

HIGH SPEED RAIL (LONDON - WEST MIDLANDS)

Supplementary Environmental Statement and Additional Provision 2 Environmental Statement

Volume 2 | Community forum area report

CFA10 | Dunsmore, Wendover and Halton

July 2015

SES and AP2 ES 3.2.1.10



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Department
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Contents

Structure of the HS2 Supplementary Environmental Statement and Additional Provision 2 Environmental Statement	1
Structure of this report	3
1 Introduction	5
Part 1: Supplementary Environmental Statement	7
2 Summary of changes	7
2.1 Ecology	7
2.2 Changes to the design or construction assumptions not requiring a change to the Bill	7
2.3 Corrections to the main ES	11
2.4 Topics included in the SES assessment	11
3 Assessment of changes	12
3.1 Agriculture, forestry and soils	12
3.2 Community	14
3.3 Landscape and visual assessment	17
3.4 Sound, noise and vibration	22
3.5 Traffic and transport	24
Part 2: Additional Provision 2 Environmental Statement	28
4 Summary of amendments	28
5 Assessment of amendments	31
5.1 Additional land required for the reconfiguration of a construction access and material stockpile at Jones’ Hill Wood (AP2-010-001)	31
5.2 Summary of new or different likely residual significant effects	38
5.3 Additional land required for access to a balancing pond at Wendover Dean (AP2-010-002)	38
5.4 Summary of new or different likely residual significant effects	40
5.5 Minor improvements at the existing access track at Durham Farm, Wendover Dean (AP2-010-003)	40
5.6 Additional land required for the relocation of Ellesborough Road cricket ground and pavilion for Wendover Cricket Club (AP2-010-004)	40
5.7 Summary of new or different likely residual significant effects	58

5.8	Noise mitigation on the A4010 Stoke Mandeville bypass (AP2-011-002)	59
6	Combined effects of amendments in this CFA due to changes in traffic flows	61

List of figures

Figure 1:	Locations of design changes not requiring a change to the Bill in CFA10	9
Figure 2:	Locations of amendments in CFA10	30

List of tables

Table 1:	Summary of changes to the design or construction assumptions not requiring a change to the Bill in CFA10	8
Table 2:	Summary of corrections to the main ES in CFA10	11
Table 3:	Summary of amendments in CFA10	29
Table 4:	Surface water features potentially affected by the AP2 revised scheme	55

Structure of the HS2 Supplementary Environmental Statement and Additional Provision 2 Environmental Statement

The Supplementary Environmental Statement (SES) and Additional Provision 2 Environmental Statement (AP2 ES) comprises:

- non-technical summary (NTS). This provides a summary in non-technical language of the SES (Part 1) and AP2 ES (Part 2) and of any likely significant environmental effects, both beneficial and adverse, which are new or different to those reported in the High Speed Two (HS2) Phase One Environmental Statement (ES) submitted to Parliament in November 2013 in support of the hybrid Bill ('the Bill') for Phase One of HS2 (hereafter referred to as 'the main ES') and, where relevant, the AP ES submitted in September 2014 (hereafter referred to as '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 which have resulted in the need to amend the Bill within the AP2 ES. It also explains any changes to the scope, methodology, assumptions and limitations required for the environmental impact assessment;
- Volume 2: community forum area (CFA) reports and map books. These describe the supplementary environmental information and design changes included within the SES (Part 1), amendments within the AP2 ES (Part 2) and report any new or different likely significant environmental effects arising from these changes in each CFA compared to those reported in the main ES and, where relevant, the AP1 ES. The main local alternatives that have been considered are described, where relevant;
- Volume 3: route-wide effects. This reports new or different likely significant route-wide effects arising from the supplementary environmental information and design changes included within the SES (Part 1) and amendments within the AP2 ES (Part 2) compared to those reported in the main ES and, where relevant, the AP1 ES;
- Volume 4: off-route effects. This reports new or different likely significant off-route effects arising from the amendments within the AP2 ES 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 and associated maps.

- glossary of terms and list of abbreviations. This contains any new or different terms and abbreviations used throughout the SES and AP2 ES compared to those included in the main ES and AP1 ES.

Structure of this report

This volume of the SES and AP2 ES is divided into CFA reports, which are in turn divided into two parts.

Part 1 provides supplementary environmental information relating to

- new baseline information with respect to European Protected Species surveys;
- changes to the design or construction assumptions which do not require changes to the Bill; and
- corrections to the main ES.

Part 1 of each CFA report includes, where relevant:

- a description of the changes or updates within the CFA that have triggered the need for reassessment;
- an assessment of the environmental effects of the changes for relevant environmental topics considering the:
 - scope, assumptions and limitations of the SES assessment;
 - changes of relevance to the assessment;
 - environmental baseline;
 - effects arising during construction;
 - effects arising from operation; and
 - mitigation and residual effects; and
- a summary of any new or different likely residual significant effects as a result of the changes.

Part 2 provides environmental assessment information relating to proposed amendments to the design, which have resulted in the need to alter the powers conferred by the Bill. The following is included where relevant:

- a summary of the proposed amendments within each CFA that have triggered the need for reassessment;
- a description of each amendment;
- an assessment of the environmental effects of each amendment for relevant environmental topics considering the:
 - scope, assumptions and limitations of the AP2 ES assessment;
 - environmental baseline;
 - effects arising during construction;
 - effects arising from operation; and

- mitigation and residual effects; and
- a summary of any new or different likely residual significant effects as a result of each proposed amendment.

1 Introduction

- 1.1.1 The Bill for High Speed Rail between London and the West Midlands was submitted to Parliament together with the main ES in November 2013. The AP1 ES, which was submitted in September 2014, contained generally minor amendments to the design of the original scheme (i.e. the scheme submitted in November 2013). The Bill and associated Additional Provisions to the Bill, if enacted by Parliament, will provide the powers to construct, operate and maintain Phase One of HS2.
- 1.1.2 Since the submission of the main ES and AP1 ES, a number of changes or updates to environmental information and scheme design or assumptions have occurred, which may lead to new or different significant effects. These effects, depending on the type of change, are reported in the SES (Part 1) or AP2 ES (Part 2) of this document.
- 1.1.3 The SES contains updated environmental baseline information and scheme information relating to changes that have occurred within the current limits and powers of the Bill, and therefore do not require an Additional Provision to the Bill. This includes changes to the design or construction assumptions which do not require changes to the Bill.
- 1.1.4 Design changes assessed within the SES include the removal of the proposed sustainable placement area at Hunt's Green Farm.
- 1.1.5 The changes are described in Part 1 under a series of sub-headings and assessed on a topic by topic basis using the same approach adopted in the main ES.
- 1.1.6 The purpose of the SES is to provide an assessment of any new or different likely significant environmental effects arising from the changes described.
- 1.1.7 The AP2 ES reports the likely significant effects of amendments to the design of the scheme, which require the use of land outside the original limits of the Bill, additional access rights, or other extensions to the powers conferred by the Bill, making it necessary to submit an Additional Provision to the Bill.
- 1.1.8 The amendments assessed within the AP2 ES for this CFA include:
- reconfiguration of a construction access and material stockpile at Jones' Hill Wood;
 - access to a balancing pond at Wendover Dean;
 - minor improvements to an access track at Durham Farm, Wendover Dean; and
 - relocation of the Ellesborough Road cricket ground and pavilion for Wendover Cricket Club.
- 1.1.9 The AP2 ES assesses each amendment separately for all relevant topics. The purpose of the AP2 ES is to provide an assessment of any new or different likely significant environmental effects arising from the amendments.
- 1.1.10 The standard 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, Volume 1, Section 9 and the draft Code of Construction Practice

(CoCP) submitted in support of the Bill. Implementation of these measures has been assumed in this SES and AP2 ES.

1.1.11

It should be noted that, since submission of the Bill, the scheme design has been revised by SES design changes, amendments described in the AP1 ES (AP1 amendments) and/or amendments described in the AP2 ES (AP2 amendments). In order to differentiate between the original proposals and subsequent changes, the following terms are used:

- '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 AP submitted in September 2014;
- 'the SES scheme' - the original scheme with the design changes described in the SES; and
- 'the AP2 revised scheme' - the original scheme as amended by the SES scheme and AP2.

Part 1: Supplementary Environmental Statement

2 Summary of changes

2.1 Ecology

- 2.1.1 Surveys for bats, great crested newt, hazel dormouse and otter have been undertaken in this area since the production of the main ES (September 2013).
- 2.1.2 Details of all survey work and desk-study information gathered since September 2013 which is relevant to this area is provided in SES and AP2 ES Volume 5: Appendix EC-001-002 and SES and AP2 ES Volume 5 map series EC-04; EC-05; and EC-12.
- 2.1.3 SES and AP2 ES Volume 5: Appendix EC-002-002 provides a summary of additional baseline survey data collected since September 2013, which has resulted in no change to the conclusions of the main ES. SES and AP2 ES Volume 5: Appendix EC-003-002 identifies additional local/parish level effects which occur as a consequence of SES changes but are not significant.

2.2 Changes to the design or construction assumptions not requiring a change to the Bill

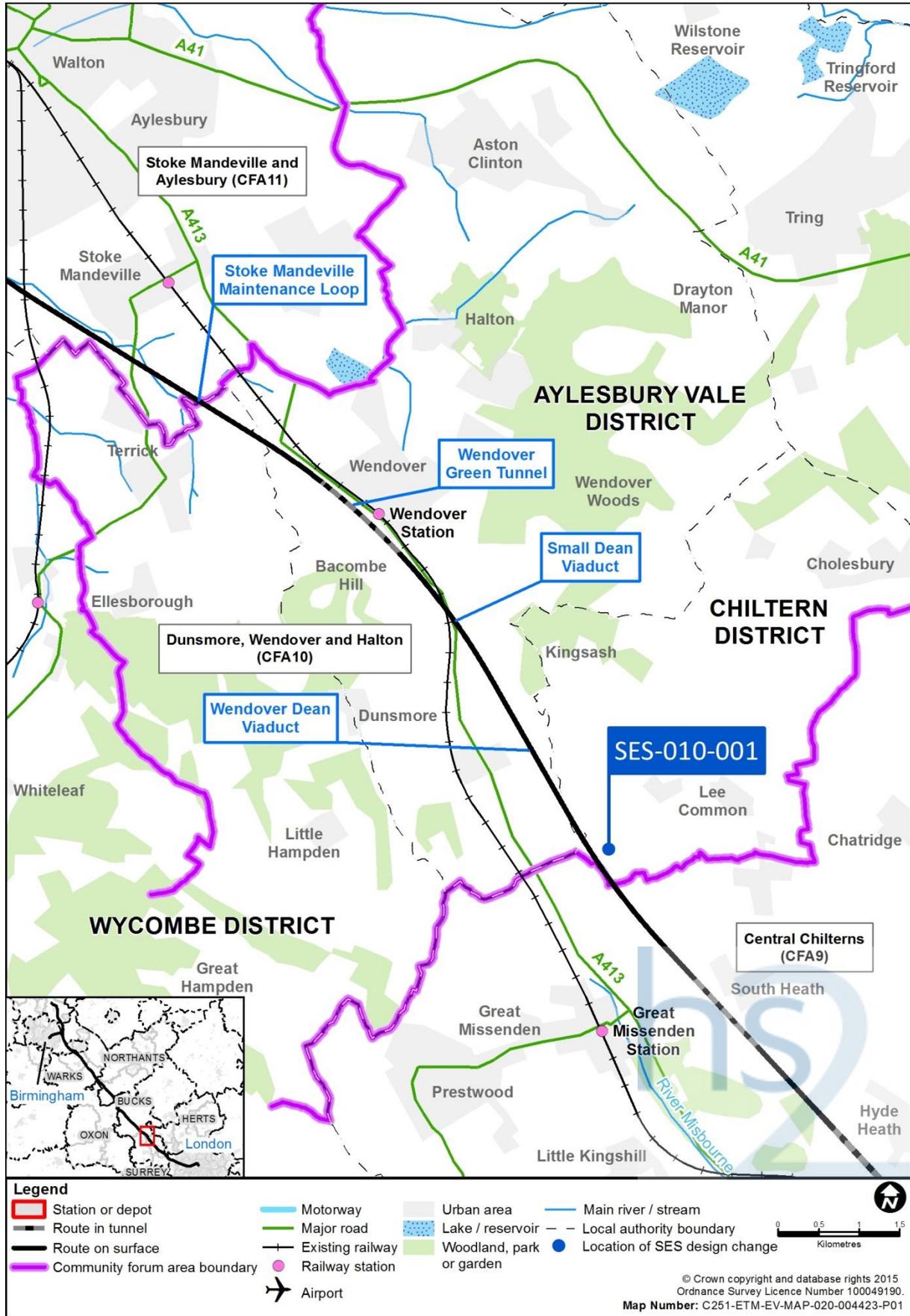
- 2.2.1 Table 1 provides a summary of the changes to the design or construction assumptions not requiring a change to the Bill which will result in new or different significant effects in the Dunsmore, Wendover and Halton CFA (CFA10). Figure 1 shows the locations.

Table 1: Summary of changes to the design or construction assumptions not requiring a change to the Bill in CFA10

Name of design change or construction assumption	Description of the original scheme	Description of the SES scheme
<p>Hunt's Green Farm sustainable placement area.</p> <p>SES-010-001</p>	<p>Permanent sustainable placement area approximately 1.5km to the north of Great Missenden, to be used to deposit surplus excavated materials.</p> <p>A permanent land drainage area located adjacent to the sustainable placement area, to the north of Leather Lane.</p>	<p>The SES scheme no longer proposes a sustainable placement area.</p> <p>Following a review of the approach to the movement of excavated material some of the material that would have formed part of this area will be used in landscape earthworks. The earthworks are located along the eastern boundary of the HS2 route between Leather Lane and Bowood Lane, linking to the earthworks provided as part of the original scheme. The remaining material will be stockpiled temporarily before being used elsewhere along the route.</p> <p>A reduced area will be required for land drainage.</p>

SES and AP2 ES Volume 2 – CFA10, Dunsmore, Wendover and Halton

Figure 1: Locations of design changes not requiring a change to the Bill in CFA10



Description of changes to the design or construction assumptions

Hunt's Green Farm sustainable placement area (SES-010-001)

- 2.2.2 The Bill provides for a permanent sustainable placement area¹, to be used to deposit approximately 1,000,000m³ of surplus excavated materials from cuttings in the Central Chilterns area (CFA9) and from the Dunsmore, Wendover and Halton area (CFA10). In the original scheme the sustainable placement area is approximately 1.3km long, up to 450m wide, and up to 5m in height. By placing the material locally, fewer vehicles movements along the road network will be required to transfer the material for disposal elsewhere. The sustainable placement area is located immediately to the east of the HS2 route at Hunt's Green Farm, between Leather Lane and Bowood Lane. The Bill also provides for a land drainage area for the sustainable placement area, located approximately 10m north of Leather Lane (refer to map CT-06-035 in main ES Volume 2, CFA10 Map Book).
- 2.2.3 Since submission of the Bill, in order to address concerns raised, the approach to the movement of excavated material has been reviewed and as a result there is no longer a requirement for the sustainable placement area at Hunt's Green Farm (refer to map CT-06-035 in the SES and AP2 ES Volume 2, CFA10 Map Book).
- 2.2.4 Some of the material that would have formed part of the sustainable placement area will be used in landscape earthworks along the eastern side of the South Heath cutting between Leather Lane and Bowood Lane. These landscape earthworks will link with the earthworks provided in the original scheme. The earthworks will be profiled with shallow slopes, be approximately 1.3km long, up to 70m wide and up to 3.5m in height. The proposed land drainage area has been reduced from 1.1ha to 0.1ha.
- 2.2.5 The remaining material (up to 800,000m³) will be stored temporarily in an area with the same footprint and similar dimensions to the sustainable placement area in the original scheme. From there the material will be moved along the route to the Rocky Lane underbridge satellite compound (refer to map CT-05-037 in the main ES Volume 2, CFA10 Map Book) and will be transferred from there by lorry via the A413 for beneficial use elsewhere along the route or off-site disposal. Temporary stockpiling is required to regulate movement of the material onto the A413 via Rocky Lane. The temporary storage area will be reinstated to agricultural use when no longer required.
- 2.2.6 The duration of the operation to move stored material from Hunt's Green Farm will be up to approximately four years.
- 2.2.7 Removal of the sustainable placement area does not reduce the land temporarily required for the SES scheme. However, with the retained landscape earthworks, the SES scheme reinstates 4.5ha less land to agriculture than the original scheme.
- 2.2.8 The design change results in new or different significant effects for agriculture, forestry and soils; community; landscape and visual assessment; sound, noise and vibration; and traffic and transport, and these are reported in Section 3.

¹ Sustainable placement areas are features that allow on-site placement of compatible materials from excavations directly onto adjacent farmland to avoid the environmental impacts that would otherwise occur as a result of the transportation of that material via the road network. The material will be re-graded and integrated into the landscape.

Changes to the design or construction assumptions in other CFAs affecting this CFA

- 2.2.9 Design changes in other CFAs, in particular the reduction of landscape earthworks at Lower Boddington in CFA15, affect CFA10. Consequently the movement of excavated material by heavy goods vehicle (HGV) will be altered in this CFA and traffic flows will differ in comparison to the original scheme. The assessment in relation to this is presented in Section 3 under 'Traffic and transport'.

2.3 Corrections to the main ES

- 2.3.1 Since submission of the Bill, the need for a number of corrections in the contents of the main ES has been identified. Table 2 provides a list of those instances where there has been a need to correct the Volume 2 CFA report for Dunsmore, Wendover and Halton because of the potential to alter the significant environmental effects reported in the main ES or a factual inaccuracy relating to significant effects has been identified. The table gives the location of the correction in the main ES, the reason for the correction, replicates the text from the main ES, where applicable provides revised text, and identifies whether the correction changes a significant effect reported in the main ES. Where relevant, these corrections have been taken into account in the technical assessments contained within Section 3 of this SES.

Table 2: Summary of corrections to the main ES in CFA10

Reference in the main ES	Reason for correction	Text in the main ES	Revised text	Change to significant effects and mitigation
Sound, noise and vibration: Section 11, Table 15, Volume 2, CFA10 of the main ES.	The number of dwellings included in significant effect number OSV10-Co4 (Nash Lee) was overstated in the main ES.	Nash Lee. Approximately 20 dwellings in the vicinity of Nash Lee Lane. Forecast increases in sound from the railway are likely to cause a moderate adverse effect on the acoustic character of the area around these properties. No shared open spaces have been identified as being affected in this community area.	Nash Lee. Approximately 15 dwellings in the vicinity of Nash Lee Lane. Forecast increases in sound from the railway are likely to cause a moderate adverse effect on the acoustic character of the area around these properties. No shared open spaces have been identified as being affected in this community area.	Yes. The number of impacted dwellings included in determination of the likely significant effect at Nash Lee is reduced from approximately 20 to approximately 15. No change to mitigation described in main ES.

2.4 Topics included in the SES assessment

- 2.4.1 Following assessment of air quality; cultural heritage and ecology, no new or different significant effects were identified as a result of the SES changes. Consequently, these topics are not considered further in this report. For those environmental topics that were assessed to result in new or different significant effects (i.e. agriculture, forestry and soils; community; landscape and visual assessment; sound, noise and vibration; and traffic and transport), the assessment is provided in Section 3.

3 Assessment of changes

3.1 Agriculture, forestry and soils

Introduction

- 3.1.1 This section of the report describes the environmental baseline in relation to agriculture, forestry and soils that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the changes introduced in Section 2, compared to the original scheme. Consideration is given to disturbance to agriculture during construction and to the permanent requirement for farmland.

Scope, assumptions and limitations

- 3.1.2 The assessment scope, key assumptions and limitations for agriculture, forestry and soils are as set out in Volume 1, the SMR (Volume 5: Appendix CT-010-000/1) and the SMR Addendum (Volume 5: Appendix CT-010-000/2) of the main ES.

Changes of relevance to this assessment

- 3.1.3 The changes at Hunt's Green Farm sustainable placement area (SES-010-001) are relevant to this assessment.

Environmental baseline

Existing baseline

- 3.1.4 The majority of the land that would have been affected by the Hunt's Green Farm sustainable placement area has soils in the Batcombe association, which are reasonably well drained (Soil Wetness Class (WC) II or III) silty loam topsoils over clayey subsoils (refer to main ES Volume 2, CFA10, Section 3). The quality of the agricultural land affected is assessed as good quality Subgrade 3a with small pockets of Subgrade 3b also present.
- 3.1.5 Small pockets of well-drained (WC I), silty loam Charity 2 association soils are also present near the HS2 route; these are developed in flinty chalky drift over Chalk bedrock and are also assessed as Subgrade 3a.
- 3.1.6 Hunt's Green Farm (CFA10/1)² is an arable, beef cattle and sheep farm of 100ha. The main ES reported that Hunt's Green Farm has a medium sensitivity to change. Hunt's Green Farm sustainable placement area is largely within this holding.
- 3.1.7 Strawberry Hill Farm (CFA10/2) is an arable, beef cattle and sheep farm of 220ha. The main ES reported that Strawberry Hill Farm has a medium sensitivity to change. Hunt's Green Farm sustainable placement area occupies a field within the holding, between the HS2 route and King's Lane.

² The holding reference provides a unique identifier and relates to Map AG-01-019 to AG-01-021 (Volume 5, Agriculture, Forestry and Soils Map Book) and Volume 5: Appendix AG-001-010 of the main ES.

Future baseline

Construction (2017)

- 3.1.8 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 3.1.9 None of the identified developments affect the assessment of the SES scheme's likely construction impacts on agriculture, forestry and soils.
- 3.1.10 Most existing environmental stewardship agreements will expire in 2015 and be replaced by a new environmental land management scheme (countryside stewardship) which is voluntary but competitive. It is more targeted than previous schemes, with its priorities being to protect and enhance biodiversity and water quality.
- 3.1.11 The widespread basic environmental management associated with entry level stewardship will be replaced by a new concept of greening introduced by Common Agricultural Policy reform, which will now be the main means by which farmers will provide environmental benefits in return for their direct support payments. Greening will encourage the retention of permanent grasslands, greater crop diversification and the creation of Ecological Focus Areas. These changes will affect the detailed management of individual farm holdings but are not expected to change fundamentally the baseline circumstances described.

Operation (2026)

- 3.1.12 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 3.1.13 None of the identified developments affect the assessment of the SES scheme's likely operational impacts on agriculture, forestry and soils.

Effects arising during construction

Avoidance and mitigation measures

- 3.1.14 Following construction the land will be restored to its former agricultural use. Restoration will be undertaken following the best practice guidance for handling soil, as set out in the draft CoCP (Volume 5: Appendix CT-003-000 of the main ES). The soil handling will involve stripping, storing and reinstating topsoils on land required for the temporary works.

Assessment of impacts and effects

Temporary effects

- 3.1.15 The SES design change will not alter the temporary effects of the original scheme as approximately the same area of land will be required for the combined area of the temporary soil storage during construction and for the permanent landscape earthworks. The temporary storage area will be removed and the area reinstated to agricultural use when no longer required.

- 3.1.16 The disturbance during construction to 171.1ha of land of best and most versatile (BMV) quality was assessed in the main ES as a moderate adverse effect, which is significant. This assessment is unchanged for the SES scheme.
- 3.1.17 The effect of the SES scheme on Hunt's Green Farm remains as reported in the main ES: a major/moderate temporary adverse effect on this holding due to the proportion of the holding required during construction, which is significant.
- 3.1.18 As reported in the main ES, the effect of the SES scheme on Strawberry Hill Farm remains a major/moderate temporary adverse effect due to the proportion of the holding required during construction, which is significant.

Permanent effects

- 3.1.19 The area of the landscape earthworks will not be reinstated to agricultural use, which increases the permanent effect of the SES scheme on Hunt's Green Farm. The main ES reported that 14.3ha (14% of the holding) would be permanently required. A total of 18.8ha (19% of the holding) will be permanently required for the SES scheme. This gives rise to a different effect, however the moderate adverse effect, which is significant, that was reported in the main ES remains unchanged for the SES scheme.
- 3.1.20 The main ES reported that 23.5ha (11% of the holding) of Strawberry Hill Farm would be permanently required. The proposed landscape earthworks do not extend onto the holding such that, following the restoration of land to agriculture within Strawberry Hill Farm, the permanent effect of the requirement for land is predicted to remain moderate adverse and significant.

Other mitigation measures

- 3.1.21 No additional mitigation measures are proposed.

Cumulative effects

- 3.1.22 There are no new or different likely significant cumulative effects for agriculture, forestry and soils as a result of the SES changes acting in combination with the SES or in AP1, or as a result of any relevant committed development.

Summary of likely residual significant effects

- 3.1.23 The removal of the Hunt's Green Farm sustainable placement area from the SES scheme will increase the area of Hunt's Green Farm permanently required from 14.3ha to 18.8ha, giving rise to a different residual significant effect on the holding. However, the effect remains moderate adverse, as reported in the main ES, which is significant.

Effects arising from operation

- 3.1.24 There are no new or additional significant effects associated with the operation of the SES scheme on agriculture, forestry and soils in this CFA.

3.2 Community

Introduction

- 3.2.1 This section of the report provides a description of the environmental baseline in relation to community receptors that is relevant to the assessment. In addition, it

identifies any new or different likely significant environmental effects as a result of the changes described in Section 2 compared to the original scheme, and then separately considers the SES scheme. Consideration is given to changes in predicted traffic flows during construction.

Scope, assumptions and limitations

- 3.2.2 The assessment scope, key assumptions and limitations for community receptors are as set out in Volume 1, the SMR (Volume 5: Appendix CT-010-000/1) and the SMR Addendum (Volume 5: Appendix CT-010-000/2) of the main ES.

Changes of relevance to this assessment

- 3.2.3 Changes in this and other CFAs have resulted in changes to HGV movements in this CFA. These include:
- removal of the sustainable placement area at Hunt’s Green Farm located in this CFA10 (SES- 010-001); and
 - reduction of landscape earthworks near Lower Boddington in CFA15 (SES- 015-001).
- 3.2.4 The SES design changes have resulted in changes to HGV traffic flows within CFA10 during construction in comparison to the original scheme. The changes in predicted construction traffic noise are presented in Volume 5, Appendix: SV-003-010 of the SES and AP2 ES.

Environmental baseline

Existing baseline

- 3.2.5 Dunsmore is a small village south of Wendover; it is located on an unnamed road that links with the A413 London Road to the east.
- 3.2.6 Nash Lee is a small village north west of Wendover, centred on the B4009 Nash Lee Road and the A4010.

Future baseline

Construction (2017)

- 3.2.7 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 3.2.8 None of the identified developments affect the assessment of the SES scheme’s likely construction impacts on community receptors.

Operation (2026)

- 3.2.9 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 3.2.10 None of the identified developments affect the assessment of the SES scheme’s likely operational impacts on community receptors.

Effects arising during construction

Avoidance and mitigation measures

- 3.2.11 The assessment assumes implementation of the measures set out within the draft CoCP (Volume 5: Appendix CT-003-000 of the main ES).

Assessment of impacts and effects

Temporary effects

- 3.2.12 In the main ES significant temporary amenity effects were predicted for approximately five residential properties on the A413 London Road, Dunsmore due to combined visual and HGV traffic effects. In addition to these amenity effects, approximately ten residential properties on Rocky Lane, east of the village (refer to map CM-01-032 of the SES and AP2 ES Volume 2, CFA10 Map Book), are now predicted to experience the following in-combination effects from the SES scheme:

- a significant noise effect associated with the construction traffic using Rocky Lane; and
- a significant effect due to increases in HGV movements along Rocky Lane, between the A413 and the Rocky Lane underbridge satellite compound³.

- 3.2.13 These in-combination effects are likely to be experienced during the peak of construction activities being coordinated by the Rocky Lane underbridge satellite compound, which will be in place for six years and nine months in total. The combination of these effects is considered to have a temporary major adverse effect on residential amenity (refer to SES and AP2 ES Volume 5: Appendix CM-001-010). This is, therefore, considered to be significant.

- 3.2.14 There were no significant effects reported for the village of Nash Lee in the main ES. As a result of the changed construction HGV movements as described above, approximately six residential properties on the B4009 Nash Lee Road (refer to map CM-01-033a of the SES and AP2, CFA10 Map Book) are now predicted to experience the following in-combination effects:

- significant visual effects associated with the realignment of Nash Lee Road, as reported in the main ES; and
- a significant noise effect associated with the construction traffic using the B4009 due to the movement of excavated materials.

- 3.2.15 The combination of these effects is likely to be experienced for up to 62 months during construction, which will have a major adverse effect on residential amenity and is therefore considered to be significant.

Permanent effects

- 3.2.16 There are no new or additional significant permanent effects associated with the construction of the SES scheme on community receptors in this CFA.

³ A significant increase in HGV volumes was reported in the main ES by traffic and transport, although the effect has changed from moderate to major.

Other mitigation measures

3.2.17 No additional mitigation measures are proposed.

Cumulative effects

3.2.18 There are no new or different likely significant cumulative effects for community receptors as a result of the SES changes acting in combination with the SES or in AP1, or as a result of any relevant committed development.

Summary of likely residual significant effects

3.2.19 During construction there are additional temporary residual adverse significant effects on residential amenity for:

- approximately ten residential properties on Rocky Lane, east of Dunsmore; and
- approximately six residential properties on the B4009 Nash Lee Road.

Effects arising from operation

3.2.20 There are no new or additional significant effects associated with the operation of the SES scheme on community receptors in this CFA.

3.3 Landscape and visual assessment

Introduction

3.3.1 This section of the report describes the environmental baseline in relation to landscape and visual that is relevant to the assessment. It then identifies any new or different likely residual significant environmental effects as a result of the changes introduced in Section 2, compared to the original scheme. Consideration is given to the changes on landscape character and views and to the identification of new visual receptors not previously included in the main ES or AP1 ES.

Scope, assumptions and limitations

3.3.2 The assessment scope, key assumptions and limitations for the landscape and visual assessment are set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES. An update to the methodology for the landscape and visual assessment is also described in Volume 1 of the AP1 ES.

Changes of relevance to this assessment

3.3.3 The change that is relevant to this assessment is the removal of the sustainable placement area at Hunt's Green Farm (SES- 010-001).

Environmental baseline

Existing baseline

3.3.4 A summary of the baseline information in the main ES relevant to the assessment of the SES design change is provided below. Further details are provided in the main ES Volume 2, CFA10, Section 9 and in Volume 5, Landscape report LV-001-010.

- 3.3.5 The area is located within Lee Undulating Valley Slopes Landscape Character Area (LCA), which is in the Chilterns Area of Outstanding Natural Beauty, as described in the main ES (Volume 2, CFA10, Section 9).
- 3.3.6 The following viewpoints are located in close proximity to the area and are described in the main ES (Volume 2, CFA10, Section 9 and in CFA9, Section 9). Viewpoints in CFA 10 include:
- Viewpoint 095.2.002: view east from dwellings on London Road, Wendover Dean,
 - Viewpoint 095.3.001: view east from the Public Rights of Way (PRoW) (Footpath WEN/38) near Wendover Dean;
 - Viewpoint 095.3.002: view from South Bucks Way PRoW (Bridleway WEN/45) near Cockshoots Wood
 - Viewpoint 096.4.002: view west from King’s Lane near Potter Row; and
 - Viewpoint 096.3.002: view west from the PRoW (Footpath TLE/2) off King’s Lane.
- 3.3.7 Viewpoints in CFA 9 include Viewpoint 094.4.003: view west along Leather Lane which is on the boundary of CFA10.

Future baseline

Construction (2017)

- 3.3.8 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 3.3.9 None of the identified developments affect the assessment of the SES scheme’s likely construction impacts on landscape and visual.

Operation (2026)

- 3.3.10 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 3.3.11 None of the identified developments affect the assessment of the SES scheme’s likely operational impacts on landscape and visual.

Temporary effects arising during construction

Avoidance and mitigation measures

- 3.3.12 The measures that have been incorporated into the draft CoCP to avoid or reduce landscape and visual effects during construction remain as stated in the main ES (Volume 2, CFA10, Section 9).

Assessment of impacts and effects

- 3.3.13 As defined in the main ES, this assessment of landscape and visual effects in construction has been based on the activities occurring during the peak construction phase, which is defined as the period during which the main construction works will take place.
- 3.3.14 As is commonplace with major infrastructure works, the scale of the construction activities means that works will be visible in many locations and will have the potential to give rise to significant temporary effects which cannot be mitigated practicably. For further details refer to main ES (Volume 2, CFA10, Section 9).

Landscape assessment

- 3.3.15 The main ES reported a moderate adverse significant effect on the Lee Undulating Valley LCA due to the formation of a 15m deep cutting, the construction of the Leather Lane overbridge realignment, the realignment of two PRow, the formation of the sustainable placement areas, the loss of hedgerow vegetation and the presence of temporary material stockpiles. These effects are largely associated with the construction of other elements of the scheme and not the temporary storage area and landscape earthworks at Hunt's Green Farm; furthermore, the area affected during construction remains the same.
- 3.3.16 The change from a sustainable placement area to a temporary stockpile area at Hunt's Green Farm will not alter the scale or nature of the construction works. Therefore the SES design change will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

Visual assessment

- 3.3.17 The main ES reported significant effects on a number of visual receptors due to the construction of the two accommodation overbridges at Cottage Farm and Footpath TLE/2, the sustainable placement area, South Heath cutting, the realignment of Bowood Lane, the Wendover Dean viaduct and the presence of works compounds. The change from a sustainable placement area to a temporary stockpile area at Hunt's Green Farm will not alter the scale or nature of the construction works. Therefore, the SES design change will not give rise to a new or different significant effect or change the level of significance of the effects reported in the main ES.

Other mitigation measures

- 3.3.18 To further reduce the significant effects described above, consideration of where planting can be established early in the construction programme will be given during the detailed design stage. However, not all landscape and visual effects can be practicably mitigated due to the visibility of construction activity and the sensitivity of surrounding receptors. Therefore, no other mitigation measures are considered practicable during construction.

Cumulative effects

- 3.3.19 There are no new or different likely cumulative effects for landscape and visual receptors as a result of the SES changes acting in combination with AP1, or as a result of any relevant committed developments.

Summary of likely residual significant effects

- 3.3.20 The effects described above will be temporary and reversible in nature lasting only for the duration of the construction works. Any residual effects will generally arise from the widespread presence of construction activity and construction plant within the landscape and viewed from surrounding residential receptors, and users of PRow and main roads within the study area.
- 3.3.21 The change from a sustainable placement area to a temporary stockpile at Hunt's Green Farm will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

Permanent effects arising from operation

Avoidance and mitigation measures

- 3.3.22 The operational assessment of impacts and effects is based on year 1 (2026), year 15 (2041) and year 60 (2086). A process of iterative design and assessment has been employed to avoid or reduce adverse effects during the operation of the SES scheme. A measure that has been incorporated into the design of the SES scheme is that the landscaped earthwork will be profiled with shallow slopes on its eastern side to integrate it smoothly into the landscape. This measure has been taken into account in the assessment of the operational effects.

Assessment of impacts and effects

Landscape assessment

- 3.3.23 The main ES reported no significant effects in operation on the Lee Undulating Valley Slopes LCA due to the location of the scheme in the existing transport corridor present in the valley bottom in the adjacent Wendover Gap LCA. The landscape earthworks of the SES scheme will occupy a far smaller area and will be lower than the sustainable placement area in the original scheme. It will be a new feature but will be largely inconspicuous in its setting. However, the SES design change will not represent a material change to the significant effects on the Lee Undulating Valley Slopes LCA as a whole, given the scale of the other works associated with the scheme. The SES design change at Hunt's Green Farm will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

Visual assessment

- 3.3.24 In the SES scheme, the sustainable placement area is removed and landscaped earthworks will be constructed along the eastern side of the HS2 cutting and the land drainage area will be reduced in area. The main ES reported a number of significant effects due to the presence of overhead line equipment, the sustainable placement area at Hunt's Green Farm, the Bowood Lane realignment, PRow overbridges and the Wendover Dean viaduct. The main ES reported the following effects:
- 3.3.25 Viewpoint 095.2.002: view east from dwellings on London Road, Wendover Dean; major adverse in year 1, reducing to non-significant effects by year 15 and 60 due to the presence of new features, which will be incongruous with the existing view, including the overhead line equipment visible along the crest of the slope. The SES

design change will represent a discernible change to the original scheme from this viewpoint (approximately 700m distant). This SES design will be seen in the background of the view, but will be a relatively minor change in the view. Therefore, the SES design change will not give rise to new or different significant effects or change the level of significance of the effects reported in the main ES.

- 3.3.26 Viewpoint 095.3.001: view east from the PRoW (Footpath WEN/38) near Wendover Dean; major adverse significant effects in year 1, reducing to non-significant effects by year 15 and 60 where the main features clearly visible in the view will be the overhead line equipment, the realignment of Bowood Lane with vegetation losses apparent and the elevated bridge feature in the landscape. This SES design change will be seen in the middle ground of the view, beyond the cutting. The change of the landform height from approximately 5m to 3.5m will not be discernible in the view. The SES design change will not give rise to new or different significant effects and will not change the level of significance of the effects reported in the main ES.
- 3.3.27 Viewpoint 096.4.002: view west from King's Lane near Potter Row; moderate adverse in year 1, reducing to not significant effects by year 15 and 60 due to the presence of the Leather Lane overbridge (approximately 450m away), overhead line equipment and the altered landform in the middle ground of the view. The removal of the sustainable placement area at Hunt's Green Farm will give rise to a different significant effect. The change in the earthworks footprint introduced by the SES scheme will increase the distance between the receptor and the earthworks element, reducing the visibility from King's Lane; the earthworks will be less dominant on the skyline. However, this will not change the level of significance of the effects reported in the main ES.
- 3.3.28 Viewpoint 095.3.002: view east from the South Bucks Way PRoW (Bridleway WEN/45) near Cockshoots Wood; moderate adverse in year 1 and year 15, reducing to non-significant by year 60 due to the presence of incongruous elevated features such as the Bowood Lane realignment (approximately 1.6km away), PRoW overbridges and the Wendover Dean viaduct (approximately 1.7km away) and vegetation losses. The removal of the sustainable placement area at Hunt's Green Farm results in a change in the landform height from approximately 5m to 3.5m which will not be discernible in the view. The SES design change will not give rise to new or different significant effects and will not change the level of significance of the effects reported in the main ES.
- 3.3.29 Viewpoint 096.3.002: view west from the PRoW (Footpath TLE/2) off King's Lane; major adverse in year 1, reducing to moderate adverse in year 15 and year 60. The high magnitude of change reported in the main ES relates to the presence of the original scheme, in cutting with the overhead line equipment the main visible component (approximately 220m away) and the changes to the natural topography. The removal of the sustainable placement area at Hunt's Green Farm will give rise to a different significant effect. The reduction in the footprint of the earthworks will change the view west from the PRoW, however, the presence of new landform and associated infrastructure would still be present in the view. Therefore, this will not change the level of significance of the effects reported in the main ES.
- 3.3.30 Viewpoint 094.4.003: view west along Leather Lane (in CFA9); moderate adverse effect in year 1 reducing to non-significant by year 15 and beyond to year 60 due to

the visibility of the original scheme in cutting, the elevated Leather Lane bridge (approximately 50m away) and balancing pond in the immediate foreground. The loss of mature trees along the southern edge of Leather Lane will be noticeable, opening up views to the landscape beyond in year 1 of operation. The removal of the sustainable placement area at Hunt's Green Farm, will give rise to a different significant effect in year 1 compared to the original scheme. The SES design change will reduce the prominence of the earthworks forming the sustainable placement proposed in the original scheme in the foreground of the view but the landscape earthworks running parallel to the route will still represent a new feature in the landscape. By year 15 the grassland on the landscape earthworks will have matured and integrated into the surrounding landscape topography; the effects will reduce to not significant. Therefore, there will be no new or different significant effects and the level of significance of the effects reported in the main ES will not change.

- 3.3.31 The significant effects that result from operation of the SES scheme are shown on map series SES and AP2 ES LV-02-037 (Volume 5, CFA10 Map Book, Landscape and Visual Map Book).

Other mitigation measures

- 3.3.32 No other mitigation measures are considered practicable.

Cumulative effects

- 3.3.33 There are no new or different likely cumulative effects for landscape and visual as a result of the SES changes acting in combination with AP1, or as a result of any relevant committed developments.

Summary of likely residual significant effects

- 3.3.34 As no other mitigation measures are considered practicable, the permanent likely residual significant effects during operation remain as reported in the main ES. There will be a major adverse significant effect in year 1, reducing to a moderate adverse significant effect in year 15 and year 60 for Viewpoint 096.3.002. Viewpoint 096.4.002 will experience a different moderate adverse significant effect in year 1, reducing to a not significant effect by year 15 and 60. In most cases, significant effects will reduce over time as the proposed mitigation planting matures and reaches its designed intention.

3.4 Sound, noise and vibration

Introduction

- 3.4.1 This section of the report describes the environmental baseline in relation to sound, noise and vibration that is relevant to the assessment. It then identifies any new or different likely significant environmental effects as a result of the changes introduced in Section 2, compared to the original scheme and AP1 amendments.

Scope, assumptions and limitations

- 3.4.2 The assessment scope, key assumptions and limitations for sound, noise and vibration are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

- 3.4.3 Local assumptions and limitations for sound, noise and vibration are set out in Volume 2, CFA10, Section 11 of the main ES.

Changes of relevance to this assessment

- 3.4.4 The following changes have the potential to result in new or different likely residual significant direct effects on construction sound, noise and vibration and are relevant to this assessment:

- removal of the sustainable placement area at Hunt’s Green Farm located in this CFA10 (SES-010-001);
- reduction of landscape earthworks near Lower Boddington in CFA15 (SES-015-001), and;
- design changes in other CFAs that in combination have resulted in changes to forecast traffic flows within CFA10 during construction, in comparison to those under the original scheme.

Environmental baseline

Existing baseline

- 3.4.5 The baseline sound, noise and vibration information for CFA10 will not change as a result of the SES scheme. The baseline is described in the main ES (Volume 5: Appendix SV-002-010).

Future baseline

Construction (2017)

- 3.4.6 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 3.4.7 None of the identified developments affect the assessment of the SES scheme’s likely construction impacts on sound, noise and vibration.

Operation (2026)

- 3.4.8 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 3.4.9 None of the identified developments affect the assessment of the SES scheme’s likely operational impacts on sound, noise and vibration.

Effects arising during construction

Avoidance and mitigation measures

- 3.4.10 The assessment assumes implementation of the measures set out within the CoCP (Volume 5: Appendix CT-003-000 of the main ES) and in Volume 2, CFA10, Section 11 of the main ES.

Assessment of impacts and effects

Residential receptors: temporary effects from construction traffic

3.4.11 As a result of the SES changes, construction traffic is likely to cause adverse noise effects along the following roads:

- Rocky Lane (CSV10-Co3) – approximately 10 dwellings located immediately adjacent to the road are forecast to experience an increase in outdoor noise levels of around 7dB during the peak months;
- B4009 Nash Lee Road (CSV10-Co4) – approximately 17 dwellings located immediately adjacent to the road are forecast to experience an increase in outdoor noise levels of around 2dB in an area where there is a high existing sound level during the peak months; and
- A4010 Aylesbury Road / Risborough Road (CSV10-Co5) – approximately 30 dwellings located immediately adjacent to the road are forecast to experience an increase in outdoor noise levels of around 2dB in an area where there is a high existing sound level during the peak months.

3.4.12 These adverse effects would be a change in the acoustic character of the area such that there is a perceived change in the quality of life and are considered significant when assessed on a community basis taking account of the local context.

Other mitigation measures

3.4.13 No other mitigation measures are considered practicable.

Cumulative effects

3.4.14 There are no new or different likely significant cumulative effects for sound, noise and vibration as a result of the SES changes acting in combination with the SES or in AP1, or as a result of any relevant committed development.

Summary of likely residual significant effects

3.4.15 The SES scheme has resulted in changes to forecast traffic flows within CFA10 during construction that will give rise to new significant noise effects in the vicinity of residential receptors immediately adjacent to Rocky Lane, B5009 Nash Lee Lane and A4010 Aylesbury Road/ Risborough Road during construction.

Effects arising from operation

3.4.16 The SES scheme has no impact in operation and consequently will not give rise to new or different significant effects compared to those reported in the main ES.

3.5 Traffic and transport

Introduction

3.5.1 This section of the report provides a description of the environmental baseline in relation to traffic and transport that is relevant to the SES scheme assessment. In addition, it identifies any new or different likely significant environmental effects as a result of the changes described in Section 2 compared to the original scheme.

Scope, assumptions and limitations

- 3.5.2 The assessment scope, key assumptions and limitations for traffic and transport are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Changes of relevance to this assessment

- 3.5.3 Changes in this and other CFAs have resulted in changes to HGV movements in this CFA. These include:

- removal of the sustainable placement area at Hunt's Green Farm located in this CFA10 (SES- 010-001); and
- reduction of landscape earthworks near Lower Boddington in CFA15 (SES- 015-001).

- 3.5.4 The SES design changes have resulted in changes to forecast HGV traffic flows within CFA10 during construction in comparison to those reported for the original scheme in the main ES. In particular, they have resulted in Rocky Lane being added and the A413 between Rocky Lane and the B485 Frith Hill/ Chesham Road being removed as routes used for the movement of excavated material.

Environmental baseline

Existing baseline

- 3.5.5 The existing baseline for traffic and transport is set out in Volume 2, CFA10, Section 12 of the main ES. There is no change to the existing baseline as reported in the main ES.

Future baseline

Construction

- 3.5.6 The future baseline for construction remains unchanged from that reported in the main ES (Volume 2, CFA10, Section 12.3).

Operation (2026 and 2041)

- 3.5.7 The future baselines for operation in 2026 and 2041 remain unchanged from those reported in the main ES (Volume 2, CFA10, Section 12.3).

Effects arising during construction

Avoidance and mitigation measures

- 3.5.8 Avoidance and mitigation measures are set out in Volume 2, CFA10, Section 12 of the main ES. No further avoidance or mitigation measures are proposed during construction.

Assessment of impacts and effects

Temporary effects

- 3.5.9 The changes in the SES scheme result in amended HGV traffic flows compared to the original scheme in this CFA. The amended HGV flows result in new or different likely

levels of significant effects in relation to congestion and delays to vehicle users at the following junctions:

- A413 London Road with Dunsmore Lane: a moderate adverse significant effect (a major adverse effect reported in the main ES); and
- A413 London Road with Bowood Lane: a moderate adverse significant effect (a major adverse effect reported in the main ES).

3.5.10 The amended HGV traffic flows also result in new or different likely levels of significant effects in relation to traffic related severance⁴ for non-motorised users at the following locations:

- Rocky Lane, between A413 London Road and Rocky Lane underbridge satellite compound: increase in HGV flows resulting in a major adverse effect (moderate adverse effect reported in the main ES); and
- A413 London Road between the boundary with CFA9 and Rocky Lane: decrease in HGV flows, which removes the major adverse effect 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'.

3.5.11 HGV flows have increased on the A413 between Rocky Lane and B4009 Nash Lee Road and the B4009 Nash Lee Road between the B4009 Nash Lee Road overbridge satellite compound and the A413, compared to the original scheme. However, the amended HGV flows will not give rise to a new or different significant effect and will not alter the level of significance of the effects reported in the main ES.

Permanent effects

3.5.12 Permanent effects of construction on traffic and transport are reported under 'Effects arising from operation'.

Other mitigation measures

3.5.13 No changes to the mitigation measures reported in Volume 2, CFA10 of the main ES are required.

Cumulative effects

3.5.14 Cumulative effects are reported in Volume 2, CFA10, Section 12 of the main ES. The above assessment has taken into account these cumulative effects, including planned developments by taking account of background traffic growth, as well as traffic and transport impacts of works being undertaken in other areas.

Summary of likely residual effects

3.5.15 The amended HGV flows arising as consequences of the SES changes result in different levels of effects from those reported in the main ES. The SES scheme will result in moderate adverse residual significant effects with regard to congestion and delays to vehicle users for the junctions of A413 London Road with Dunsmore Lane

⁴ In the context of traffic and transport, severance is used to relate to a change in ease of non-motorised users due to, for example, a change in travel distance or travel time or a change in traffic levels on a route that makes it harder for non-motorised users to cross. A reference to severance does not imply a route is closed to access.

and A413 London Road with Bowood Lane (major adverse significant effects reported in the main ES).

- 3.5.16 In addition, the amended HGV flows result in a major adverse residual significant effect in relation to traffic-related severance for non-motorised users at Rocky Lane between A413 London Road and Rocky Lane underbridge satellite compound (moderate adverse effect reported in the main ES), and the removal of a major adverse effect reported in the main ES on the A413 London Road between the boundary of CFA9 and Rocky Lane (under the description 'A413 London Road/B4009 Nash Lee Road, between B485 Frith Hill and B4009 Nash Lee Road').
- 3.5.17 The significant effects that result from construction of the SES scheme are shown on map SES and AP2 ES TR-03-054 (Volume 5, CFA10 Map Book, Traffic and Transport Map Book).

Effects arising from operation

- 3.5.18 The SES scheme changes do not affect operation and consequently there are no new or different traffic and transport significant effects associated with the operation of the SES scheme in this CFA.

Part 2: Additional Provision 2 Environmental Statement

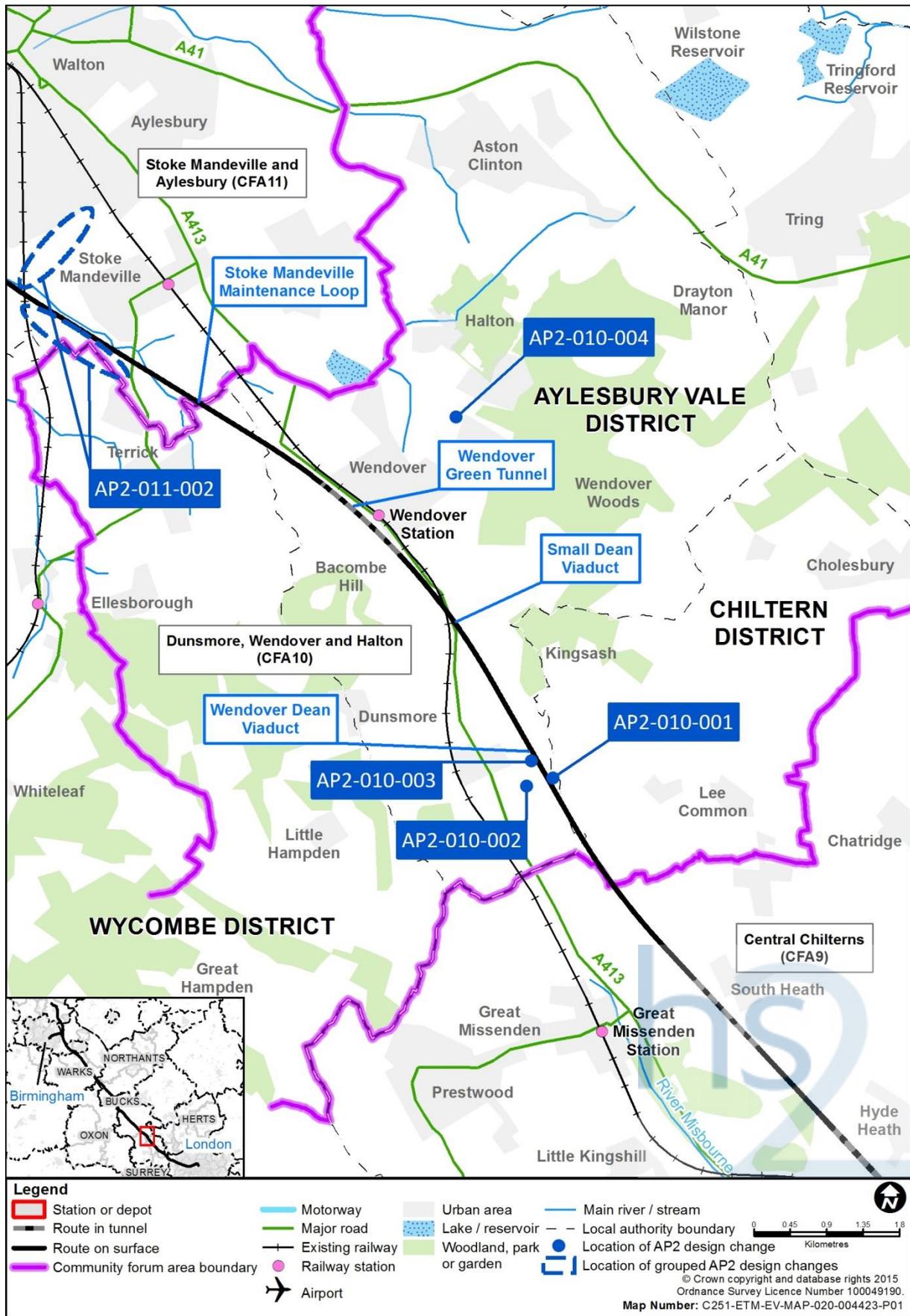
4 Summary of amendments

- 4.1.1 Table 3 provides a summary of the amendments in the Dunsmore, Wendover and Halton CFA (CFA10) and Figure 2 shows the locations.
- 4.1.2 Amendments in this CFA result in significant changes to waste arisings, which are reported in Volume 5, Appendix WM-001-000 of the SES and AP2 ES.
- 4.1.3 An assessment of the likely significant environmental effects associated with the disposal of construction, demolition, excavation, worker accommodation site and operational waste has been undertaken for the SES scheme and AP2 revised scheme as a whole. See SES and AP2 ES Volume 3, Section 19 for further information.

Table 3: Summary of amendments in CFA10

Name of amendment	Description of the original scheme or AP1 revised 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</p> <p>(AP2-010-001)</p>	<p>The temporary provision of land, some of which is within Jones' Hill Wood, on the east of the route and approximately 2km south-east of Dunsmore, for a construction access and material stockpile.</p>	<p>Additional land to the north of Jones' Hill Wood to allow the construction access to be moved outside the boundary of the woodland and therefore rights to use this land temporarily are required. The proposed temporary stockpile will be relocated, within the construction boundary, to avoid encroaching on Jones' Hill Wood.</p>
<p>Additional land required for access to a balancing pond at Wendover Dean</p> <p>(AP2-010-002)</p>	<p>The permanent provision of land for a balancing pond for railway drainage to the east of Wendover Dean.</p>	<p>Additional land for a permanent access to the balancing pond for maintenance. The access point will be off Bowood Lane and incorporate a turning head.</p>
<p>Minor improvements at the existing access track at Durham Farm, Wendover Dean</p> <p>(AP2-010-003)</p>	<p>Permanent access along an existing track within land located at Durham Farm, Wendover Dean.</p>	<p>A change to the Bill to enable the permanent widening of the existing access track. No additional land is required.</p>
<p>Additional land required for the relocation of Ellesborough Road cricket ground and pavilion for Wendover Cricket Club</p> <p>(AP2-010-004)</p>	<p>The permanent provision of land for construction of Wendover Green tunnel and associated temporary works. This requires the demolition of Ellesborough Road cricket ground and pavilion, to the west of Wendover.</p>	<p>Additional land adjacent to the B4009 Tring Road and south of Halton Community Combined School for a replacement cricket ground and pavilion.</p>
<p>Noise mitigation on the A4010 Stoke Mandeville bypass.</p> <p>(AP2-011-002)</p>	<p>The permanent provision of the A4010 Stoke Mandeville bypass. The original scheme makes no provision for mitigation of traffic noise from the bypass contributing to the likely operational noise significant effect on local residents and Booker Park School.</p>	<p>The permanent provision of three earth bunds for a total length of 1km and two noise fence barriers along the A4010 Stoke Mandeville bypass. The bunds and noise fence barriers will extend to 2m in height above the road level of the bypass. Land outside the original limits of the Bill is required to construct the bunds and noise fence barriers.</p>

Figure 2: Locations of amendments in CFA10



5 Assessment of amendments

5.1 Additional land required for the reconfiguration of a construction access and material stockpile at Jones' Hill Wood (AP2-010-001)

- 5.1.1 The Bill provides land for a temporary construction access and material stockpile of which approximately 0.3ha is within Jones' Hill Wood ancient woodland, adjacent to the route on its east side (refer to map CT-05-036 (I6) in main ES Volume 2, CFA10 Map Book).
- 5.1.2 Since submission of the Bill, further design development has identified that it is practicable to move the stockpile outside the woodland. As a result of this, the amendment relocates part of the construction access to the north of the woodland, with a 15m offset from the woodland edge. The replacement planting set out in the main ES is now not required. The temporary stockpile would be moved to the south-east of the woodland, adjacent to the Bowood Lane overbridge satellite construction compound (refer to map CT-05-036 (H5 to I5 for the construction access and I5 to J5 for the stockpile) in the SES and AP2 ES Volume 2, CFA10 Map Book).
- 5.1.3 The estimated duration of use of the construction access and stockpile is up to six years, which is the same as for the original scheme. The land required for the construction access is outside the original limits of the Bill, hence the need for this amendment. The material stockpile remains within the original limits of the Bill. Approximately 0.4ha of additional land will be required for the amendment.
- 5.1.4 The relocation of the construction access and material stockpile is not considered to make changes that require a reassessment of the environmental effects or proposed mitigation as set out in the main ES with respect to: agriculture, forestry and soils; air quality; community; land quality; landscape and visual assessment; socio-economics; traffic and transport; and water resources and flood risk assessment. However there were changes where reassessment was considered to be required in respect of: cultural heritage; ecology; and sound, noise and vibration.

Cultural heritage

Scope, assumptions and limitations

- 5.1.5 The assessment scope, key assumptions and limitations for cultural heritage are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Existing baseline

- 5.1.6 The cultural heritage baseline for the assessment takes into account information collected in support of the main ES, which included walk-over survey, geophysical survey, remote-sensing data, and data from national and local registers. A full list is provided in Volume 2, Section 6.3 of the main ES. In addition, the baseline has been updated with the results of additional survey work comprising geophysical surveys for archaeology.

- 5.1.7 The additional land required for the amendment does not encroach on any recorded heritage assets. Approximately 30m to the south-west of the construction access route is an area of ancient woodland, Jones' Hill Wood (asset reference DWH030) an asset of high heritage value. Adjoining the access route to the north is an area of pre-18th century irregular enclosures (asset reference DWH156) which are likely to represent the expanding agricultural hinterland of medieval and post medieval settlements. This is of moderate heritage value. Two field boundaries associated with this landscape also adjoin the northern part of the access route (asset reference DWH038 and DWH039): both are of low heritage value. Strawberry Hill Farm (asset reference DWH033) is 220m to the north-east and is a typical 19th century farmstead, of low heritage value.
- 5.1.8 Details of survey and desk based work undertaken in this CFA since September 2013 is provided in SES and AP2 ES Volume 5: Appendix CH-002-010, Appendix CH-003-010 and SES and AP2 ES map CH-01-032-R1 (Volume 5, CFA10 Map Book), where this is relevant to the assessment of a new or different significant effect.

Future baseline

Construction (2017)

- 5.1.9 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.1.10 None of the identified developments affect the assessment of the amendment's likely construction impacts on cultural heritage.

Operation (2026)

- 5.1.11 Volume 5: Appendix CT-004-000 of the SES and AP2 ES provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.1.12 None of the identified developments affect the assessment of the amendment's likely operational impacts on cultural heritage.

Effects arising during construction

- 5.1.13 The amendment will result in less of the Jones' Hill wood ancient woodland being removed. However this only represents a reduction of 0.3ha with 0.7ha still required to be removed, over a third of the total area. The main ES reported a high impact and major adverse effect on Jones' Hill Wood (asset reference DWH030). The reduction in the amount of woodland removal, along with the associated archaeology, is not considered substantial enough to change the overall significant effect.
- 5.1.14 Disturbance of the additional land required for construction access and the material stockpile will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

Effects arising from operation

- 5.1.15 The proposed amendment will not give rise to any new or different operational effects.

Mitigation and residual effects

- 5.1.16 There will be no change to the mitigation and residual effects reported in Volume 2 of the main ES.

Cumulative effects

- 5.1.17 There are no new or different likely significant cumulative effects for cultural heritage as a result of the proposed amendment acting in combination with another amendment in AP2, or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Ecology

Scope, assumptions and limitations

- 5.1.18 The assessment scope for ecology is as set out in Volume 1 of the SES and AP2 ES. The key assumptions and limitations, and the methodology for determining significance of effects are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/01) and the SMR Addendum (Volume 5: Appendix CT-001-000/02) of the main ES.
- 5.1.19 To address any limitations in data, a precautionary baseline has been considered according to the guidance reported in the main ES, Volume 5: Appendix CT-001-000/2. This constitutes a 'reasonable worst-case' basis for the subsequent assessment. The precautionary approach to the assessment that has been adopted identifies the likely significant ecological effects of the AP2 revised scheme.

Existing baseline

- 5.1.20 The ecological baseline of the land required for the amendment has been based on field data collated for the main ES, aerial photography and relevant existing information gathered from national organisations.
- 5.1.21 A summary of the baseline information relevant to the assessment of the amendment is provided below. This takes account of any relevant new or updated baseline information provided in SES and AP2 ES Volume 5: Appendix EC-001-002, EC-002-002 and EC-003-002. For those receptors described in the main ES, further details are provided in Volume 2, CFA10, Section 7.3 and in Volume 5, including map series EC-01 to EC-12.

Designated sites

- 5.1.22 There are no statutory designated nature conservation sites within 500m of the land required for this amendment or otherwise relevant to this assessment. Statutory and non-statutory designated sites are described in the main ES, Volume 2, CFA10, Section 7 and are shown on Maps EC-01-019 to EC-01-021a, Volume 5, CFA10 Map Book, Map Book Ecology.
- 5.1.23 Jones' Hill Wood ancient woodland is located adjacent to the additional land required for the amendment. Ancient woodland represents an irreplaceable resource.

Habitats

- 5.1.24 Jones' Hill Wood is a broadleaved woodland and desk study records indicate the presence of bluebell, primrose and early dog-violet. It is small (1.8ha) and isolated from the extensive semi-natural broadleaved woodland that is present throughout the wider landscape. It is considered to be of district/borough value as reported in the main ES.
- 5.1.25 One intact species-rich hedgerow is present within the area of land required for the amendment. All surveyed hedgerows qualify as a habitat of principal importance. Due to the large number of established and important hedgerows, and to the habitat connectivity that they provide in an arable-dominated landscape, the hedgerow network is considered to be of district/borough value as reported in the main ES.
- 5.1.26 The land that is required for the amendments comprises arable and cultivated land which is considered to be of local/parish value as reported in the main ES.

Protected and/or notable species

- 5.1.27 Habitat suitable for foraging and commuting bats is present within the land required for the construction access road and stockpile. The bat assemblage utilising the mature hedges, trees, and tree-lined lanes for foraging and commuting at Rocky Lane, Bowood Lane, Kings Lane and Leather Lane was identified in the main ES as composed of common pipistrelle and soprano pipistrelle (in low to moderate numbers) with occasional passes of *Myotis* species, noctules and serotine bats; it is of up to county/metropolitan value.
- 5.1.28 Suitable badger foraging habitat is present within the amendment area, as stated in the main ES any population is of local/parish value.

Future baseline

Construction (2017)

- 5.1.29 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.1.30 None of the identified developments affect the assessment of the amendment's likely construction impacts on ecology.

Operation (2026)

- 5.1.31 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.1.32 None of the identified developments affect the assessment of the amendment's likely operational impacts on ecology.

Effects arising during construction

Avoidance and mitigation measures

- 5.1.33 The assessment assumes implementation of the measures set out within the draft CoCP (Volume 5: Appendix CT-003-000 of the main ES), which includes translocation of protected species where appropriate.

Designated sites

- 5.1.34 The amendment will not give rise to new or different significant effects on designated sites and will not change the level of significance of the effects reported in the main ES.

Habitats

- 5.1.35 The main ES reports the loss of 1ha and consequent fragmentation of Jones' Hill Wood ancient woodland, which will result in a permanent adverse effect on the conservation status of this habitat that will be significant at district/borough level. The amendment moves the construction access and temporary stockpile outside of the boundary of the ancient woodland. This will avoid the loss of 0.3ha of ancient woodland and will reduce the overall loss of ancient woodland from 1ha to 0.7ha in the AP2 revised scheme. The amendment will therefore result in a different significant effect on the ancient woodland at Jones' Hill Wood however it will not change the level of significance of the effects reported in the main ES. Ancient woodland is an irreplaceable resource.
- 5.1.36 The main ES reports that construction of the original scheme will result in the removal of 22km of hedgerow in CFA10. The loss and fragmentation of the hedgerow network will result in a permanent adverse effect on the conservation status of hedgerows that is significant at the district/borough level. An additional 30m section of intact species-rich hedgerow will be removed as part of the amendment to accommodate the haulage road. This loss will give rise to a different significant effect, however it will not alter the significance level of the effect reported in the main ES.
- 5.1.37 It is unlikely that any other effects on habitats of relevance at more than the local/parish level will occur. Additional local/parish level effects arising from survey data collected since the main ES are listed in the SES and AP2 ES Volume 5: Appendix EC-002-002.

Protected and/or notable species

- 5.1.38 The main ES reported that the loss of habitat suitable for foraging and commuting bats at Rocky Lane, Bowood Lane, Kings Lane and Leather Lane was unlikely to result in an adverse effect on the assemblages' conservation status. While the amendment involves removal of a different area of vegetation, the effect of the AP2 revised scheme on bats is unchanged.
- 5.1.39 It is considered unlikely that any other effects on species of relevance at more than the local/parish level will occur. Additional local/parish level effects arising from survey data collected since the main ES are listed in SES and AP2 ES Volume 5: Appendix EC-003-002.

Cumulative effects

- 5.1.40 There are no new or different likely cumulative effects for ecology as a result of the proposed amendment acting in combination with another amendment in AP2, or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Mitigation and residual effects

Other mitigation measures

- 5.1.41 New hedgerow creation will be undertaken and connected habitat is provided within the landscape scheme to compensate for losses of wildlife corridors that hedgerows provide. The species composition of the new hedges will be tailored to match that of those in the surrounding area and planting will be in accordance with the Ecological Principles of Mitigation (Volume 5: Appendix CT-001-000/2 of the main ES).
- 5.1.42 The main ES notes that proposed planting on the embankments of Bowood Lane will be important in linking the existing woodland at and around Jones' Hill Wood with the new precautionary ecological compensation area on the western side of the HS2 route, thus connecting the locally available foraging habitat for bats across the route.

Summary of likely residual effects

- 5.1.43 No new effects on ecological receptors occur as a consequence of the amendment. However, the amendment results in a different residual effect on ancient woodland with a reduction on the loss of ancient woodland from 1.0ha reported in the main ES to 0.7ha. The level of significance remains at the district/borough level, unchanged from the main ES. Ancient woodland is an irreplaceable resource.

Effects arising from operation

- 5.1.44 This amendment to relocate the construction access and material stockpile will not give rise to new or different significant effects compared to those reported in the main ES or the AP1 ES.

Sound, noise and vibration

Scope, assumptions and limitations

- 5.1.45 The assessment scope, key assumptions and limitations for sound, noise and vibration are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.
- 5.1.46 Local assumptions and limitations for sound, noise and vibration are set out in Volume 2, CFA10, Section 11 of the main ES.

Existing baseline

- 5.1.47 The baseline sound, noise and vibration information for CFA10 will not change as a result of this amendment. The baseline is described in the main ES (Volume 5: Appendix SV-002-010).

Future baseline

Construction (2017)

- 5.1.48 Volume 5: Appendix CT-004-000 of the SES and AP2 ES provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.1.49 None of the identified developments affect the assessment of the amendment's likely construction impacts on sound, noise and vibration.

Operation (2026)

- 5.1.50 Volume 5: Appendix CT-004-000 of the SES and AP2 ES provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.1.51 None of the identified developments affect the assessment of the amendment's likely operational impacts on sound noise and vibration.

Effects arising during construction

- 5.1.52 The closest sensitive receptors to the amendment are residential properties such as Strawberry Hill Farm, located approximately 275m to the east of the construction boundary, and are represented by assessment location 351934 (refer to map SV-02-018 (E5) in the main ES Volume 5, Sound, noise and vibration – Country South Map Book). Construction works associated with the Dutchlands Farm to Rushmoor Wood footbridge substructure are the activities resulting in the highest forecast noise levels at the receptor.
- 5.1.53 The change in location of the construction access and works associated with the amendment do not represent a substantial intensification of the works reported in the main ES. Due to this and the lack of proximity to the nearest noise sensitive receptor, the outcomes of the assessment reported in the main ES remain unchanged.
- 5.1.54 This amendment to relocate the construction access and material stockpile will not give rise to new or different significant effects during construction compared to those reported in the main ES or the AP1 ES.

Effects arising from operation

- 5.1.55 This amendment to relocate the construction access and material stockpile will not give rise to new or different significant effects from operation compared to those reported in the main ES or the AP1 ES.

Mitigation and residual effects

- 5.1.56 There will be no change to the mitigation and residual effects reported in Volume 2 of the main ES.

Cumulative effects

- 5.1.57 There are no new or different likely significant cumulative effects for sound, noise and vibration as a result of the proposed amendment acting in combination with another

amendment in AP2, or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

5.2 Summary of new or different likely residual significant effects

- 5.2.1 The use of the additional land for construction access and a material stockpile will reduce the impact on Jones' Hill Wood compared to the original scheme. While there is a different residual significant effect on ancient woodland habitat due to the change in woodland required, it does not change the significance of the environmental effects or proposed mitigation as set out in the main ES (Volume 2, CFA10, Dunsmore, Wendover and Halton).

5.3 Additional land required for access to a balancing pond at Wendover Dean (AP2-010-002)

- 5.3.1 The Bill provides land for a permanent balancing pond for railway drainage to the east of Wendover Dean Farm, approximately 400m to the west of the HS2 route (refer to map CT-06-036 (H9) in main ES Volume 2, CFA10 Map Book).
- 5.3.2 Since submission of the Bill, it has been identified that a permanent access to the balancing pond is required for maintenance. The access point will be off Bowood Lane and incorporate a turning head. The access track will be approximately 100m in length (refer to map CT-06-036 in the SES and AP2 ES Volume 2, CFA10 Map Book).
- 5.3.3 The duration of construction of the access is one month. Approximately 440m² of additional land is required for the access. The land required is outside the original limits of the Bill.
- 5.3.4 The additional land and construction of the access are not considered to make changes that require a reassessment of the environmental effects or proposed mitigation as set out in the main ES with respect to: agriculture, forestry and soils; air quality; community; cultural heritage; ecology; land quality; landscape and visual assessment; socio-economics; sound, noise and vibration; traffic and transport; and water resources and flood risk assessment. However there were changes where reassessment was considered to be required in respect of cultural heritage.

Cultural heritage

Scope, assumptions and limitations

- 5.3.5 The assessment scope, key assumptions and limitations for cultural heritage are as set out Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Environmental baseline

- 5.3.6 The cultural heritage baseline for the assessment takes into account information collected in support of the main ES, which included walkover survey, geophysical survey, remote sensing data, and data from national and local registers. A full list is provided in Volume 2, Section 6.3 of the main ES. In addition, the baseline has been updated with the results of additional survey work comprising geophysical surveys for archaeology.

- 5.3.7 Details of survey and desk based work undertaken in this CFA since September 2013 are provided in SES and AP2 ES Volume 5: Appendix CH-002-010, Appendix CH-003-010 and SES and AP2 ES map CH-01-032-R1 (Volume 5, CFA10 Map Book), where this is relevant to the assessment of a new or different significant effect.
- 5.3.8 The additional land required for the amendment does not encroach on any recorded heritage assets. Adjoining the additional land to the north-east is an area of pre-18th century irregular enclosures (asset reference DWH156) which is likely to represent the expanding agricultural hinterland of medieval and post medieval settlements. This is an asset of moderate value.
- 5.3.9 Four listed buildings are located 290m to the north-west of the amendment at Wendover Dean Farm (asset reference DWHo45). They include two barns, a farmhouse and farm cottages all listed at Grade II and of moderate heritage value.

Future baseline

Construction (2017)

- 5.3.10 Volume 5: Appendix CT-004-000 of the SES and AP2 ES provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.3.11 None of the identified developments affect the assessment of the amendment's likely construction impacts on cultural heritage.

Operation (2026)

- 5.3.12 Volume 5: Appendix CT-004-000 of the SES and AP2 ES provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.3.13 None of the identified developments affect the assessment of the amendment's likely operational impacts on cultural heritage.

Effects arising during construction

- 5.3.14 The proposed amendment to construct an access track will not encroach onto any of the heritage assets previously identified or alter their settings. The proposed balancing pond access will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

Effects arising from operation

- 5.3.15 The proposed amendment to construct an access track will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

Mitigation and residual effects

- 5.3.16 There will be no change to the mitigation and residual effects reported in Volume 2 of the main ES.

Cumulative effects

- 5.3.17 There are no new or different likely significant effects for cultural heritage as a result of the proposed amendment acting in combination with another amendment in AP2, or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

5.4 Summary of new or different likely residual significant effects

- 5.4.1 The use of the additional land for access to a balancing pond at Wendover Dean will not result in a new or different significant effect or change the significance of the environmental effects or proposed mitigation as set out in the main ES.

5.5 Minor improvements at the existing access track at Durham Farm, Wendover Dean (AP2-010-003)

- 5.5.1 The Bill provides for permanent access along an existing track at Durham Farm, Wendover Dean (refer to maps CT-05-036 (G6 to G7) and CT-06-036 (G6 to G7) in main ES Volume 2, CFA10 Map Book).
- 5.5.2 Since submission of the Bill, the need to widen the access track permanently by 5.5m to ensure it is suitable for maintenance vehicles has been identified. A change to the Bill will enable the permanent widening of the existing access track. No additional land is required.
- 5.5.3 The minor improvements at the existing access track are not likely to make changes that require a reassessment of the effects or proposed mitigation as set out in the main ES with respect to any environmental topic.

5.6 Additional land required for the relocation of Ellesborough Road cricket ground and pavilion for Wendover Cricket Club (AP2-010-004)

- 5.6.1 The Bill provides land for the permanent construction of Wendover green tunnel and associated temporary works within part of Ellesborough Road cricket ground and pavilion, on the west side of the route approximately 100m to the north-west of Pound Street, Wendover. This requires the loss of the cricket ground and the demolition of the pavilion (refer to map CT-05-038 in main ES Volume 2, CFA10 Map Book).
- 5.6.2 Since submission of the Bill, a proposal by Wendover Cricket Club to relocate the cricket ground and the provision of a new pavilion at an alternative location has been considered. The location proposed is adjacent to the B4009 Tring Road and south of Halton Community Combined School, approximately 1km to the north-east of the existing cricket ground (refer to maps CT-05-038-R1 and CT-06-038-R1 in the SES and AP2 ES Volume 2 CFA10 Map Book). It will accommodate cricket pitches, a single storey pavilion, a single storey scoreboard and grassed car park. The existing pitch is not floodlit and the proposed pitch is not proposed to be floodlit.
- 5.6.3 The period between the loss of the existing cricket ground and pavilion and the completion of the proposed cricket ground and pavilion may be up to two years, if Bill powers are required to construct the replacement cricket ground and pavilion.

Approximately 2.9ha of additional land, which is outside the original limits of the Bill, will be required for this amendment.

- 5.6.4 The assessment is of a 'reasonable worst-case basis' however HS2 Ltd is seeking an agreement with the landowner and Wendover Cricket Club, which may enable the replacement cricket ground to be brought forward at an earlier date.
- 5.6.5 The environmental assessment of this amendment is based on its proposed location (including consideration of topography and drainage), and the typical attributes and scale of a cricket ground and requirements for a single storey pavilion and a single storey scoreboard, which are based upon the current facilities.
- 5.6.6 The relocation of the cricket ground and pavilion is not considered to make changes that require a new assessment of the environmental effects and proposed mitigation with respect to: air quality; land quality; socio-economics; and traffic and transport. However there were changes where reassessment was considered to be required in respect of: agriculture, forestry and soils; community; cultural heritage; ecology; landscape and visual assessment; sound, noise and vibration; and water resources and flood risk assessment.

Agriculture, forestry and soils

Scope, assumptions and limitations

- 5.6.7 The assessment scope, key assumptions and limitations for agriculture, forestry and soils are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Existing baseline

- 5.6.8 The area of land required for the amendment has soil in the Andover 1 association which are well drained (Wetness Class I) variably flinty and chalky silty loam soils overlying chalk (refer to main ES, Volume 2, CFA10, Section 3). The quality of land is assessed as good quality Subgrade 3a.
- 5.6.9 The holding affected, Bank Farm (CF10/9), is an owner-occupied arable and sheep farm, extending to some 200ha.

Future baseline

Construction (2017)

- 5.6.10 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.6.11 None of the identified developments affect the assessment of the amendment's likely construction impacts on agriculture, forestry and soils.

Operation (2026)

- 5.6.12 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).

- 5.6.13 None of the identified developments affect the assessment of the amendment's likely operational impacts on agriculture, forestry and soils.

Effects arising during construction

- 5.6.14 The temporary impact of the original scheme was assessed as a moderate adverse significant effect due to the requirement for some 171.1ha of BMV agricultural land within the Dunsmore, Wendover and Halton area during construction. The requirement for a further 2.9ha of BMV agricultural land for the new cricket ground and pavilion does not change the significance of the effect on BMV agricultural land as assessed in the main ES, which remains significant.
- 5.6.15 Bank Farm will be affected by the construction of the original scheme, with 31.7ha of agricultural land temporarily required. This represents 16% of the holding which is an impact of medium magnitude and leads to a moderate adverse effect on the farm, which is significant. The land required for the amendment is also within Bank Farm and will increase the area of agricultural land within Bank Farm temporarily required to 34.6ha (17%). The additional land required is in a different location to the land required for the original scheme and therefore the effect on the farm is different. The effect is moderate adverse and significant, which is unchanged from the main ES.
- 5.6.16 The area of land within Bank Farm required permanently in the original scheme was 8.3ha which represents less than 5% of the holding and is assessed as a negligible effect. The amendment will increase the area of land permanently required at the holding to 11.2ha. This represents 5.5% of the holding and increases the magnitude of impact to low. The overall effect on the holding is increased to minor adverse, which is not significant.

Effects arising from operation

- 5.6.17 The proposed amendment to construct a new cricket ground and pavilion will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES

Mitigation and residual effects

- 5.6.18 The land currently occupied by the Ellesborough Road cricket ground will be made into land suitable for agricultural use, similar to the fields surrounding it. No other mitigation measures are required.
- 5.6.19 The amendment will increase the area of agricultural land within Bank Farm temporarily required from 31.7ha to 34.6ha and give rise to a different effect. The effect is moderate adverse and significant, which is unchanged from the main ES

Cumulative effects

- 5.6.20 There are no new or different likely significant cumulative effects for agriculture, forestry and soils as a result of the proposed amendment acting in combination with another amendment in AP2, or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Community

Scope, assumptions and limitations

- 5.6.21 The assessment scope, key assumptions and limitations for community are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Existing baseline

- 5.6.22 Wendover contains a number of shops, pubs and community facilities. There are also two cricket grounds in the town, which are both owned by Wendover Cricket Club: Ellesborough Road cricket ground, which is south west of Wendover, and Witchell cricket ground. The Ellesborough Road cricket ground hosts frequent senior matches, practice sessions (throughout the season from April through to August) and an after-school club during the summer term for Wendover Middle School.

Future baseline

Construction (2017)

- 5.6.23 SES and AP2 ES Volume 5: Appendix CT-004-000 ES provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.6.24 None of the identified developments affect the assessment of the amendment's likely construction impacts on community receptors.

Operation (2026)

- 5.6.25 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.6.26 None of the identified developments affect the assessment of the amendment's likely operational impacts on community receptors.

Effects arising during construction

- 5.6.27 The main ES reported a permanent significant effect at the Ellesborough Road cricket ground as, under the original scheme, both the pitch and pavilion are required for the construction of the Wendover green tunnel. Given the high frequency of use of the Ellesborough Road site, and the inadequacy of the Witchell cricket ground to provide a suitable alternative for senior matches, the effect was considered to be major adverse and significant.
- 5.6.28 This amendment provides for purchase of a suitable alternative site to accommodate two cricket pitches, ancillary buildings (including a pavilion) and a car park. This land is adjacent to the B4009 Tring Road and south of Halton Community Combined School. It is north-east of Wendover on the southern outskirts of Halton, approximately 1.9km by road from the existing Ellesborough Road cricket ground and 1.4km from the centre of Wendover (the intersection of Aylesbury Road and the High Street).
- 5.6.29 The new cricket ground at Halton may not be functional before Ellesborough Road cricket ground is demolished so Wendover Cricket Club could be without a full size

cricket pitch for up to two years. This would cause disruption to adult matches and other activities, which would temporarily cease. Given that the resource is well used and valued by the community, this new temporary effect is considered to be major adverse and is significant (refer to SES and AP2 ES, Volume 5: Appendix CM-001-010).

- 5.6.30 The provision of an alternative full-sized cricket ground in Halton will, however, remove the significant permanent effect (refer to map CM-01-032 in the SES and AP2 ES Volume 5, CFA10 Map Book). The new site is not within central Wendover, but all facilities lost at Ellesborough Road will be re-provided in Halton for use by Wendover Cricket Club. Given this, the permanent effect is considered to be minor adverse and is therefore not significant.

Effects arising from operation

- 5.6.31 The amendment to construct a new cricket ground and pavilion will not give rise to a new or different significant effect and will not change the level of significance of the operational effects reported in the main ES.

Mitigation and residual effects

- 5.6.32 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.
- 5.6.33 The amendment will remove the permanent residual significant effect associated with the loss of the Ellesborough Road cricket ground, which was reported in the main ES. Instead there is a new major adverse temporary residual significant effect, which will be experienced until the new cricket ground in Halton is functional.

Cumulative effects

- 5.6.34 There are no new or different likely residual significant effects for community as a result of the proposed amendment acting in combination with another amendment in AP2, or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Cultural heritage

Scope, assumptions and limitations

- 5.6.35 The assessment scope, key assumptions and limitations for cultural heritage are as set out Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.

Existing baseline

- 5.6.36 The cultural heritage baseline for the assessment takes into account information collected in support of the main ES, which included walk-over survey, geophysical survey, remote-sensing data, and data from national and local registers. A full list is provided in Volume 2, Section 6.3 of the main ES. In addition, the baseline has been updated with the results of additional survey work comprising geophysical surveys and desk based survey for archaeology.

- 5.6.37 Details of survey and desk-based work undertaken in this CFA since September 2013 is provided in SES and AP2 ES Volume 5: Appendix CH-002-010, ES Volume 5: Appendix CH-003-010 and SES and AP2 ES map CH-01-032-R1 (Volume 5, CFA10 Map Book), where this is relevant to the assessment of a new or different significant effect.
- 5.6.38 The land required for the replacement cricket ground and pavilion is part of an area where a scatter of archaeological finds is recorded by the Historic Environment Record and was discovered during metal detecting and field walking (asset reference DWH178). These artefacts range in date from the Neolithic period to the twentieth century. The eastern corner of the field, which includes the area of the proposed cricket pitch and pavilion, has been designated an archaeological notification area due to the presence of Roman findspots. This asset is of moderate heritage value.
- 5.6.39 The land required is off the Upper Ickfield Way (asset reference DWH119), an important route way between Wessex and East Anglia from the prehistoric period onwards. The asset is of low heritage value, with potential for surviving buried archaeology adjacent to its presumed route.
- 5.6.40 There are two areas of ancient woodland to the north of the land required. At 140m from the new cricket ground is Rowborough Copse (asset reference DWH173) an area of ancient and semi ancient woodland within a larger, non-designated woodland. At 400m from the new cricket ground is Top Moors (asset reference DWH174). Both ancient woodlands are of high heritage value. Approximately 800m to the east of the replacement cricket ground and pavilion is Hale Woods (asset reference DWH175), an ancient woodland of high heritage value.
- 5.6.41 To the north-east of the land required for the cricket ground is the post-medieval Halton House and Park (asset reference DWH176), a grade II* listed building within a grade II registered park and garden, which lies over 1km to the north-east of the amendment. This asset is of high heritage value.
- 5.6.42 Approximately 900m to the north-east of the land required for the cricket ground is Halton Camp which includes seven grade II listed barracks and mess buildings (asset reference DWH177). This is an asset of moderate heritage value.

Future baseline

Construction (2017)

- 5.6.43 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.6.44 None of the identified developments affect the assessment of the amendment's likely construction impacts on cultural heritage.

Operation (2026)

- 5.6.45 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.6.46 None of the identified developments affect the assessment of the amendment's likely operational impacts on cultural heritage.

Effects arising during construction

- 5.6.47 The proposed cricket ground and pavilion is located in an area of prehistoric artefact scatter (archaeological notification area) (asset reference DWH178). The construction of the replacement cricket ground and pavilion will lead to the removal and/or truncation of this asset, which will result in a high impact and major adverse effect, which is a new significant effect not reported in the main ES.
- 5.6.48 Other cultural heritage assets in the vicinity of the proposed cricket ground and pavilion are not likely to be affected by the amendment.

Effects arising from operation

- 5.6.49 There will be no further impact on heritage assets arising from the operation of the AP2 revised scheme.
- 5.6.50 The amendment will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

Mitigation and residual effects

- 5.6.51 The draft CoCP sets out the measures and standards of work that will be applied to the construction of the AP2 revised scheme (see the main ES, Volume 5, Appendix CT-003-000). The amendment to construct a new cricket ground and pavilion will give rise to a new major adverse residual significant effect as it will result in the permanent removal and/or truncation of the prehistoric artefact scatter (asset reference DWH178).

Cumulative effects

- 5.6.52 There are no new or different likely residual significant effects for cultural heritage as a result of the proposed amendment acting in combination with another amendment in AP2, the SES or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Ecology

Scope, assumptions and limitations

- 5.6.53 The assessment scope for ecology is as set out in Volume 1 of the SES and AP2 ES. The key assumptions and limitations, and the methodology for determining significance of effects are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.
- 5.6.54 To address any limitations in data, a precautionary baseline has been considered according to the guidance reported in the main ES, Volume 5: Appendix CT-001-000/2. This constitutes a 'reasonable worst-case' basis for the subsequent assessment. The precautionary approach to the assessment that has been adopted identifies the likely significant ecological effects of the AP2 revised scheme.

Existing baseline

- 5.6.55 The ecological baseline of the land required for the amendment has been based on field data collated for the main ES, aerial photography and relevant existing

information gathered from national organisations. A full list of data sources is provided in Volume 2, CFA10, Section 7.1 of the main ES.

- 5.6.56 A summary of the baseline information relevant to the assessment of the amendment is provided below. This takes account of any relevant new or updated baseline information provided in Volume 5: Appendix EC-001-002, EC-002-002 and EC-003-002 of the SES and AP2 ES. For those receptors described in the main ES, further details are provided in Volume 2, CFA10, Section 7.3 and in Volume 5, including maps EC-01 to EC-12.
- 5.6.57 Due to the distance of the proposed cricket ground and pavilion from the HS2 route, none of the receptors relevant to the amendment are discussed in the main ES.

Designated sites

- 5.6.58 Halton Hospital Biological Notification Site (BNS) is located 275m south-east of land required for the amendment and is of county/metropolitan value. The site is designated for its broadleaved woodland and grassland habitats.
- 5.6.59 There are no other statutory or non-statutory designated nature conservation sites within 500m of the land required for this amendment or otherwise relevant to the assessment. Statutory and non-statutory designated sites in the wider local area are described in the main ES, Volume 2, CFA10, Section 7 and are shown on Maps EC-01-019 to EC-01-021a, Volume 5, CFA10 Map Book, Ecology Map Book.
- 5.6.60 An area of ancient, semi-natural woodland (0.75ha) is located 140m north-east of land required for the amendment, within Rowborough Copse. Ancient woodland represents an irreplaceable resource.

Habitats

- 5.6.61 The northern boundary of the land required for the amendment borders Rowborough Copse. Aerial imagery indicates this woodland contains mature trees and is contiguous with the ancient woodland described above. Rowborough Copse, and the ancient woodland that forms part of it, is considered to be up to district/borough value.
- 5.6.62 Hedgerows are present on the northern and eastern boundaries within the area required for the amendment. They border the edge of Rowborough Copse. In isolation these hedgerows are of local/parish value.
- 5.6.63 The area required for the amendment comprises arable and cultivated land located south of Rowborough Copse and west of the B4009 Tring Road. This habitat type is considered to be of local/parish value.

Protected and/or notable species

- 5.6.64 As part of a precautionary approach it is assumed that suitable commuting and foraging habitat for bats occurs along the hedgerow boundaries, and woodland edge adjacent to the land required for the cricket ground. In addition, it is assumed that trees located within the hedgerows and woodland adjacent to the amendment area may provide potential habitat for roosting bats. If present, the potential assemblages of bats that utilise these habitats are likely to be of up to county/metropolitan value.

- 5.6.65 Habitat adjacent to the amendment is suitable for badger. As stated in the main ES any populations present are likely to be of local/parish value.

Future baseline

Construction (2017)

- 5.6.66 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.6.67 None of the identified developments affect the assessment of the amendment's likely construction impacts on ecology.

Operation (2026)

- 5.6.68 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.6.69 None of the identified developments affect the assessment of the amendment's likely operational impacts on ecology.

Effects arising during construction

Avoidance and mitigation measures

- 5.6.70 The assessment assumes implementation of the measures set out within the CoCP (Volume 5: Appendix CT-003-000 of the main ES), which includes translocation of protected species where appropriate.

Designated sites

- 5.6.71 There has been no change to the effects during construction relating to designated sites as set out in Volume 2, CFA10 of the main ES. There will be no adverse impact on Halton Hospital BNS which is located 275m from the land required for the amendment. The significance level of the effects remains unchanged from the main ES.

Habitats

- 5.6.72 There will be no adverse impact on the conservation status of the ancient woodland at Rowborough Copse due to its distance from the amendment and the habitats present between them.
- 5.6.73 It is unlikely that any other effects on habitats of relevance at more than the local/parish level will occur. Additional local/parish level effects arising from the amendment are listed in SES and AP2 ES Volume 5: Appendix EC- 003-002.

Protected and/or notable species

- 5.6.74 It is unlikely that any effects on species/habitats of relevance at more than the local/parish level will occur. Additional local/parish level effects arising from survey data collected since the main ES are listed in SES and AP2 ES Volume 5: Appendix EC- 003-002.

Cumulative effects

- 5.6.75 There are no new or different likely significant cumulative effects for ecology as a result of the proposed amendment acting in combination with another amendment in AP2, or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme

Mitigation and residual effects

Other mitigation measures

- 5.6.76 No additional mitigation measures (i.e. in addition to those identified in the main ES and SES) are required.

Summary of likely residual effects

- 5.6.77 No new or different significant residual effects on ecological receptors occur as a consequence of the amendment. The significant residual effects of the AP2 revised scheme in this area are therefore unchanged from those reported in the main ES.

Effects arising from operation

- 5.6.78 The amendment does not result in any new or different significant effects on ecological receptors during operation.

Landscape and visual assessment

Scope, assumptions and limitations

- 5.6.79 The assessment scope, key assumptions and limitations for the landscape and visual assessment are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES. An update to the methodology for the landscape and visual assessment is also described in Volume 1 of the AP1 ES.

Existing baseline

- 5.6.80 The area of land required for the amendment introducing the replacement for the Ellesborough Road cricket ground and pavilion is located within the Wendover Foothills (East) LCA, as described in the main ES (Volume 2, CFA10, Section 9). The land is currently an arable field in cultivation.
- 5.6.81 There are no visual receptors identified in the main ES in close proximity to the amendment. Consequently, new receptors have been identified that may be affected as a result of the amendment. The viewpoints are:
- Viewpoint AP2-010.3.001: view east from PRoW WEN/63A/2 and PRoW WEN/1/1. View across open arable fields in the foreground and middle ground, with buildings including Wendover Heights Veterinary Centre and Wendover Woods visible in the background;
 - Viewpoint AP2-010.5.004: view south-west from Leonard Pulham Nursing Home. The view is largely screened in the foreground by dense planting, although there may be glimpsed views through gaps in the vegetation;

- Viewpoint AP2-010.2.005: view north-west from Portal Road. Planting along Tring Road in the foreground of the view filters the majority of views, with glimpses of the arable fields and woodland through the vegetation;
- Viewpoint AP2-010.4.006: view north from B4009. Tring Road and vegetation bordering the road are present in the foreground of the view, with glimpsed views between roadside vegetation across arable fields and Wendover Woods in the background of the view; and
- Viewpoint AP2-010.2.007: view north from The Beeches and north-east from Wendover Church of England Junior School. View across arable fields, with distant views of buildings including Wendover Heights Veterinary Centre and woodland.

5.6.82 A baseline description of the viewpoints is provided in Volume 5: Appendix LV-001-010 of the SES and AP2 ES.

Future baseline

Construction (2017)

5.6.83 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).

5.6.84 None of the identified developments affect the assessment of the amendment's likely construction impacts on landscape and visual receptors.

Operation (2026)

5.6.85 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).

5.6.86 None of the identified developments affect the assessment of the amendment's likely operational impacts on landscape and visual receptors.

Effects arising during construction

Landscape assessment

5.6.87 The Wendover Foothills (East) LCA was assessed as being affected by the original scheme and will be further affected by this amendment. The main ES predicted a minor adverse effect on the Wendover Foothills (East) LCA due to the presence of plant and machinery into the landscape.

5.6.88 Construction activity would be located adjacent to the edge of Halton Camp and, as the land is currently an arable field, it will result in the introduction of new elements into the LCA in the form of construction plant, a site compound, temporary earth stockpiles and earthworks. The additional activity will not noticeably reduce tranquillity over the wider LCA but will reduce it locally. The amendment will affect a small proportion of the character area and overall the magnitude of change will be low. The low magnitude of change assessed alongside the medium sensitivity of the character area will result in a minor adverse effect, which is not significant.

- 5.6.89 The amendment to construct a new cricket ground and pavilion will not give rise to a new or different significant effect and will not change the level of significance of the effects reported in the main ES.

Visual assessment

- 5.6.90 The amendment to construct a new cricket ground and pavilion will generate new significant effects during construction on two new viewpoints:
- 5.6.91 Viewpoint AP2-010.3.001: view east from PRoW WEN/63A/2 and PRoW WEN/1/1 running along the dismantled railway line. The amendment will introduce construction activity and equipment into the view, which is currently of open, arable farmland, bound by woodland blocks and hedges. This will result in a partial alteration to the view and new features that will be visible. The magnitude of change will be medium. The medium magnitude of change, assessed alongside the high sensitivity of the receptor will result in a moderate adverse effect, which is significant.
- 5.6.92 Viewpoint AP2-010.2.007: viewpoint north from The Beeches and Wendover Church of England Junior School. The amendment will introduce construction activity and equipment into the view which is currently of open, arable farmland, bound by woodland blocks and hedges. This will result in a partial alteration to the view and new features will be visible. The magnitude of change will be medium. The medium magnitude of change, assessed alongside the high sensitivity of the receptor will result in a moderate adverse effect, which is significant.
- 5.6.93 The amendment to construct a new cricket ground and pavilion will generate new effects on the views of the new receptors identified in this assessment. However, the effects of this amendment on these views are not significant (refer to SES and AP2 ES Volume 5: Appendix LV-001-010):
- 5.6.94 Viewpoint AP2-010:5.004: view south-west from Leonard Pulham Nursing Home. The nursing home is close to the site, but is separated by dense boundary vegetation (which will not be affected by construction). Cranes will be visible above the vegetation and construction might be discernible through the trees. The magnitude of change will be low. The low magnitude of change assessed alongside the medium sensitivity of the receptor will result in a minor adverse effect, which is not significant.
- 5.6.95 Viewpoint AP2-010.2.005: view north-west from Portal Road. Cranes will be visible above the vegetation and construction might be discernible through intervening vegetation. The magnitude of change will be low. The low magnitude of change assessed alongside the high sensitivity of the receptor will result in a minor adverse effect, which is not significant.
- 5.6.96 Viewpoint AP2-010.4.006: view north from the B4009. Cranes will be visible above the vegetation and construction will be visible in filtered views through intervening vegetation. The magnitude of change will be low. The low magnitude of change assessed alongside the high sensitivity of the receptor will result in a minor adverse effect, which is not significant.

Effects arising from operation

Landscape assessment

- 5.6.97 Wendover Foothills (East) LCA was assessed as being affected by the original scheme and will be further affected by this amendment. The main ES reported a negligible effect on the Wendover Foothills (East) LCA in year 1 and beyond due to there being no change to the landscape setting.
- 5.6.98 The amendment will introduce a single storey pavilion, a single storey scoreboard and a grassed car park into what is currently an arable field. The pitch itself will be grass and will at times resemble a densely sown field of young wheat. However the management of the pitch and especially the square will mean that for most of the time, the pitch will be very different in character compared with the arable field. The pitch will extend the suburban character of the surrounding area into the agricultural landscape. The proposed pitch will not be flood lit. The pitch, the new buildings and the car park will be new features in the landscape, but they will be largely inconspicuous when considered in the context of the existing development along the Tring Road. Tranquillity will not be affected.
- 5.6.99 The magnitude of change will therefore be low. The low magnitude of change assessed alongside the medium sensitivity of the character area will result in a minor adverse effect, which is not significant, on the character area.
- 5.6.100 The proposed amendment to construct a new cricket ground and pavilion will give rise to a different effect, from negligible to minor, adverse in year 1, 15 and 60, which remains as not significant.

Visual assessment

- 5.6.101 The amendment to construct a new cricket ground and pavilion will generate new effects on views during operation. However, the effects of this amendment on these views are not significant.
- 5.6.102 Viewpoint AP2-010.3.001: view east from PRoW WEN/63A/2 and PRoW WEN/1/1 running along the dismantled railway line. The amendment will introduce a pavilion, a scoreboard and a grassed car park into what is currently an arable field. The pitch itself will be grass and will be noticeable as having a different texture and appearance from the arable field adjacent. The amendment will result in an alteration in the view, but one which will be seen against a backdrop of similar small buildings. The magnitude of change will be low. The low magnitude of change, assessed alongside the high sensitivity of the receptor will result in a minor adverse effect, which is not significant.
- 5.6.103 Viewpoint AP2-010.2.007: viewpoint north from The Beeches and Wendover Church of England Junior School. The pavilion, scoreboard and grassed car park will be visible in the distance, over the arable field and against a backdrop of similar small buildings along the B4009. The pitch may not be discernible from this distance. The magnitude of change will be low. The low magnitude of change, assessed alongside the high sensitivity of the receptor will result in a minor adverse effect, which is not significant.
- 5.6.104 Viewpoint AP2-010:5.004: view south-west from Leonard Pulham Nursing Home. The pavilion, scoreboard, grassed car park and pitch will be screened wholly or partly by dense boundary vegetation. The magnitude of change will be low. The low magnitude

of change, assessed alongside the medium sensitivity of the receptor will result in a minor adverse effect, which is not significant.

- 5.6.105 Viewpoint AP2.010.2.005: view north-west from Portal Road and AP2.010.4.006 and Viewpoint AP2.010.4.006: view north from the B4009. The pavilion, scoreboard, grassed car park and pitch will be visible through gaps in the vegetation lining the B4009. The low magnitude of change assessed alongside the high sensitivity of the residential receptors in Portal Road and the low sensitivity of users of the B4009 will result in a minor adverse effect, which is not significant.

Mitigation and residual effects

- 5.6.106 A dense tree belt planted on the west side of the amendment will screen the amendment when mature. The woodland will be linked to Rowborough Copse, north of the amendment, and together they will form a seamless landscape edge along the field boundary.
- 5.6.107 The amendment to construct a new cricket ground and pavilion will give rise to new residual significant effects during construction on:
- Viewpoint AP2-010.3.001: view east from PRoW WEN/63A/2 and PRoW WEN/1/1 running along the dismantled railway line (moderate adverse effect); and
 - Viewpoint AP2-010.2.007: viewpoint north from The Beeches and Wendover Church of England Junior School (moderate adverse effect).

Cumulative effects

- 5.6.108 There are no new or different likely residual significant effects for landscape and visual as a result of the proposed amendment acting in combination with another amendment in AP2, the SES or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Sound, noise and vibration

Scope, assumptions and limitations

- 5.6.109 The assessment scope, key assumptions and limitations for sound, noise and vibration are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.
- 5.6.110 Local assumptions and limitations for sound, noise and vibration are set out in main ES Volume 2, CFA10 Report.
- 5.6.111 The operational sound assessment has considered the reasonably foreseeable worst-case of the cricket pavilion being used for events that will operate into the evening/night-time. Significant operational noise effects from any mechanical or electrical plant associated with the cricket pavilion will be avoided through their design and the specification of noise emission requirements, as described within Volume 5, Appendix SV-001-000 (Annex E - Operation of stationary systems) of the main ES.

- 5.6.112 Furthermore, it is assumed that the pavilion building will be designed to control sound from music or events to a suitable level at neighbouring residential premises, and it will be operated in a manner which is compliant with any constraints specified by the local authority in any relevant alcohol licence or entertainment licence.

Existing baseline

- 5.6.113 The baseline sound, noise and vibration information for CFA10 will not change as a result of this amendment. The baseline is described in the main ES (Volume 5: Appendix SV-002-010). Baseline sound levels representative of the assessment locations affected by this amendment have been used in both the construction and operational assessments.

Future baseline

Construction (2017)

- 5.6.114 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.6.115 None of the identified developments affect the assessment of the amendment's likely construction impacts on sound, noise and vibration.

Operation (2026)

- 5.6.116 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.6.117 None of the identified developments affect the assessment of the amendment's likely operational impacts on sound, noise and vibration.

Effects arising during construction

- 5.6.118 The assessment of construction sound noise and vibration has been undertaken on a 'reasonable worst-case basis' assuming the new club house and car park being located on the northern site boundary. Allowing for the incorporated mitigation set out in the draft CoCP including 2.4m site hoarding, no significant effects from construction noise and vibration are predicted at the veterinarian practice, commercial and residential receptors located to the north of the site.

Effects arising from operation

- 5.6.119 Considering the avoidance and mitigation measures and operational assumptions, no likely operational noise significant effects are identified as a result of this amendment.

Mitigation and residual effects

- 5.6.120 The pavilion building will be designed to control sound from music or events to a suitable level at neighbouring residential premises, through the specification and planning of a suitable façade construction and internal layout.
- 5.6.121 Significant noise effects from the operational static sources such as mechanical ventilation at the pavilion will be avoided through their design and the specification of

noise emission requirements (for further information please see main ES Volume 5: Appendix SV-001-000.

- 5.6.122 Considering the avoidance and mitigation measures and operational assumptions, no likely residual operational noise significant effects are identified as a result of this amendment.

Cumulative effects

- 5.6.123 There are no new or different likely significant cumulative effects for sound, noise and vibration as a result of the proposed amendment acting in combination with another amendment in AP2, or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

Water resources and flood risk

Scope, assumptions and limitations

- 5.6.124 The assessment scope, key assumptions and limitations for water resources and flood risk are as set out in Volume 1, the SMR (Volume 5: Appendix CT-001-000/1), the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES.
- 5.6.125 The assessment reviews the potential impact of the proposed cricket ground and drainage on surface water receptors and flood risk. Specifically, the effect of ground-level modifications and potential pitch drainage on local drainage mechanisms and groundwater is considered.

Existing baseline

- 5.6.126 A summary of the baseline information relevant to the assessment of this amendment is provided in Table 4. For those receptors described in the main ES, further details are provided in the main ES Volume 2, CFA10, Section 13.3 and in Volume 5: Appendix WR-001-000.
- 5.6.127 There are no identified watercourses on the proposed new cricket ground. There is a dry valley crossing the site from east to west, immediately to the west of the site boundary. This valley naturally forms part of the Castle Park Stream catchment, but is intercepted by the Wendover Arm of the Grand Union Canal.

Table 4: Surface water features potentially affected by the AP2 revised scheme

Water feature	Location description (and reference to the main ES, volume 5 map book)	Watercourse classification	WFD water body (water body number) and current overall status	WFD status objective (by 2027* as per river basin management plans)	Receptor value
Grand Union Canal (Wendover Arm)	Starts at Wharf Road, Wendover and flows northwards through Wendover. (WR-01-12, B3)	Artificial	Grand Union Canal, Wendover Arm feeder (GB70610183) Good	Good potential (by 2015)	High
Castle Park Stream	Starts in culvert at Wharf Road Wendover	Main river	No status shown in RBMP - assumed status	Good potential	Moderate

Water feature	Location description (and reference to the main ES, volume 5 map book)	Watercourse classification	WFD water body (water body number) and current overall status	WFD status objective (by 2027* as per river basin management plans)	Receptor value
(tributary of Wendover Brook)	and flows northwards through Wendover. (WR-01-12, B3)		(Bear Brook and Wendover Brook) Moderate Potential		

*year may vary in different RBMPs

- 5.6.128 The site is underlain by the Chilterns Chalk Scarp water body, consisting of the West Melbury Marly Chalk Formation and the Zig Zag Chalk Formation in this area. The Chilterns Chalk Scarp is classified as a Principal aquifer. The current overall WFD status⁵ is Poor while the objective for 2027 is Good. There are no superficial deposits in this area.
- 5.6.129 The Environment Agency borehole monitoring data provides groundwater levels in the Chalk, and groundwater level contouring has been used to estimate groundwater levels across the aquifer. Using this method the maximum groundwater levels in winter 2001/2 are approximated at 127m above ordnance datum, i.e. approximately 6m below ground level, in the area of the existing Wendover Cricket Club and the level is assumed to be similar at the new site.
- 5.6.130 The dry valley which crosses the site of the proposed new cricket ground is shown on the updated Flood Map for Surface Water to be at risk of flooding in the 1 in 100 years return period (1% annual probability) rainfall event. There are areas at risk in the 1 in 30 years return period (3.3% annual probability) rainfall event upstream of the area of woodland to the west of the site, and an area upstream of the Grand Union Canal (Wendover Arm) that is at risk in the 1 in 100 years return period (1% annual probability) rainfall event. Upstream of the amendment is the Leonard Pulham House nursing home, which is at risk of flooding in the 1 in 100 years return period (1% annual probability) rainfall event. As 'More Vulnerable' land use in flood risk terms, this is a high value receptor. Additionally, there is a risk of flooding shown along the Grand Union Canal (Wendover Arm), which could result in overtopping of canal embankments.
- 5.6.131 British Geological Survey maps show areas with a moderate to high susceptibility to groundwater flooding in the study area, from the underlying bedrock within the valley of the Castle Park Stream, but very low susceptibility at the proposed new cricket ground.

Future baseline

Construction (2017)

- 5.6.132 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2017, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).

⁵ Environment Agency (2009) River Basin Management Plan, Thames River Basin District

- 5.6.133 None of the identified developments affect the assessment of the amendment's likely construction impacts on water resources and flood risk.

Operation (2026)

- 5.6.134 SES and AP2 ES Volume 5: Appendix CT-004-000 provides details of the developments which are assumed to have been implemented by 2026, additional to those identified in the main ES (Volume 5: Appendix CT-004-000).
- 5.6.135 None of the identified developments affect the assessment of the amendment's likely operational impacts on water resources and flood risk.

Effects arising during construction

- 5.6.136 Implementation of the draft CoCP will ensure that construction of the replacement cricket ground and pavilion will have no significant effects on flood risk. In this location, sustainable drainage provisions, where required, will be provided prior to commencement of any significant other construction or groundworks. As a result, there will be no temporary change in the risk of flooding from all sources during the construction process.
- 5.6.137 In order to provide a flat playing surface, parts of the proposed new ground are likely to require reprofiling of the existing levels. This will alter the flow mechanisms for surface water across the land, and has the potential to affect the risk of flooding in the vicinity of the amendment. Since the amendment is downstream of the Leonard Pulham House nursing home, the likelihood of an effect on the risk of surface water flooding at the nursing home is low. Re-profiling of the land and any positive drainage introduced for the pavilion and pitch will be designed such that surface water is contained and collected on site and attenuated to existing rates prior to discharge from the area. This will ensure that the design does not increase the risk of flooding.
- 5.6.138 Due to the introduction of positive drainage, there is potential for surface water discharge rates and volumes to the Grand Union Canal (Wendover Arm) to increase, potentially increasing the risk of flooding at Wendover and Halton should the capacity of the canal be exceeded. Drainage provision will be included in the design of the proposed new cricket ground. Surface water will be collected and attenuated to existing rates prior to discharge. This would result in no increase to the risk of flooding in Wendover and Halton from the Grand Union Canal (Wendover Arm).
- 5.6.139 The reprofiling work is not expected to intersect with the groundwater and therefore will not affect groundwater levels. Despite this, the naturally fractured nature of the Chalk may provide preferential pathways to the groundwater table for any spillages. There may, therefore be potential impacts relating to groundwater quality resulting from turbidity or release of fluids from construction equipment. The draft CoCP requires selection, management and monitoring of material and construction practices to follow best practice, including spillage management. As a result of the proposed mitigation the impact on groundwater is assessed to be negligible with neutral effect and is not significant.
- 5.6.140 The amendment to construct a new cricket ground and pavilion will not give rise to a new or different significant effect for water resources or flood risk and will not change the level of significance of the effects reported in the main ES.

Mitigation and residual effects

- 5.6.141 There are considered to be no significant temporary effects to groundwater or surface water features at this site arising from construction of the AP2 revised scheme.
- 5.6.142 The assessment has identified no increase in risks resulting from all sources of flooding during the construction process and therefore no significant temporary adverse effects.

Effects arising from operation

- 5.6.143 There are not considered to be any activities related to operation of the cricket ground and pavilion which would result in significant effects on water resources or flood risk. Consequently, there are no new or different significant effects on water resources and flood risk arising from operation of the amendment, in comparison with the main ES.

Mitigation and residual effects

- 5.6.144 The draft CoCP sets out the measures and standards of work that will be applied to the construction of the AP2 revised scheme (see the main ES, Volume 5, Appendix CT-003-000). These will provide effective management and control of the impacts during the construction period.
- 5.6.145 Generic design measures will be implemented to avoid significant adverse effects on the quality and flow characteristics of surface water courses, groundwater bodies and flood risk. These are described in Volume 1, Section 9 of the main ES.
- 5.6.146 There are no new or different likely residual significant effects for water resources or flood risk as a result of amendment, in comparison with the main ES and the AP1 ES.

Cumulative effects

- 5.6.147 There are no new or different likely significant cumulative effects for water resources or flood risk as a result of the amendment acting in combination with another amendment in AP2 or in AP1, or as a result of any relevant committed development interacting with the AP2 revised scheme.

5.7 Summary of new or different likely residual significant effects

- 5.7.1 The amendment will relocate and increase the area of agricultural land temporarily required from 31.7ha to 34.6ha within Bank Farm, giving rise to a different effect. The effect is moderate adverse and significant, which is unchanged from the main ES.
- 5.7.2 The amendment will remove the permanent residual significant effect associated with the loss of the Ellesborough Road cricket ground and pavilion on the community, which was reported in the main ES. Instead there is a new temporary major adverse residual significant effect on the community, which will be experienced until the new cricket ground and pavilion in Halton is functional.
- 5.7.3 The proposed cricket ground and pavilion is located in an archaeological notification area (asset reference DWH178). The construction of the replacement cricket ground and pavilion will result in the removal and/or truncation of the asset therefore the amendment will result in a high impact and major adverse effect on cultural heritage, which is significant.

5.7.4 The amendment will result in the addition of new viewpoints that will experience moderate adverse effects, which are significant, during construction from residential areas to the south and PRow to the west of the amendment. The viewpoints are:

- Viewpoint AP2-010.3.001: View east from PRow WEN/63A/2 and PRow WEN/1/1 running along the dismantled railway line (moderate adverse significant effect); and
- Viewpoint AP2-010.2.007: Viewpoint north from The Beeches and Wendover Church of England Junior School (moderate adverse significant effect).

5.7.5 The amendment does not result in new or different significant effects or proposed mitigation as set out in the main ES (Volume 2, CFA10, Dunsmore, Wendover and Halton), in respect of ecology; sound, noise and vibration; and water resources and flood risk assessment.

5.8 Noise mitigation on the A4010 Stoke Mandeville bypass (AP2-011-002)

5.8.1 The Bill provides for the construction of the A4010 Stoke Mandeville bypass (refer to maps CT-05-041, CT-06-041, CT-05-041-L1, CT-06-041-L1, CT-05-042 and CT-06-042 in the main ES Volume 2, CFA11 Map Book). The existing A4010 Risborough Road will be stopped-up where it would be crossed by the HS2 route, approximately 200m to the south of Stoke Mandeville. The proposed bypass connects the A4010 Risborough Road from a junction approximately 250m south of the HS2 route and is aligned around the west of Stoke Mandeville to a junction with B4443 Lower Road, to the north-west of Stoke Mandeville. The Bill design did not provide measures to reduce traffic noise from the bypass, which contributes to residual significant operational noise effects.

5.8.2 Since submission of the Bill, the need for mitigation of traffic noise from the Stoke Mandeville bypass has been further considered. The amendment comprises construction of noise barriers in the form of landscape earthworks ('bunds') and noise fence barriers:

- two bunds, one approximately 300m long and the other approximately 340m long, along the east side of the bypass near properties on Old Risborough Road (refer to maps CT-05-041, CT-06-041, CT-05-041-L1 and CT-06-041-L1 in the SES and AP2 ES Volume 2, CFA11 Map Book). The gap between the bunds allows for the passage of Footpath ELL/2;
- a noise fence barrier, approximately 70m long, along the east side of the bypass and extending from the southern end of the bunds described above (refer to map CT-05-041 and CT-06-041 in the SES and AP2 ES Volume 2, CFA11 Map Book);
- a noise fence barrier, approximately 335m long, along the north-west side of the bypass (refer to map CT-05-042 and CT-06-042 in the SES and AP2 ES Volume 2, CFA11 Map Book); and
- a bund, approximately 400m long, along the north-west side of the bypass, from the northern extent of the noise fence barrier to the junction of the

bypass and B4443 Lower Road (refer to AP2 map CT-05-042 and CT-06-042 in the SES and AP2 ES Volume 2, CFA11 Map Book).

- 5.8.3 The estimated duration of construction of the amendment is three months. Approximately 1.6ha of land outside the original limits of the Bill is required for the amendment. The AP1 revised scheme included an amendment for additional land required for the A4010 Stoke Mandeville bypass to the south of Stoke Mandeville (AP1-011-007). This is still proposed as part of the AP2 revised scheme.
- 5.8.4 The bunds and noise fence barriers will be approximately 2m in height above the road level of the bypass. The bunds will be constructed from surplus excavated material.
- 5.8.5 The bunds and noise fence barriers are not considered to make changes that require a reassessment of the environmental effects or proposed mitigation as set out in the main ES with respect to: air quality; community; ecology; land quality; socio-economics; traffic and transport and water resources and flood risk assessment. However reassessment was considered to be required in respect of: agriculture, forestry and soils; cultural heritage; landscape and visual assessment; and sound, noise and vibration. These assessments are presented in SES and AP2 ES Volume 2, CFA11, Stoke Mandeville and Aylesbury as no new or different significant effects are predicted for receptors within the Dunsmore, Wendover and Halton area (CFA 10).

6 Combined effects of amendments in this CFA due to changes in traffic flows

- 6.1.1 All of the effects of the changes proposed in this CFA have been described above and there are no further combined effects to report.

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X16