visual effects from

construction. Construction activities associated with the realignment of Church Lane and the construction of the Church Lane overbridge will be moved further to the east (AP2-020-007) of five residential properties on Church Lane and Crowberry Lane, Middleton. This will remove the significant noise effect at the group of five properties and will therefore remove the significant amenity effect identified in the main ES.

### *Ecology*

#### **Effects arising during construction**

The main ES reported a significant effect on North Wood, as a result of land required for the scheme. Amendments in the North Wood area (AP2-020-005) will reduce the loss of ancient woodland within North Wood by 0.3ha. This results in a different significant effect, however the level of significance remains as reported in the main ES.

### *Sound, noise and vibration*

#### **Effects arising during construction**

As part of the lowering of the HS2 route (AP2-020-007), construction activities to realign Church Lane and build the Church Lane overbridge have been moved further

to the east. This will reduce construction noise for the group of five properties on Church Lane, Middleton, removing the significant effect reported in the main ES.

### *Traffic and transport*

#### **Effects arising during construction**

When taken in combination, amendments in this CFA and others result in changed traffic flows that cannot be directly attributed to one specific amendment. The main ES reported minor adverse effects on pedestrians as a result of increased traffic making it more difficult for pedestrians to cross the road along the A446 Lichfield Road and its junctions. The proposed relevant AP2 changes increase the effect to moderate adverse on the A446 Lichfield Road at the junction of the A4091 Tamworth Road.

As part of the original scheme Footpath M23 would be closed for nine years, resulting in increased journey times for pedestrians resulting in a minor adverse significant effect. Amendment AP-020-004 enables access to be provided along Footpath M23 throughout the construction period, removing the minor adverse effect. However, the length of the diversion proposed as part of the amendment will create an increased

journey time for pedestrians, resulting in a minor adverse significant effect. This is a different significant effect.

## CFA21 (Drayton Bassett, Hints and Weeford)

### *Agriculture, forestry and soils*

#### **Effects arising during construction**

The main ES reported that Brook Farm would experience a moderate adverse significant effect as access to land at the farm would be cut off by the scheme (i.e. severance). As part of the Drayton Bassett to Hints area amendments (AP2-021-001), the proposed underpass for Hints Footpath 9 to the north of Bangley Lane will be modified to allow agricultural vehicles to pass through. This will enable these vehicles to access land at Brook Farm, reducing agricultural severance. As a result, the level of significance of the effect on the farm will be reduced to minor adverse, which is not significant.

### *Community*

#### **Effects arising during construction**

The main ES reported a significant major adverse isolation effect (a sense of being cut off from nearby businesses and community facilities) on residents of Brockhurst Lane, due to the closure of the lane for one year to allow for construction of the new Brockhurst Lane underbridge. The amendment of the HS2 route alignment between Drayton Bassett and Hints (AP2-021-001) will only require a limited temporary closure of Brockhurst Lane. Therefore, the significant effect that was reported in the main ES would be avoided.

### *Cultural heritage*

#### **Effects arising during construction**

The amendment to the alignment between Drayton Bassett and Hints (AP2-021-001) will require approximately 0.9ha less land around the Rookery ancient woodland. Although the land requirement is reduced, there is still partial removal of an asset of high value and the character of the remaining ancient woodland will be affected. This will result in a different significant effect on the Rookery ancient woodland. However, this will not change the

level of significance of the effects reported in the main ES (major adverse).

The amendment to the HS2 route alignment between Drayton Bassett and Hints (AP2-021-001) will further screen the scheme from Hints village. However, it will not change the separation of the western edge of the village from its local historic landscape and will still create a notable change in the character of the village around the brook. This will result in a different significant effect on Hints village, but will not change the level of significance of the effect reported in the main ES (major adverse).

### *Ecology*

#### **Effects arising during construction**

The main ES reported that 2ha of ancient woodland at the Rookery would be required for the construction of the scheme. The amendment to the HS2 route alignment between Drayton Bassett and Hints (AP2-021-001) will require approximately 0.9ha less of the ancient woodland. As the physical area of habitat affected will be reduced, the AP2 revised scheme will result in a different significant effect. However, this will not change the level of significance of the effect reported in the main ES.

The amendment to improve the drainage design in the Swinfen cutting area between Bucks Head Farm and the A51 Tamworth Road overbridge (AP2-021-004) includes works adjacent to Moor Covert and Pool SBI. The main ES assumed that no land would be required from the SBI and did not predict any hydrological impacts upon it. However, the AP2 revised scheme could potentially reduce water flows within a stream in the woodland and alter the mixture of trees adjacent to that stream and therefore the character of part of the wood. No further mitigation measures have been identified at this stage, but future hydrogeological studies may inform potential mitigation measures. In the absence of further mitigation, based on a precautionary assessment, the AP2 revised scheme will result in a new significant effect on the integrity of Moor Covert and Pool SBI and on the conservation status of woodland at Moor Covert.

### *Landscape and visual*

#### **Effects arising during operation**

The amendment to the alignment of the HS2 route between Drayton Bassett and Hints (AP2-021-001) will give rise to a reduction in the moderate adverse operational visual effects which would remain despite mitigation planting on views to the south from Oak Farm, Drayton

Lane/The Heart of England Way that was reported in the main ES. The lowered alignment of the HS2 route, the change from viaduct to embankment with underbridges and the additional areas of landscape planting will mean that the level of significance will reduce to minor adverse. This avoids the significant adverse effects reported in the main ES.

### *Traffic and transport*

#### **Effects arising during operation**

As part of the amendment to the alignment of the HS2 route between Drayton Bassett and Hints (AP2-021-001), Hints Footpath 11 will be realigned to run along the eastern side of the HS2 route resulting in an increased walking distance of 150m. In the original scheme, the footpath diversion would have used the Brockhurst Lane underbridge and resulted in an increased walking distance of 300m. This change, and reduction in walking distance, removes the minor adverse significant effect reported in the main ES.

Combined changes to traffic flows as a result of the five amendments in this area will make it more difficult to cross the road at the A453/Drayton Lane junction compared to the effects reported in the main ES. The moderate adverse significant

effect reported in the main ES will change to a major adverse significant effect.

### *Water resources and flood risk assessment*

#### **Effects arising during construction**

The amendment to improve the drainage design in the Swinfen cutting area between Bucks Head Farm and the A51 Tamworth Road overbridge (AP2-021-004) has the potential to have a negative impact on the water balance of Moor Covert and Pool SBI as the new drainage design cannot achieve the drainage levels required to feed a groundwater spring within the woodland. No further mitigation measures have been identified at this stage, but future hydrogeological studies may inform potential mitigation measures. In the absence of further mitigation, based on a precautionary assessment, the AP2 revised scheme will result in a new significant residual moderate adverse effect on the stream within Moor Covert and Pool SBI.

## CFA22 (Whittington to Handsacre)

The approach for CFA22 (Whittington to Handsacre) is different to the approach adopted for the other CFAs due to the extensive nature of amendments in this area. This section summarises the new and different significant residual effects as a result of the changes to the scheme in this area but also summarises the residual significant effects that remain unchanged from the original scheme.

### *Agriculture, forestry and soils*

#### **Effects arising during construction**

Construction of the AP2 revised scheme will temporarily require 80.8ha less agricultural land than was identified in the main ES and an additional 13.3ha agricultural land permanently (13.3ha of which is good quality land). This will result in new significant effects on three holdings; land off Capper's Lane B, land to the north and south of Mill Farm, and land to the west of Mill Farm. Two holdings, Fulfen Farm and Big Lyntus Wood, that were affected by the original scheme (but not significantly) will experience a significant effect from the AP2 revised scheme. No land was required from Big Lyntus Wood in the main ES, but approximately 0.8ha of land is required

for the AP2 revised scheme. Fulfen Farm will experience increased severance under the AP2 revised scheme.

Riley Hill Woodend Farm would have experienced a significant effect from land required for construction of the original scheme, but is no longer affected by the AP2 revised scheme. Two holdings, Ravenshaw Wood East and Ravenshaw Wood West, would have experienced significant effects from the original scheme but the effect is reduced to not significant from the AP2 revised scheme as less land is required.

The AP2 revised scheme will avoid demolition of agricultural buildings at Hill Farm Streethay, Streethay Farm and New Farm Eldhurst. However, the major/moderate significant effects reported in the main ES on Hill Farm Streethay and Streethay Farm remain due to the amount of land required permanently (7.7ha and 5.2ha respectively). The effect at New Farm Eldhurst reduces from major adverse to major/moderate adverse due to the permanent land loss of 3.8ha, resulting in a different significant effect.

In addition, there are changes in the effects reported in the main ES that remain significant with the AP2 revised scheme:

- for Huddlesford House Farm the level of significance changes from moderate adverse to major/moderate adverse because the magnitude of severance increases from low to high;
- for Curborough House Farm the level of significance changes from moderate to major/moderate adverse because the amount of land required permanently increases from 28.3ha to 37.3ha;
- for Curborough Farm the level of significance changes from moderate to major/moderate adverse because the amount of land required permanently increases from 22.4ha to 30ha;
- while the level of significance stays the same for Black Slough Farm (major adverse) the amount of land required permanently will increase from 12.7ha to 20.7ha;
- while the level of significance stays the same for Brokendown Wood (major/moderate adverse) the amount of land required permanently will increase from 1.1ha to 2.3ha;
- while the level of significance stays the same for Land adjacent to Easthill House (major/moderate adverse) the amount

of land required permanently will decrease from 1.3ha to 0.5ha; and

- for land on the north-east side of Marsh Lane the level of significance changes from major/moderate to moderate adverse because the amount of land required permanently will decrease from 0.4ha to 0.3ha.

In addition to the above, there remains a residual significant effect on seven holdings which are unchanged from the original scheme and as reported in the main ES.

### **Community**

#### **Effects arising during construction**

Construction of the AP2 revised scheme will result in a significant effect on the community of Fradley that was not previously reported in the main ES. The community will experience temporary isolation (a sense of being cut off from nearby businesses and community facilities) for up to two years due to the disruption to journeys to community facilities in Lichfield. This will be caused by congestion at the A38/Wood End Lane junction and works to divert Netherstowe Lane and Wood End Lane by approximately 2km.

Construction of the AP2 revised scheme will avoid the significant effects resulting from the

original scheme at Darnford Moors Golf Club, the Horsepower Equestrian Centre and moorings on the Trent and Mersey Canal at Wood End Lock. In addition, five of the six residential properties at Streethay that would need to be demolished under the original scheme will be retained, avoiding the moderate adverse significant effect reported in the main ES.

A number of significant effects remain unchanged from the main ES:

- permanent major adverse effect on Whittington Heath Golf Club, due to loss of land and severance of the course and demolition of buildings;
- temporary moderate adverse effect on Lichfield Cruising Club due to the temporary loss of moorings; and
- permanent moderate adverse effect on Lichfield Cruising Club due to loss of land currently forming the boat yard.

#### **Effects arising during operation**

A major adverse effect on the amenity of 10 residential properties situated to the west of Whittington will remain from the main ES due to the operation of the scheme.

### **Cultural heritage**

#### **Effects arising during construction**

Construction of the AP2 revised scheme would reduce effects to a level that are not significant at:

- the Trent and Mersey Canal Conservation Area;
- the sites of cropmarks at Wood End and Brokendown Wood;
- Coventry Canal;
- archaeological deposits at Mare Brook and Ravenshaw Wood;
- the Trent and Mersey Canal-Bridge 53 and Wood End Lock;
- the cottage called 'Rough Stockings', which will no longer be demolished. However, the permanent moderate adverse effect reported within the main ES will remain. (the retention of this building during construction also introduces a temporary moderate adverse significant effect on this asset that was not reported in the main ES);
- Hill Farm in Streethay, which will no longer be demolished (however, the retention of this building during construction introduces a temporary moderate

adverse significant effect on this asset that was not reported in the main ES);

- the group of buildings Field Cottage, Streethay Cottage and Elverceter, where the number of demolitions will be reduced from three to one (however, the retention of two of the buildings during construction introduces a temporary moderate adverse effect on this asset that was not reported in the main ES); and
- the historic landscape of Curborough.

The main ES reported a major adverse effect on Wood End Lock Cottage. As part of the revised scheme this will reduce to moderate adverse.

Construction of the AP2 revised scheme will result in four new significant effects in comparison to the original scheme, as a result of moving the line of the route westwards by 250m. These will occur at:

- Willow Cottage;
- archaeological features at Woodend;
- loss of ancient woodland at Big Lyntus and Vicar's Coppice;
- Streethay House Farm; and
- Ravenshaw Wood.

There will be a change to the permanent impacts at Streethay Manor and moated site during construction from high to medium adverse. This will still result in a major adverse effect and this remains a significant adverse effect.

A number of significant effects remain unchanged from the main ES on: Ellfield House and Lodge; Whittington Hill House and Hill Farm; Shaw House; Hanchwood House; Vicar's Coppice; John's Gorse; Whittington Heath Golf Course Clubhouse; Whittington Heath Golf Course; Bunyan's Mill at Mill Farm; Medieval moat and cropmarks at Streethay; medieval Streethay; the prehistoric landscape at Bourne Brook; ridge and furrow at Marsh Farm; and important hedgerow at Tamworth Road, the Streethay parish boundary and Tewnals Lane; and ancient woodland at Ravenshaw Wood and ancient woodland at Ravenshaw Wood.

#### **Effects arising during operation**

Operation of the AP2 revised scheme will result in new significant effects on Willow Cottage and on ancient woodland at Big Lyntus.

A number of significant effects remain unchanged from the main ES on: Ellfield House and Lodge; Whittington Hill House and Hill Farm;

Vicar's Coppice; John's Gorse; and Whittington Heath Golf Course; and ancient woodland at Ravenshaw Wood and Slaish.

#### **Ecology**

##### **Effects arising during construction**

The amendments in CFA22 will result in the additional loss of 2.6ha of ancient woodland to that reported in the SES at Big Lyntus Wood, Fulfen Wood and Little Lyntus. A smaller area of ancient woodland will be taken from Ravenshaw Wood but the effect will remain significant. There is no longer any effect on ancient woodland within the Slaish.

There is a significant effect on a Daubenton's bat roost within the Curborough Brook culvert as construction of the AP2 revised scheme may result in abandonment of the roost. This is a precautionary assessment and further work to establish the status of the roost, and establish suitable mitigation if required, will be carried out as part of on-going survey work.

##### **Effects arising during operation**

The AP2 revised scheme will result in a reduction in the loss of key foraging and commuting habitat for bats around Ravenshaw Wood, Black Slough and the Slaish. This will reduce the extent



to which bats will be at risk of collision with trains and mitigation will reduce these effects to a level which are not significant. A physical barrier to address the impacts of habitat loss and severance on this bat assemblage is no longer required to maintain the favourable conservation status of the local bat populations and has therefore been removed from the AP2 revised scheme.

A significant effect remains unchanged from the main ES on a barn owl pair south-east of Handsacre near Kings Bromley Wharf. The potential for train strike is likely to result in the loss of the barn owl pair, resulting in a significant effect. However, if the proposed mitigation measures are implemented through liaison with landowners, the effect on barn owl would be reduced to a level that is not significant.

### *Landscape and visual*

#### **Effects arising during construction**

As result of AP2 amendments within this CFA, the significant effects reported in the main ES on the following viewpoints will be reduced to a level that is not significant:

- views north-west from Streethay Wharf on the Coventry Canal, adjacent to the A38 (moderate adverse in the main ES);
- views south-west from Hilliard's Cross bridge (A38 flyover) (major adverse in the main ES); and
- views west from Bear's Hay Farm, south of the Coventry Canal and the A38 (moderate adverse in the main ES).

The significant effect reported in the main ES on views north-east from the Trent and Mersey Canal, close to Wood End Lock cottage, will reduce from major adverse to moderate adverse as a result of the AP2 revised scheme.

The level of significance of some of the significant effects reported in the main ES will increase from moderate adverse to major adverse as a result of the AP2 revised scheme at the following views:

- views north-east from Highfields Bungalow;
- views north from Black Slough Farm, on Wood End Lane;
- views east from residence (Birch Ridings) on Wood End Lane near Vicar's Coppice; and

- views north from PRow Kings Bromley footpath 0.392, near Tomhay Wood.

The significant effects reported on the following LCAs: Sandstone Outer Estatelands; Settled Farmlands; and Settled Heathlands during construction of the scheme remain unchanged from the main ES. Significant effects remain unchanged from the main ES on 67 viewpoints, including: views south-east from residential properties located along Chestnut Close, Handsacre; views north-east from PRow Alrewas Footpath 44, on Wood End Lane, adjacent to the Trent and Mersey Canal; and views east from The Manor House adjoining the A38.

#### **Effects arising during operation**

The lowering of the HS2 route within the landscape between Whittington and Fradley will result in a change in effects on the landscape and visual assessment from those reported in the main ES.

During the first year of operation of the AP2 revised scheme, views from seven locations will be improved compared to the original scheme, so that the effects are no longer significant. This includes five viewpoints around Streethay and two viewpoints near the Trent and Mersey Canal.

By year 15, views from 16 locations will no longer be significant for the AP2 revised scheme. This includes views from: Marsh Farm, PRow Whittington Footpath 7 at Capper's Lane, King's Orchard Marina and Orchard Farm.

The view south-west from Gorse Farm, Gorse Lane will be worse than that reported in the main ES during the first year of operation, so that a significant effect will now occur.

Views from eight locations (including Highfields Bungalow, Wood End Lane near Ravenshaw Wood and Black Slough Farm) will be worse than those reported in the main ES during the fifteenth year of operation, so that significant effects will now occur. A number of significant effects remain unchanged from the main ES on viewpoints from 14 locations, including Ellfield House, PRow Alrewas footpath 44 on Wood End Lane, Tuppenhurst Lane near Shaw House, Ivy Cottage on Broad Lane and A515 Lichfield Road. Significant effects remain on the Sandstone Outer Eastlands, Settled Farmlands and Settled Heathlands landscape character areas.

### ***Sound, noise and vibration***

#### **Effects arising during construction**

As a result of the AP2 amendments, one residential building on Broad Lane has been estimated as likely to qualify for noise insulation. The mitigation measures, including noise insulation, will reduce noise inside the dwelling such that it will not reach a level where it would significantly affect residents.

The assessment does not identify any new or different residual significant construction noise or vibration effects compared to the main ES.

#### **Effects arising during operation**

Four residential properties (the Manor in Streethay, Streethay Farm on the Burton Road, Mill Farm at Lichfield and at Ravenshaw House at Curborough) were estimated to be likely to qualify for noise insulation in the main ES. The SES reported a further dwelling, (Streethay Wharf) that was also estimated as likely to qualify for noise insulation.

In the main ES, operation of the railway was assessed as likely to result in increases in external noise that are considered significant when assessed on a community basis for residential areas around the south of Handsacre

closest to the WCML and at Whittington in the vicinity of Darnford Lane, Marsh Lane and Lichfield Road.

As part of the AP2 revised scheme, the route will be lower in the landscape throughout the CFA. The number of properties estimated as likely to qualify for noise insulation has reduced to two: Mill Farm, Lichfield, and Streethay Wharf, Streethay. The mitigation measures, including noise insulation, will reduce noise inside all residential properties such that it will not reach a level where it would significantly affect residents.

The AP2 amendments have resulted in a general reduction in operational noise around Streethay. The mitigation included in the amendments has avoided any new operational noise significant effects in this CFA.

The residual significant effects identified in the main ES (as amended by the SES) in the residential areas around the south of Handsacre closest to the WCML and at Whittington in the vicinity of Darnford Lane, Marsh Lane and Lichfield Road remain unchanged by the AP2 amendments.

## **Traffic and transport**

### **Effects arising during construction**

Construction of the AP2 revised scheme will result in changes to the level of traffic from the construction compounds in this CFA. This will mean that the significant effects that were reported in the main ES as a result of increases in vehicles making it more difficult to cross the road on Broad Lane (major adverse), Capper's Lane (major adverse) (except for the section east of the A38 slip road to the Capper's Lane main construction compound) and the A5192 Capper's Lane west of the A38 (moderate adverse) will be avoided.

A new significant effect will occur on the Alrewas Footpath 31 where the footpath will be adjacent to construction traffic.

As part of the original scheme, Streethay Footpath 6 would have been partially closed during construction. However, as part of the AP2 revised scheme, this footpath will remain open. A new significant effect will occur on users of the footpath as construction vehicles will operate alongside it.

A moderate adverse effect will occur on the A38 from its junction with the A5 to the south

of Lichfield to its junction with Wood End Lane and on Wood End Lane between the A38 and Fradley Park. There are minor adverse effects on journey ambiance for non motorised users of the following PRoW in this area; Kings Bromley Footpath 0.392, where users will have to cross roads utilised by construction traffic; and Whittington Footpath 17 and Alrewas Footpath 44, where construction vehicles will operate alongside the footpaths. These effects remain unchanged from the main ES.

### **Effects arising during operation**

Operation of the AP2 revised scheme will result in two new significant effects on users of the realigned Netherstowe Lane, as a result of an increased travel distance for road users (moderate adverse) and increased journey times and delay for pedestrians and cyclists (minor adverse).

The main ES reported a minor adverse effect as a result of the closure of Shaw Lane south of Tuppenhurst Lane. As part of the original scheme, an alternative route would be provided, leading to a 4.5km increase in distance. As part of the AP2 revised scheme the road remains closed, however, the increased travel distance is reduced to 2.2km. The level of significance remains as reported in the main ES.

There will be a minor adverse effect on two PRoW Alrewas Footpath 31 (in Fradley Park) and Kings Bromley Footpath 0.392 (near Black Slough). This effect remains unchanged from the main ES.

## **CFA23 (Balsall Common and Hampton-in-Arden)**

### **Agriculture, forestry and soils**

#### **Effects arising during construction**

The realignment of Diddington Lane (AP2-023-005) will enable the continued direct access to agricultural land from the centre of Home Farm, without a requirement to use the B4102 Meriden Road and the A452 Kenilworth Road as was reported in the main ES. The AP2 revised scheme therefore removes the moderate adverse significant effect that was reported in the main ES.

### **Ecology**

#### **Effects arising during construction**

As part of AP2-023-004, the proposed River Blythe viaduct will be extended. The main ES reported that a loss of broadleaved semi-natural woodland within the land required for the amendment would result in a permanent

adverse effect. As part of this amendment, the amount of replacement semi-natural woodland that will be provided in this area will be reduced by 1.3ha from that proposed as part of the original scheme. The amendment will give rise to a different effect, however the level of significance remains as reported in the main ES.

### *Landscape and visual*

#### **Effects arising during construction**

The main ES reported that the Solihull Rural Heartland LCA would experience a moderate adverse significant effect as a result of the presence of construction activities associated with the scheme (including Patrick embankment). As part of AP2-023-004, a longer section of viaduct and shorter sections of embankment will be constructed. The associated construction activities will be visible in the LCA. The main ES reported that the Blythe Valley LCA would experience a major adverse effect as a result of construction activities in the area. As part of AP2-023-004, construction activity will occur for one year longer than proposed as part of the original scheme. This will result in different significant effects, however the level of significance will remain as reported in the main ES.

The main ES reported that the following viewpoints would experience significant effects: 293.4.002 (moderate adverse), 294.4.003, (moderate adverse) 295.3.001 (major adverse), and 296.2.001 (major adverse). This is because of the presence of construction activity. As a result of AP2-023-004, a longer section of viaduct and shorter sections of embankment will be constructed. Therefore, views of construction activity will change. This will result in different significant effects on these viewpoints, however the level of significance for each remains as reported in the main ES.

The main ES reported a major adverse significant effect on views south-west across farmland from footpath M114, as a result of the presence of construction activities. Views of construction activities associated with the realignment of Diddington Lane (as part of amendment AP2-023-005) will give rise to a different significant effect. However, the level of significance remains as reported in the main ES.

#### **Effects arising during operation**

The main ES reported that the Blythe Valley LCA would experience a major adverse effect as a result of the presence of scheme infrastructure, landforms and the scale of

the viaducts at Marsh Farm and the River Blythe. Planting to screen views of the scheme would not be able to reduce this effect and it would remain. As part of AP-023-004, Patrick embankment will be removed and the River Blythe viaduct will be extended. This will help reduce the effects of the scheme infrastructure in the landscape. This will result in a different significant effect, however the level of significance remains as reported in the main ES.

The main ES reported that viewpoint 295.3.001 would experience major adverse effects at year one of operation as a result of the presence of Patrick embankment. When associated scheme planting matures it will help screen views and reduce the level of the effect to moderate by year 15 and year 60 of operation. As part of amendment AP2-023-004, the River Blythe viaduct will be extended (and Patrick embankment removed). This will result in a different significant effect. However, the level of significance remains as reported in the main ES.

The main ES reported that views north-east across farmland adjacent to Diddington Lane from Footpath M115 will experience a moderate adverse effect during year one of operation, as a result of views of the scheme. The moderate

adverse effect would remain by year 15 of operation, but would reduce to a level that is not significant by year 60. The realignment of Diddington Lane (AP2-023-005) will change the visual effects. In the first year of operation, vehicles using the realigned Diddington Lane will be visible in views south-west across farmland from Footpath M114. This will give rise to a different significant effect to that reported in the main ES. By year 15 of operation, mitigation planting on the realigned Diddington Lane will screen any elements of the Diddington cutting and associated rail infrastructure so that the effect reduces from moderate adverse to minor adverse. The AP2 revised scheme therefore avoids the significant effect reported in the main ES at year 15 of operation.

### *Traffic and transport*

#### **Effects arising during construction**

The extension of the Kenilworth Greenway (AP2-023-001) will result in a new significant minor adverse effect on users of Footpath M196 to that reported in the main ES. The temporary closure of the footpath during construction will result in an increased walking distance of 860m, and increased journey times and delays to users of the footpath.

The main ES reported that significant effects as a result of congestion and delays during construction would occur at the following locations: A452 Kenilworth Road between Diddington Lane and Park Lane (minor adverse in month 27), A452 Kenilworth Road between Hallmeadow Road and Wootton Green Lane (minor adverse in months 22 and 27), Park Lane (major adverse in months 22 and 27), Truggist Lane, between Hallmeadow Road and Baulk Lane (minor adverse in month 27 and major adverse in month 22), Truggist Lane, between Baulk Lane and Hodgett's Lane (minor adverse in month 27 and moderate adverse in month 22), Truggist Lane, between Hodgett's Lane and Spencer Lane (minor adverse in month 22) and Spencer Lane, between Lavender Hall Lane and Truggist Lane (moderate adverse in month 22).

While the relevant amendments will increase traffic flows, particularly on the A452 Kenilworth Road and the B4101 Kelsey Lane/Waste Lane, the level of significance of effects will remain as reported in the main ES.

Changes to construction vehicle movements as a result of the proposed amendments will alter a number of effects reported in the main ES which would be caused by increases in vehicles making

it more difficult for pedestrians to cross the road. These changes will occur at the following locations: the A452 Kenilworth Road, between Hallmeadow Road and Lavender Hall Lane (moderate adverse in the main ES for months 22 and 27 will increase to major adverse); A452 Kenilworth Road, between Lavender Hall Lane and B4101 Kelsey Lane (minor adverse in the main ES for months 22 and 27 will increase to moderate adverse); B4101 Waste Lane, between Windmill Lane and the HS2 route (moderate adverse in the main ES for months 22, 27 and 36 will increase to major adverse); A452 Kenilworth Road, between Park Lane and Hallmeadow Road (minor adverse in the main ES for months 27 and 36 will increase to moderate adverse).

New significant effects will be introduced at the following locations as a result of increased vehicular activity making it more difficult for pedestrians to cross the road: A452 Kenilworth Road, between the B4102 Meriden Road and Hallmeadow Road (minor adverse on the A452 Kenilworth Road between Hallmeadow Road and Park Lane in month 22); A452 Kenilworth Road, between Park Lane and Hallmeadow Road (moderate adverse in month 22); B4102 Meriden Road, between A452 Kenilworth Road and haul road (minor adverse in months 22, 27 and 36).

The following effects reported in the main ES as a result of increased vehicular activity making it more difficult for pedestrians to cross the road will be avoided: Diddington Lane (minor adverse in month 27 in the main ES); Hob Lane (major adverse in months 22, 27 and 36 in the main ES); Windmill Lane, between Hob Lane and B4101 Waste Lane (major adverse in months 22, 27 and 36 in the main ES).

#### **Effects arising during operation**

The retention of the temporary roundabout at Park Lane/A452 Kenilworth Road (AP2-023-002) will result in a new significant moderate adverse effect on pedestrians on Park Lane, as increased traffic flows will make it harder to cross the road.

The realignment of Diddington Lane (AP2-023-005) will require the permanent diversion of Footpath M114, increasing the distance by 110m. This will result in a new significant minor adverse effect to users of the footpath due to an increased walking distance and delays. The moderate adverse significant effects on users of Diddington Lane (due to an increased travel distance) and pedestrians on the B4102 Meridan Road (due to increased traffic flows making it more difficult to cross the road) reported in the main ES will be avoided.

## **CFA26 (Washwood Heath to Curzon Street)**

### *Community*

#### **Effects arising during construction**

The main ES reported a significant major adverse amenity effect on users of the Masjid Ali Project Mosque for approximately five months due to a combination of noise and construction vehicle movements during construction. As part of amendment AP2-026-001, improvements to the Aston Church Road/Arley Road junction will be undertaken, which will locate road construction and utility diversion activities further away from the mosque. This will therefore avoid the significant noise effect, avoiding the amenity effects on users of the mosque reported in the main ES.

The main ES reported that approximately 20 residential properties located at the southern end of Northumberland Street and Vauxhall Grove would experience a major adverse significant amenity effect (noise and visual) as a result of the construction of Curzon Street No. 2 viaduct. As part of amendment AP2-026-006, additional works will be undertaken at the Freightliner Terminal depot. This will increase

the duration of the significant noise effect on the residential properties from nine months to one year and one month during the daytime. This is a different community effect, however the level of significance remains as reported in the main ES.

The main ES reported a major adverse significant effect as a result of the loss of access to the service yard at the rear of the West Midlands Fire Service headquarters, and the underground parking area and the loss of the adjacent offsite car park at St James' Place for approximately five years during construction of the Curzon Street No. 2 viaduct. However, the phased replacement of car parking as proposed in amendment AP2-026-007 will ensure that there is the same number of car parking spaces available as at present during each phase of construction. The proposed amendment will therefore avoid the significant effect reported in the main ES.

### *Landscape and visual*

#### **Effects arising during construction**

The main ES reported that views south from residences at the junction of Barrack Street and Vauxhall Road would experience a moderate significant effect, due to views of construction activities associated with the construction of

the Curzon Street No.2 and Curzon Street No. 3 viaducts. Views of demolition and construction activities associated with the new three storey car park at St James' Place in front of the Curzon Street No.2 and No.3 viaducts (AP2-026-007) will give rise to a different significant effect, however, the level of significance remains as reported in the main ES.

#### **Effects arising during operation**

The main ES reported a moderate adverse significant effect for views south from residential properties at the junction of Barrack Street and Vauxhall Road in year 1 of operation due to views of the elevated HS2 route, including the Curzon Street No.2 and Curzon Street No.3 viaducts, associated overhead line equipment and the presence of trains. Views of the proposed three storey car park (AP2-026-007) will give rise to a different significant effect, however the level of significance remains as reported in the main ES.

#### ***Sound, noise and vibration***

##### **Effects arising during construction**

The main ES reported that a significant noise effect would occur during construction on the Masjid Ali Project Mosque. However, as a result of improvements to the Aston Church Road/

Arley Road junction (AP2-026-001), construction activities will be located further away from the mosque and the significant effect will be avoided.

The main ES reported a significant noise effect during construction at the Birmingham City Council Museum Collection Centre. As a result of amendment AP2-026-006, the noise levels will increase and the duration of the impact will also increase from 30 to 36 months. This will give rise to a different significant effect, however the level of significance remains as reported in the main ES.

The main ES reported significant noise effects on the industrial units on Erskine Street. As a result of the reconfiguration of the Freightliner Terminal depot (AP2-026-006), the daytime noise levels will increase at the industrial units. This will give rise to a different significant effect, however the level of significance remains as reported in the main ES.

At Safeside the reconfiguration of the Freightliner Terminal depot (AP2-026-006) will increase the noise levels reported within the main ES. The duration of the impact will increase from four months to ten months. This will give rise to a different significant effect, however the level of the significance remains as reported in the main ES.

The main ES reported that residential properties on Northumberland Street would experience significant noise effects. As a result of amendment AP2-026-006, the noise levels will increase during construction. The impact will increase from four months to one year and one month. This will give rise to a different significant effect, however the level of significance of the effect remains the same as reported in the main ES.

#### ***Traffic and transport***

##### **Effects arising during construction**

The main ES reported that major adverse significant effects would occur during construction as a result of the temporary loss of the informal parking and the loading area at the Birmingham City Council Museum Collections Centre. As part of amendment AP2-026-005 the parking at the service yard will not be lost. Therefore, the significant effect reported in the main ES will be avoided.

The main ES reported a significant major adverse effect as a result of the loss of car parking at the West Midlands Fire Service headquarters. However, as part of amendment AP2-026-007, the phased replacement of car

parking is proposed. This will ensure that there is the same number of car parking spaces available as at present during each phase of construction, avoiding the significant effect reported within the main ES.

### Effects arising during operation

The main ES reported that a major adverse significant effect would occur as the original scheme would result in the permanent loss of 20 car parking spaces at Cosway (UK) Ltd and 10 car parking spaces at Salts Medilink Distribution Centre. As part of amendment AP-026-004, replacement car parking spaces will be provided, therefore the significant effects on Cosway (UK) Ltd and Salts Medilink Distribution Centre will be avoided.

The main ES reported that a major adverse significant effect would occur as a result of the permanent removal of 40 HGV parking bays at the Freightliner Terminal depot. However, as a result of amendment AP2-026-006, these spaces will no longer be removed. Therefore the significant effect reported in the main ES will be avoided.

The inclusion of a new three storey car park (AP2-026-007) will avoid the permanent

adverse significant effect associated with the loss of car parking at the West Midlands Fire Service headquarters.

## Volume 3: Route wide effects

### Ecology

#### Effects arising during construction

As a result of the AP2 amendments there will be no change in the total number of ancient woodlands that will be directly affected. The AP2 revised scheme will not result in loss of ancient woodland at the Slaish (which was affected under the original scheme). However, the AP2 amendments will result in habitat loss from one additional ancient woodland - Big Lyntus (0.9ha) in CFA22. There are reductions in ancient woodland losses at six other sites and the total ancient woodland losses as a consequence of the AP2 revised scheme will be reduced to approximately 43.8ha (compared to 44.5ha for the SES scheme). This is a different significant effect; however the level of significance remains as reported in the main ES.

### Waste and material resources

#### Effects arising during construction

The total quantity of inert waste (i.e. surplus excavated material) that will require off-site disposal to landfill during the construction period is approximately 11,311,251 tonnes. This represents an increase of 7,550,315 tonnes over the quantity reported for the original scheme in the main ES. Work is being undertaken to identify opportunities for the off-site reuse of surplus excavated material, for example in flood protection schemes, with the aim of achieving a landfill diversion rate of 90% for excavated material. The resultant significance of the effect after mitigation associated with the off-site disposal of inert surplus excavated material generated by construction of the AP2 revised scheme would be minor adverse, compared to negligible as reported in the main ES.

The total quantity of non-hazardous waste that will require off-site disposal to landfill during the construction period 2017 to 2025 is approximately 830,454 tonnes. This represents an increase of 66,279 tonnes (8.6%) over the quantity reported for the original scheme in the main ES. However, the significance of the effect after mitigation remains as reported in the main ES (moderate adverse).



The total quantity of hazardous waste requiring off-site disposal to landfill during the construction period 2017 to 2025 is approximately 537,409 tonnes. This represents an increase of 136,048 tonnes (33.9%) over the quantity reported for the original scheme. The majority of this increase arises from the inclusion of the proposed HEx depot at Langley in Slough, which is forecast to generate hazardous waste due to its historical land uses at the site. The significance of the effect after mitigation remains as reported in the main ES (moderate adverse).

An assessment has been undertaken to establish the cumulative effects associated with the off-site disposal to landfill of solid waste that will be generated by the construction of the scheme and other developments along the HS2 route.

Without mitigation measures applied to the three major projects considered in the assessment alongside the HS2 scheme (Crossrail 1, Thames Tideway Tunnel and Northern Line Extension), the following affects would occur:

- moderate, in relation to inert waste landfill capacity;
- moderate adverse, in relation to non-hazardous waste landfill capacity; and

- major adverse, in relation to hazardous waste landfill capacity.

Implementation of mitigation measures to the three major projects will reduce the magnitude of the cumulative effects.

## Volume 4: Off-route effects

### Community

#### Effects arising during construction

Approximately 20 properties at Mead Avenue and Maplin Park in Langley near Slough are predicted to experience a combination of significant visual effects from construction works at the Heathrow Express (HEx) depot main construction compound, maintenance shed and associated offices, and significant construction noise effects from the proposed HEx depot construction earthworks (as part of amendment AP2-000-001). These effects will occur for four to six months, resulting in a significant major adverse effect on amenity.

### Cultural heritage

#### Effects arising during construction

The Thames Terrace deposits (Langley Silt Member/Taplow Gravels) which have been

shown to contain Palaeolithic remains, may be partially lost as a result of construction activities associated with HEx depot (AP2-000-001), resulting in a major adverse significant effect.

### Ecology

#### Effects arising during construction

The land required for the construction of the proposed HEx depot (AP2-000-001), will result in the loss of 15ha of habitat mosaic (i.e. habitat suitable for a number of animals), and habitat for great crested newts, reptiles, breeding birds, terrestrial invertebrates and bats. Based on the precautionary assessment undertaken, there will be a requirement for replacement habitat to be created prior to the loss of land so that translocation of fauna species, including great crested newt and reptiles, can be undertaken prior to the loss of their existing supporting habitat from the HEx depot site. Areas for replacement habitat creation are unlikely to be available within the HEx depot site boundary until the construction work is complete, hence additional land will be required outside the HEx depot boundary to accommodate these species if they are found to be present. Appropriate offsite measures prior to construction are expected to be brought forward either in a

subsequent AP, or by direct agreement with landowners. In the absence of developed mitigation measures prior to construction, this will result in significant adverse effects.

### *Landscape and visual assessment*

#### **Effects arising during construction**

As a result of construction activity associated with the HEx depot, the Iver Heath Mixed Use Terrace (South) LCA will experience a moderate adverse significant effect. The presence of construction plant and activities will be visible from a number of views within the area: view from PRoW - IVE/15/1 looking north-west; view north-east from Market Lane, view north from Mead Avenue and Maplin Park; view south from house boats moored on the Grand Union Canal and the Grand Union Canal Walk (towpath); and the view west from Hollow Hill Lane. The impacts on these views will result in moderate adverse effects.

#### **Effects arising during operation**

The large-scale maintenance shed, offices and storage and associated lighting will remain highly visible features in the views from PRoW - IVE/15/1 looking north-west and view north from Mead

Avenue and Maplin Park. The impacts on these views will result in a moderate adverse effect which will remain throughout operation.

### *Sound, noise and vibration*

#### **Effects arising during construction**

The following dwellings were identified as having potential to experience significant noise effects inside as a result of construction:

- 15 buildings (24 residential properties) on Southwold Spur, Langley;
- 13 buildings (46 residential properties) in Mead Avenue, Langley;
- 7 buildings (67 residential properties) in Maplin Park, Langley; and
- 25 buildings (25 residential properties) in the Mansion Lane and Dudley Wharf Caravan Sites at Hollow Hill Lane, Langley and at the moorings for canal boats on the Grand Union Canal in the vicinity of Hollow Hill Lane, Langley.

However, mitigation measures, including noise insulation, will reduce noise inside all dwellings such that it does not reach a level where it will significantly affect residents.

As a result of construction activity, areas outside the following properties will experience significant noise effects:

- 137 residential properties on Southwold Spur, Mead Avenue and Maplin Park; and
- 25 residential properties at Mansion Lane and Dudley Wharf caravan sites, Hollow Hill Lane and moorings for canal boats on the Grand Union Canal in the vicinity of Hollow Hill Lane.

Construction traffic will cause significant outdoor noise effects on 19 residential properties located adjacent to Bangors Road.

HS2 Ltd will continue to seek reasonably practicable measures to further reduce or avoid these significant effects. In doing so HS2 Ltd will continue to engage with stakeholders to fully understand the receptor, its use and the benefit of the measures.

### *Traffic and transport*

#### **Effects arising during construction**

Increases in HGV movements on the A412 Denham Road, Bangors Road and Thorney Lane as a result of the construction of the HEx depot will result in an increase in congestion at major connecting junctions. This will result

in significant effects in relation to delay and congestion at the following locations;

- A412 Denham Road/Bangors Road North (moderate adverse effect);
- Bangors Road/A4007 Slough Road (moderate adverse effect);
- Bangors Road South/High Street, Iver (moderate adverse effect); and
- High Street, Iver/Thorney Lane North (moderate adverse effect).

Changes in traffic movements related to construction traffic associated with the HEx depot will result in a significant effect on pedestrians on the following roads as a result of increased vehicular activity making it more difficult for pedestrians to cross the road:

- A412 Denham Road, between Bangors Lane and M40 Denham roundabout (major adverse effect);
- Bangors Lane, between High Street, Iver and A412 Denham Road (major adverse effect);
- Thorney Lane, between Ridgeway and High Street, Iver (major adverse effect);

- Langley Park Road, between Canal Wharf (south) to Trenches Lane (north) (moderate adverse effect); and
- Sutton Lane, between Hurricane Way to Grasholm Way (moderate adverse effect).

To seek to mitigate the effects on the High Street, Iver, alternative routes will be considered in discussion with the local authorities.



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