

A303 Amesbury to Berwick Down

TR010025

Deadline 3
8.18 - Comments on Written Representations

APFP Regulation 5(2)(q)

Planning Act 2008

The Infrastructure Planning (Examination Procedure) Rules 2010

May 2019



Infrastructure Planning

Planning Act 2008

The Infrastructure Planning (Examination Procedure)**Rules 2010****A303 Amesbury to Berwick Down**

Development Consent Order 20[**]

Responses to Written Representations

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2 Introduction

2.1 Purpose of Report

2.1.1 This report provides Highways England's response to the Written Representations submitted at Deadline 2 on 3 May 2019 and Deadline 2a on 10 May 2019. A total of 64 Written Representations were submitted and accepted by the Examining Authority.

2.2 Structure of this document

2.2.1 The report is structured by Interested Party with the matters raised within their representation and the response from Highways England. The Table of Contents provides the complete listing of the Written Representations received and included in this report.

2.2.2 The matters raised have been categorised into the topics as provided in 'The Examining Authority's first Written Question and requests for information (ExQ1) – Issued on 11 April 2019', these are:

- **General and cross-topic questions**
- **Agriculture**
- **Air quality and emissions**
- **Alternatives**
- **Cultural Heritage**
- **Design**
- **Biodiversity, ecology and biodiversity**
- **Climate Change**
- **Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations**
- **Draft Development Consent Order**
- **Flood risk, groundwater protection, geology and land contamination**
- **Health & Wellbeing**
- **Landscape and Visual**
- **Noise and Vibration Effects**
- **Socio-economic effects**
- **Traffic and Transport**
- **Waste and Materials Management**
- **Needs and Benefits**

2.3 The Examination Library

2.3.1 References in these questions set out in square brackets (e.g. [APP-010]) are to documents catalogued in the Examination Library. The Examination Library can be viewed at the following link;
<https://infrastructure.planninginspectorate.gov.uk/projects/south-west/a303-stonehenge/?ipcsection=docs>

- 2.3.2 The Examination Library will be updated at regular intervals as the Examination progresses.

3 The Council for British Archaeology – Wessex Region (REP2-145)

3.1 Alternatives

Key Issue

- 3.1.1 **CBA Wessex participated in “The Great Debate” in 1994 and the subsequent Planning Conference in 1995 which advocated a “long bored tunnel” as the solution to the problem of the A303 as it crosses the Stonehenge landscape. Many of the points made by delegates to this “Debate” are still relevant today.**

Highways England response

- 3.1.2 Highways England notes CBA Wessex’s perspective. The early scheme history is outlined in Section 1.3 of the Technical Appraisal Report (TAR) [REP1-031] the route options under review in 1994 and 1995 were used to inform the Initial corridors appraisal detailed in Chapter 5 of the TAR.
- 3.1.3 The Scheme has been developed from an exhaustive appraisal of options (detailed in the TAR) as the most appropriate solution for delivering (a) the Government's strategy to upgrade the A303 to a high quality dual carriageway, and (b) the objectives set for the Scheme. The Scheme will remove the damaging effect that the existing road has on the WHS landscape, and the tunnel will bring extensive benefits for the WHS, as set out in the Case for the Scheme and NPS Accordance [APP-294] and the Environmental Statement [APP-038 – APP-292] accompanying the DCO application.

Key Issue

- 3.1.4 **The justification for the proposed scheme over other options is not sound, including its unique, highly selective and logically flawed reliance on a controversial heritage monetisation study.**

Highways England response

- 3.1.5 The approach to the calculation of monetised environmental benefits is based on guidance issued by HM Treasury, the Department for Transport and the Department for Environment Food and Rural Affairs. There are well-understood limitations to the valuation of landscape benefits and so these estimates are not incorporated into the benefit cost ratio (BCR) – instead they help to form a qualitative impression of the relative scale of landscape impacts compared to other impacts that are included in the benefit-cost ratio. The approach to the contingent (rather than direct) valuation of the heritage impacts of the Scheme (Appendix H of Appendix D to the Combined Modelling and Appraisal Report [APP-299] is based on best-practice techniques. It has been carefully quality assured and independently peer-

reviewed so is considered the most robust estimate available. These approaches are consistent with published guidance and represent the most appropriate way to capture the value of these important benefits and make sure they are fully accounted for in the judgement of the Scheme's Value for Money.

- 3.1.6 It is important to note that the work around the contingent valuation report (CVR) was primarily relevant to the Department for Transport's (DfT) investment decision in the Scheme, not the planning merits of the Scheme.
- 3.1.7 The CVR does not assess benefits to the economy of the Scheme. Instead it interprets benefits in order to express them in an economic framework. Contingent valuation is a tool / mechanism to compare factors that are not able to be easily balanced (i.e. social welfare-related benefits), because they are not measured in a common unit.
- 3.1.8 The purpose of the CVR in the context of the A303 was to monetise the significant benefits resulting from the cultural heritage improvements delivered by the Scheme. Monetising those benefits allowed them to be incorporated alongside other financial costs and benefits in the assessment of the BCR for the Scheme, in order to determine whether the Scheme offered value for money (VfM) and ultimately inform the Government decision to invest in the Scheme.
- 3.1.9 In the context of the decision on the DCO, the BCR and VfM are not planning considerations. However, the information underlying the assessment of BCR of the Scheme, as noted in paragraphs 4.3 and 4.5 of the National Networks NPS, is. In this case, that would be the heritage chapter of the ES [APP-044] and the Heritage Impact Assessment [APP-210], rather than the financial results of the CVR. BCR and VfM considerations require all factors being balanced to be converted to the same unit of measurement (i.e. monetary units) in order to be compared. A planning decision as to whether to grant the DCO balances those same factors, however, those factors are measured in their own units, which are different for each factor. In other words, no conversion / monetisation is first required in order to undertake the planning balancing exercise as described in the Case for the Scheme and NPS Accordance document [APP-294]; it is a qualitative exercise.
- 3.1.10 It follows that the valuation of heritage benefits in monetary units is not primarily relevant to the decision on whether to grant development consent for the Scheme, because those cultural heritage benefits do not need to be monetised in order to be taken into account in the planning balance. The valuation in the CVR was relevant only to DfT's investment decision, which is not a planning consideration.

Key Issue

- 3.1.11 **The reconsideration of alternatives needs to re-examine the need to upgrade the A303 while also reducing and if possible, removing its**

damaging intrusion to the WHS while avoiding any additional physical loss of OUV, also avoiding other nationally or internationally protected landscapes or harm to designated heritage and habitats.

Highways England response

- 3.1.12 The Road Investment Strategy 2015-2020 identified the need for dualling of the A303, including a tunnel. As set out in Paragraph 2.27 of the NN NPS, to meet the need to improve the road network (as set out in Paragraph 2.2), in some circumstances it is not sufficient to expand capacity on the existing network and new road alignments may be required. This is applicable to the proposed Scheme.
- 3.1.13 The Scheme Assessment Report (SAR) [REP1-032] and Technical Appraisal Report (TAR) [REP1-031] describe the appraisal of routes undertaken, including surface routes (all corridors apart from Corridor D) and routes outside of the WHS (Corridor A, F north and south, and G). The Environmental Statement Chapter 3 - Assessment of Alternatives [APP-041] sets out the assessment which has already been carried out in respect of alternatives, in accordance with the requirements of the EIA Regulations.
- 3.1.14 The Applicant considers that the options appraisal undertaken is a full options appraisal and consideration of alternatives. The Applicant does not, therefore, consider that any further assessment of alternatives is required.

Key Issue

- 3.1.15 **CBA Wessex maintains its position that a long-bored tunnel is the solution that potentially best removes the A303 from the WHS (and its setting) without causing harm to its OUV and avoiding some extra impacts of a new surface route. However, we do recognize that this comes at a far greater cost both monetarily and in terms of carbon emissions and spoil disposal.**

Highways England response

- 3.1.16 The locations of the eastern and western portals in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost. Further detail of the longer tunnel alternative can be found in Highways England's response to Written Question AL.1.29 [REP2-024] submitted at Deadline 2.

Key Issue

- 3.1.17 **In response to previous public enquiries, CBA Wessex supported the concept of a surface route to the south, similar to option F010, which would have been cheaper than any of the various tunnel proposals. We**

recognize that this would have involved crossing areas of unknown archaeological significance and there would be problems in crossing the Till and Avon valleys but we were disappointed that no further work was done with this option.

Highways England response

- 3.1.18 The F010 route option was discounted as it would not deliver the scheme objectives as well as the proposed Scheme. Route F010 would run through nearly 14 miles of largely tranquil, unspoilt countryside. This would require crossings of the Till Valley between Berwick St James and Winterbourne Stoke and of the Woodford Valley between Great Durnford and Upper Woodford on substantial viaducts. Both are designated as Special Areas of Conservation and Sites of Special Scientific Interest. The overall environmental impact when compared against the proposed Scheme would be much greater, in terms of effects on local communities, conservation areas, listed buildings, landscape, biodiversity and environmentally designated sites, and with risks of impact on an area rich in archaeology despite being outside the boundary of the World Heritage Site. There would be disbenefits for road users having to travel on a longer southern route, and southern routes would also not interact effectively with the local road network, leaving higher levels of rat-running traffic. One of the objectives of the Scheme is to improve the quality of everyday life in local communities and route F010 would not satisfy this objective. Further information can be found in the Technical Appraisal Report (TAR) [REP1-031].
- 3.1.19 In relation to the F010 route, the TAR Appraisal Summary Table (AST) [REP1-038] states that ‘overall it is considered that this 21.5km route would affect the landscape as a result of Very Large Adverse impacts identified on the Upper Avon Narrow Chalk River Valley and Large Adverse impacts identified on the Larkhill and Winterbourne Chalk Downland and Till Narrow Chalk River Valley Landscape Character Areas. This includes the introduction of a highly visual and intrusive feature as the route is elevated and aligned against the grain of the existing landscape, and at complete variance with the landform, scale and pattern of the landscape as it passes through the Upper Avon Narrow Chalk River Valley’. At 21.5km in length, the F010 route is 8.5 km longer than the 13km proposed Scheme length.
- 3.1.20 Evaluation of the impacts associated with the overall F010 footprint are considered within the TAR [REP1-031] and include the landscape issues described above along with the biodiversity and water environment issues outlined below. Paragraphs 18.3.48-49 of the TAR [REP1-031] state:
- 3.1.21 ‘Route Option F010, a proposal nearly twice as long as Route Options D061 and D062, and completely above ground, was assigned an overall assessment score of Very Large Adverse effect. This is due to the direct impacts to the River Avon SAC (encompassing the River Avon and River

Till) and the River Till and River Avon System SSSIs (which overlap with the River Avon SAC).

- 3.1.22 'Route Option F010 would also result in impacts to two CWS, and numerous hedgerows and woodlands. The likely direct impacts that would occur are habitat change/loss; habitat severance and/or obstructions; hydrological connectivity change/loss; wildlife road fatalities; wildlife displacement; lighting; noise and vibration and pollution. Indirect impacts, such as from lighting and reduced air quality would occur to Salisbury Plain SAC & SPA; Parsonage Down SSSI & NNR; Yarnbury Castle SSSI; Salisbury Plain SSSI; Porton Meadows SSSI; five CWS and one PRV'.
- 3.1.23 In relation to the F010 route, the TAR Appraisal Summary Table (AST) [REP1-038] states 'the two new river crossing structures would result in direct adverse impacts to the River Avon SAC (including the River Till) and River Avon System SSSIs. Additionally, the scale of this 21.5km route option would result in a significant loss of priority habitats and associated biodiversity'. In relation to water resources, the F010 route would cross 2.4km of a Source Protection Zone Category 2 [REP1-031 para18.3.55], designated to protect groundwater resources. Within this area construction may be allowed but it is not recommended as it can compromise the quality of water. The tunnel options avoid Source Protection Zones. While acknowledging the benefits to the WHS of option F010, the TAR concluded [REP1-31 para 22.1.5] that, 'on balance, Route Options D061 and D062 would deliver a better fit against the relevant local and national planning, transport and economic policy objectives, than Route Option F010, thus providing better alignment with the Scheme objectives'.
- 3.1.24 The F010 route circumnavigates the southern side of the WHS and avoids direct physical adverse impacts on the WHS. It is noted, however, that the F010 route is directly adjacent to the WHS boundary line in its southwest corner and it is likely that direct physical impacts to the southwest corner of the WHS could not be avoided. Although the F010 route is sited beyond the WHS boundary, the boundary was drawn at the time of inscription to follow existing roads, land boundaries and the River Avon and does not relate to the extent of significant archaeology that may contribute to the OUV of the WHS; the F010 route lies within the setting of the WHS and could directly impact as yet unidentified archaeological remains that relate to the OUV of the WHS.

3.2 Cultural Heritage

Key Issue

Key issues and policy tests

- **The national body of the CBA, in conjunction with CBA Wessex, drew up a set of Cardinal Principles against which any proposed**

construction within the World Heritage Site should be judged. These include :-

- **Minimum damage to known or potential archaeological remains.**
- **Minimum visual intrusion on monuments and landscapes**
- **Maximum tranquility**
- **To protect and conserve Stonehenge itself and its landscape of inter-related monuments.**
- **To manage appropriately and plan for the whole WHS landscape whose prehistoric significance is now being increasingly clearly understood.**
- **To further public understanding of that increased significance.**

Highways England response

- 3.2.1 In full recognition of its obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972) (the World Heritage Convention) the Government is making a substantial investment in funding a tunnel past Stonehenge to bring extensive benefits to the WHS. The application has been prepared (and the consultation on it undertaken) with due regard to the obligations under the World Heritage Convention. The protection and conservation of World Heritage Sites, in line with the World Heritage Convention, is integrated into the comprehensive UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets. As a result, great weight is given to harm to World Heritage Sites. The application by the Secretary of State of the planning balance envisaged by this framework and, in particular, the NPSNN is in accordance with the World Heritage Convention. The detail of how the Scheme complies with the obligations of the World Heritage Convention is set out in the response provided to written question G.1.1 [REP2-021].
- 3.2.2 Whilst the Scheme does comply with the CBA's Cardinal Principles, compliance with the relevant UK Legislation and planning policies will be tested through the DCO process. Section 7 of the Case for the Scheme and NPS Accordance [APP-294] sets out the key legislative provisions and policy requirements that are relevant to the decision whether to grant consent for the Scheme. The relevant tests for the Examining Authority and Secretary of State in determining whether to grant consent for the Scheme are set out in section 104 of the Planning Act 2008, and as a result of those provisions, the decision maker must decide the application in accordance with the National Policy Statement for National Networks (NPSNN). That requirement is subject to certain exceptions, including under section 104(7) which requires that the application should be determined in accordance with the NPSNN unless the adverse impact of the proposed development would outweigh its

benefits. This requires a balancing exercise to be undertaken of the adverse and beneficial impacts of the Scheme. Another exception makes the requirements of the World Heritage Convention relevant to the decision to grant consent. Other prescribed matters and any other important and relevant matters will also be relevant to the decision, including conformity with local planning policy and the WHS Management Plan.

- 3.2.3 The EIA is fully compliant with the relevant overarching and topic specific legislation and policy. The overarching legislative and policy context of the EIA is set out in ES Chapter 1, Introduction [APP-039]. The topic specific legislative and policy context is set out in the Legislative and Policy Framework sections of each topic chapter [APP-043 to APP-053]. With respect to the policies of the National Policy Statement for National Networks (NPSNN), the NPSNN accordancy table in Appendix A of the Case for the Scheme and NPS Accordancy [APP-294] demonstrates that the Scheme complies with the requirements of the NPSNN with respect to the WHS and more generally. Local planning policy compliance is addressed in Appendix B of the Case for the Scheme and NPS Accordancy [APP-294].

Key Issue

The impact of the proposed scheme

- 3.2.4 **We recognize that the latest Scheme represents a significant improvement on anything seen previously but feel that we are still unable to support the proposals as they would cause considerable damage to the surviving archaeological remains within the WHS and also have a negative impact on the setting of key monuments in the landscape. Many of the objectors to the Scheme have proposed that the tunnel should be extended so that both ends are outside the WHS, but this ignores the fact that the WHS boundaries are quite arbitrary and there is a significant amount of archaeology outside the boundaries.**

Highways England response

- 3.2.5 The removal of the existing surface road from much of the WHS, once the Scheme has been constructed, will result in significant reductions in traffic noise and visual intrusion. Reductions will also result from the A303 being placed in deep cutting in the western part of the WHS, largely hidden within the wider landscape, and from the Longbarrow junction being moved 600 metres to the west. The reductions in traffic noise are set out in ES Chapter 9 [APP-047], section 9.9, and illustrated in Figure 9.4 [APP-167], and visual intrusion in ES Chapter 7 [APP-045], section 7.9. The constructed Scheme will improve the visitor experience by increasing landscape tranquility and improving the visual connectivity of the many heritage features within the WHS. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole and the OUV of the WHS would be sustained. Further information can be found in the ES Chapter 6, Cultural

Heritage [APP-044] and ES Appendix 6.1, Heritage Impact Assessment [APP-195].

- 3.2.6 The preferred route was carefully chosen to avoid known archaeological remains, important sites and monuments. A comprehensive programme of archaeological evaluation surveys (see ES Chapter 6 Cultural Heritage, paragraphs 6.6.13 – 6.6.52), covering the entire red line boundary of the Scheme, has informed the Scheme being designed in a way that has limited archaeological impacts where this is practicable. Examples of how the design has been developed to limit impacts on archaeology include the choice of a northern bypass of Winterbourne Stoke, the reduced footprint and land take for Rollestone Corner, and the design and placement of the western and eastern tunnel portals and approaches in areas that have been shown to have limited archaeological remains within their footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Table 6.9. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction, to avoid, as far as is practicable, previously unknown archaeological remains being uncovered during construction. A Detailed Archaeological Mitigation Strategy (DAMS) (a draft of which was submitted at Deadline 2 [REP2-038]) will be developed in consultation with Wiltshire Council Archaeology Service and the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust and English Heritage), and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. The DAMS also identifies areas to be protected in situ. The archaeological results and the archive of finds and reports would be available for study in the future, enabling knowledge of the ancient landscape to be re-evaluated as knowledge of our past and scientific techniques evolve.

Key Issue

- 3.2.7 **It is clear that within the WHS, both in the east and the west tunnel approaches, there are significant archaeological remains that would be destroyed by the Scheme. It is worth quoting the comment made by ICOMOS to the previous 2017 proposals :-**
- 3.2.8 ***“The 2.9km tunnel options presented in the public consultation would cause adverse impact on the OUV of the property from their approach roads and associated portals. Both portals would have visual impact, but the extent of new roads beyond, within the property, is of greater concern. The potential impact of some 2.2km of four lane approach roads in cuttings on the Stonehenge landscape could fundamentally compromise the OUV of the property.”***

- 3.2.9 **Although the latest scheme proposes a slightly longer tunnel and therefore a shorter length of approach roads, the above comment still stands.**

Highways England response

- 3.2.10 UNESCO/ICOMOS recommendations and World Heritage Committee decisions have informed the development of the Scheme throughout its development and its design responds to these including: the route alignment selected as the preferred route avoiding the winter solstice sunset alignment and the bisecting the Diamond Group; setting the road in deep retained cuttings to minimise landtake; determining the length of the tunnel to avoid the Scheduled Monument known as the Avenue (NHLE 1010140) at its eastern end and a Bowl barrow south of the A303 and north west of Normanton Gorse (NHLE 1010832) at its western end – the tunnel length has been extended to 2 miles (or 3km) in length; the further addition of 200m of canopy at the western portal and 85m of canopy at the eastern portal to further extend the tunnel (to almost 3.3km) to aid landscape integration; the optimization of the positions of the tunnel portals at the head of dry valleys in the landscape in order to reduce the length of cutting (and minimise the length of the culvert part of the tunnel in the western approaches); the addition of the 150m long land bridge to maintain physical and visual connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group; the removal of the surface A303 into a tunnel and approach cuttings to reduce noise and improve the tranquillity of the WHS. In order to minimise light spill measures have included no lighting of the new Longbarrow junction or the approach cuttings, new directional lighting at Countess junction replacing the existing non-directional lighting, lighting of the portals and canopies would be designed to minimise light spill out in to the WHS landscape and lighting under the land bridge will only operate during daylight hours. To minimise the visibility of new infrastructure within the WHS signage and other highways installations will sit completely within the approach cuttings and not extend above them. Further information on the missions, including how Highways England has considered the recommendations of UNESCO/ ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.

Impact on archaeological remains

- 3.2.11 The preferred route was carefully chosen to avoid known archaeological remains. A comprehensive programme of archaeological evaluation surveys (see ES Chapter 6 Cultural Heritage, paragraphs 6.6.13 – 6.6.52), covering the entire red line boundary of the Scheme, has informed the Scheme being designed in a way that has limited archaeological impacts where this is practicable. Examples of how the design has been developed to limit impacts on archaeology include the choice of a northern bypass of Winterbourne Stoke, the reduced footprint and land take for Rollestone Corner, and the design and placement of the western and eastern tunnel

portals and approaches in areas that have been shown to have limited archaeological remains within their footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Table 6.9.

Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction, to avoid, as far as is practicable, previously unknown archaeological remains being uncovered during construction. A Detailed Archaeological Mitigation Strategy (DAMS) (a draft of which was submitted at Deadline 2 [REP2-038]) will be developed in consultation with Wiltshire Council Archaeology Service and the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust and English Heritage), and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. The DAMS also identifies areas to be protected in situ. The archaeological results and the archive of finds and reports would be available for study in the future, enabling knowledge of the ancient landscape to be re-evaluated as knowledge of our past and scientific techniques evolve.

Impact of tunnel portals in Stonehenge landscape

- 3.2.12 Along with considerations of cost, the location and design of the tunnel portals have been optimised in terms of the natural topography of the area, impact within the WHS and the extent of benefit that will be secured by one of the key aims of the Scheme which is to remove the sight and sound of the A303 traffic from much of the WHS landscape. With accompanying mitigation, the assessments show that the preferred solution is a 2-miles (3.3km) long tunnel extending between portals located adjacent to the existing A303 to the east of The Avenue and to the west of Normanton Down.
- 3.2.13 The Preferred Route Announcement (PRA) by the Secretary of State in September 2017 was based on a 2.9km long twin bored tunnel.
- 3.2.14 The western portal was located south of existing A303 and northwest of Normanton Gorse and the eastern portal to the north of A303 and east of the Avenue. Since the PRA, during the Scheme development, and in response to consultation responses, the applicant has amended the Scheme to extend the tunnel. Two changes were made to the location of the western portal which resulted in a 300m extension to the tunnel:
- the end of the bored tunnel was moved 100m west to avoid impact on a scheduled barrow (NHLE No. 1010832 – Bowl barrow south of the A303 and north west of Normanton Gorse) that contributes to the OUV of the WHS; and
 - a 200m cut-and-cover extension, or canopy, was added for improvement in landscape and visual connectivity and tranquility within the WHS.

- 3.2.15 Further westwards extensions of the tunnel were ruled out because of topographical and technical constraints, and because they would not deliver sufficient additional benefits to justify the additional cost.
- 3.2.16 At the eastern end a cut-and-cover extension of 85m has been added to suit topography for improvement in landscape and visual connectivity and tranquility within the WHS.
- 3.2.17 The location of the eastern portal is heavily constrained by topography and by features such as the Avenue to the west, A303 to the South, Nile Clumps and a power pylon to the north and by Blick Mead and Countess junction (of the A303 with the A345) to the east. No viable option has been identified for any significant change to the location identified in the PRA. However, a cut-and-cover extension of 85m has been added to suit topography for improvement in landscape and visual connectivity and tranquillity within the WHS.
- 3.2.18 Any movement of the eastern portal to the east (longer tunnel) would impact the scheduled Vespasian's Camp Iron Age hillfort and the nationally important Mesolithic site of Blick Mead with adverse impacts on heritage assets, as well as landscape and visual, biodiversity and groundwater. Increasing the length of the tunnel would also make the scheme poor value for money. It would also become impractical in terms of accommodating improvement of the Countess junction between the A303 and A345 if the tunnel was to extend further.
- 3.2.19 Movement of the eastern portal to the west (shorter tunnel) is restricted by the Avenue. The Avenue is an ancient ceremonial route and the portal has been positioned east of the Avenue to avoid severing it with the approach road. Keeping the position of the Eastern Portal in the location identified at the Preferred Route Announcement (PRA) would enhance the WHS by enabling the reconnection of the Avenue where it is currently severed by the existing A303. If the portal were to be moved west, then this opportunity could not be realised.
- 3.2.20 Further details regarding portal locations is contained in the response to 3.2.4.

Key Issue

- 3.2.21 **Only a handful of monuments close to the current A303 would benefit from the Scheme, though we accept that this would include Stonehenge itself.**

Highways England response

- 3.2.22 The benefits of the Scheme associated with removal of the sight and sound of traffic from a large part of the WHS, the opportunity for reconnection of The Avenue, and the provision of a c.150 metre green bridge, are considered in the context of the whole WHS and the many scheduled monuments within it, not just the Stonehenge monument. The Heritage Impact Assessment, as set out in ES Appendix 6.1 [APP-044], Section 12.4, concludes that the Scheme will deliver significant beneficial effects for the setting of many scheduled monuments within the WHS, as well as Stonehenge, whilst sustaining the OUV of the WHS. The removal of the A303 from the WHS has been a long- standing aspiration and commitment for the WHS since its inscription in 1986 and through successive WHS Management Plans, including the latest Management Plan for the WHS published in 2015.

Key Issue

- 3.2.23 **The Environmental Statement does not give enough weight to the loss of setting of monuments in the landscape and the harm to the Outstanding Universal Value (OUV) of the landscape as too much emphasis is placed on Stonehenge itself at the expense of the entire WHS landscape.**

Highways England response

- 3.2.24 The benefits of the Scheme associated with removal of the sight and sound of traffic from a large part of the WHS, the opportunity for reconnection of The Avenue, and the provision of a c.150 metre green bridge, are considered in the context of the whole WHS and the many scheduled monuments within it, not just the Stonehenge monument. The Heritage Impact Assessment, as set out in ES Appendix 6.1 [APP-044], Section 12.4, concludes that the Scheme will deliver significant beneficial effects for the setting of many scheduled monuments within the WHS, as well as Stonehenge, whilst sustaining the OUV of the WHS. The removal of the A303 from the WHS has been a long- standing aspiration and commitment for the WHS since its inscription in 1986 and through successive WHS Management Plans, including the latest Management Plan for the WHS published in 2015.
- 3.2.25 A comprehensive Heritage Impact Assessment has been prepared following ICOMOS guidelines (https://www.icomos.org/world_heritage/HIA_20110201.pdf). The scope and approach of this assessment, which is reported in ES Appendix 6.1 [APP-195], was endorsed by UNESCO/ICOMOS in their report from their third advisory mission on the Scheme early in 2018 (<https://whc.unesco.org/en/list/373/documents/>). The Applicant considers that the HIA has been carried out accurately and with a full appreciation and understanding of the importance of the WHS and its OUV. Full details of the

engagement with ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.

Key Issue

- 3.2.26 **CBA Wessex’s OBJECTION to the Scheme (as it was at the time of the 2004 Enquiry) is that it will cause permanent harm to the OUV or the WHS without delivering the full benefits of removing the A303 altogether.**

Highways England response

- 3.2.27 In full recognition of its obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972) (the World Heritage Convention) the Government is making a substantial investment in funding a tunnel past Stonehenge to bring extensive benefits to the WHS. The application has been prepared (and the consultation on it undertaken) with due regard to the obligations under the World Heritage Convention. The protection and conservation of World Heritage Sites, in line with the World Heritage Convention, is integrated into the comprehensive UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets. As a result, great weight is given to harm to World Heritage Sites. The application by the Secretary of State of the planning balance envisaged by this framework and, in particular, the NPSNN is in accordance with the World Heritage Convention (for further detail see the response to Written Question G.1.1 [REP2-021]).
- 3.2.28 The removal of the existing A303 surface road from the WHS landscape will result in extensive benefits for the World Heritage Site (WHS) including beneficial effects to many heritage assets within the WHS. The cultural heritage assessment for the Scheme can be found in the ES, Chapter 6 [APP-044]. Detailed consideration of the assessment of the Scheme in the context of the OUV of the WHS can be found in ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195]. Table 3 in the HIA shows the effects that the Scheme would have on the WHS in relation to its Attributes of OUV, Integrity and Authenticity. The table also shows how the Scheme would benefit the WHS in comparison with the effects of the existing A303. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained.
- 3.2.29 The preferred route was carefully chosen to minimise effects on archaeology, and a comprehensive programme of archaeological evaluation surveys has informed the Scheme design to limit direct physical impacts as far as practicable, including limiting impacts on archaeological remains that contribute to the OUV of the WHS. The design has been carefully chosen in order to preserve archaeological remains along the 2 mile section of tunnel, improve the setting of many heritage assets and asset groups in the central part of the WHS including the Avenue, Stonehenge itself and the Winterbourne Stoke barrow group; remove the intrusive sight and sound of

traffic from the existing A303 as far as possible within the WHS; and design a scheme that is minimally intrusive in both the western and eastern parts of the WHS, including in key views from assets groups that contribute to the OUV of the WHS. Examples of how the design has been developed to limit impacts on archaeology include, but are not limited to, the choice of a northern bypass of Winterbourne Stoke, the reduced footprint and land take for Rollestone Corner, and the design and placement of the western and eastern tunnel portals and portal approaches in areas that have been shown to have limited archaeological remains within their footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044]. Section 6.8, Table 6.9. The cultural heritage assessment, reported in ES Chapter 6, identifies the effects on known archaeological features whilst recognising the benefits that the tunnel will deliver for the WHS landscape as a whole.

3.3 Draft Development Consent Order

Key Issue

- 3.3.1 **A number of key documents were not made available prior to the deadline for Written Representations, including the Draft Detailed Archaeological Management Strategy and the results of hydrology tests at the Blick Mead site. In addition, a number of other documents including details of the archaeological fieldwork were only submitted as part of the Deadline 1 documentation. As a result, we have not yet fully considered the archaeological implications of the scheme for the Outstanding Universal Value of the World Heritage Site, and how this relates to setting issues and alternative options.**

Highways England response

- 3.3.2 The Applicant considers that sufficient environmental information in relation to the Scheme has been provided in order to allow consultees and interested parties to understand its likely significant effects. In accepting the application for Examination, the Planning Inspectorate will have considered the adequacy of the ES.
- 3.3.3 Highways England acknowledges CBA Wessex's comment and await the CBA's further consideration of the archaeological implications of the Scheme for the Outstanding Universal Value of the World Heritage Site, and how this relates to setting issues and alternative options. The Archaeological Evaluation and Survey Reports were submitted to the examination on 12 April [REP1-0040], as promised by Highways England at the Preliminary Meeting, but unfortunately were published on the PINS website at the same time as the Deadline 1 submissions. It is noted that the Examination timetable allows for comments to be made on documents submitted by Highways England at various deadlines and interested parties can remain

involved throughout the Examination; the written representations stage is not the only opportunity to participate or make comments.

Key Issue

- 3.3.4 **Both the CBA and CBA Wessex have significant concerns that the ES coverage of Cultural Heritage effects does NOT adequately reflect the relevant policy framework of the National Policy Statement for National Networks (2014) and the WHS Management Plan (2015) which is the UKs commitment to its international obligations under the UNESCO World Heritage Convention.**
- 3.3.5 **This has resulted in flaws in the approach to assessment; insufficient attention to limitations and uncertainties; underestimating the significance of adverse effects tending to belittle harm to the OUV of the Stonehenge WHS and exaggerate benefits of the scheme.**

Highways England response

- 3.3.6 The assessments with respect to cultural heritage in Chapter 6 of the ES [APP-044], and the accompanying heritage impact assessment (HIA), in ES Appendix 6.1 [APP-195] have been carried out in compliance with the relevant policy requirements.
- 3.3.7 With respect to the National Policy Statement for National Networks (NPSNN) requirements, NPSNN is concerned to avoid substantial harm to heritage assets, and includes requirements in relation to the balancing of less than substantial harm against the public benefit of the development. The assessment has been carried out having regard to the NPSNN requirements and the Scheme's compliance with the NPSNN requirements is demonstrated in the NPSNN accordancy table in Appendix A of the Case for the Scheme and NPS Accordancy [APP-294]. The ES notes NPSNN considerations in respect of WHSs in Table 6.1. The HIA [APP-195] assesses the impact of the proposed Scheme on the Attributes that convey the OUV of the WHS, their Integrity and Authenticity, as well as the alignment of the Scheme with the vision, aims and policies of the 2015 WHS Management Plan and the criteria for the site's inscription as a WHS. The HIA and ES [APP-044] have considered the Stonehenge, Avebury and Associated Sites WHS Management Plan 2015, and the WHS Management plan is specifically considered as a relevant plan [APP-044, para. 6.2.6].
- 3.3.8 The HIA concludes that the overall effect on the OUV of the WHS would be slight beneficial and the OUV will be sustained by the construction of the Scheme. The HIA is a comprehensive assessment that has been prepared following ICOMOS guidelines (https://www.icomos.org/world_heritage/HIA_20110201.pdf). The scope and approach of this assessment is reported in ES Appendix 6.1 [APP-195], and was endorsed by UNESCO/ICOMOS in their report from their third advisory mission on the scheme early in 2018

(<https://whc.unesco.org/en/list/373/documents/>). The Applicant considers that the HIA has been carried out accurately and with a full appreciation and understanding of the importance of the WHS and its OUV.

- 3.3.9 In terms of compliance with the obligations under the World Heritage Convention, the UK has taken the steps required by Articles 4 and 5 of the convention by putting in place the UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets – namely, the UK's national policy statements, NPPF, Planning Act 2008 provision, and established approach to assessment of impacts on heritage generally and the balancing of factors in decision making. The protection and conservation of world heritage sites is integrated into the comprehensive planning programme in the UK for nationally significant infrastructure projects (as required by the Article 5(a)), and the appropriate measures taken by the UK in legislation and policy surrounding planning decisions including the NPSNN for the protection, conservation, presentation and rehabilitation of world heritage sites (required by Article 5(d)) place great weight on their harm. It follows that the application of the planning balance envisaged in the NPSNN, by the Secretary of State, would be in accordance with Articles 4 and 5. As noted above, the NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294] demonstrates that the Scheme complies with the requirements of the NPSNN with respect to the WHS. Further details are provided in relation to the World Heritage Convention and the Scheme's compliance with those requirements in response to written question G.1.1 [REP2-021].

3.4 Flood risk, groundwater protection, geology and land contamination

Key Issue

- 3.4.1 **Until the results of hydrology tests at Blick Mead are available it is impossible to assume that this scheme will not cause permanent damage to this important site.**

Highways England response

- 3.4.2 The Scheme alignment has been optimised past the Blick Mead archaeological site, to avoid land-take and to keep the road at existing grade.
- 3.4.3 The Scheme's potential impacts on groundwater levels and flows have been assessed and the assessment has shown that there will not be any adverse effect on groundwater levels at Blick Mead, or the preservation of its archaeological remains. Further information can be found in ES Chapter 11, Appendix 4, Annex 3, Blick Mead Tiered Assessment [APP-282], which was completed in accordance with Historic England's guidance.

- 3.4.4 The ES therefore reports No change and a Neutral Effect on the Blick Mead archaeological site (Appendix 6.8 - Cultural Heritage - Summary of non-significant effects [APP-217, page 5]).
- 3.4.5 However, given the interest in the site, both from members of the public and heritage bodies, hydrological monitoring at Blick Mead is continuing and includes monitoring of water levels and springs at shallow depths.
- 3.4.6 Details of hydrological monitoring are provided in the report on groundwater monitoring at Blick Mead (Blick Mead monitoring to March 2019 HE51506-AMWEWE-SW_GN_000_ZZ-TN-WR-0015, April 2019) [AS-022]. In summary, Highways England commenced monitoring at two stilling wells at Blick Mead in August 2018. Five boreholes, one stilling well and two staff gauges were added in November 2018. Monitoring of groundwater levels and surface water levels is ongoing.
- 3.4.7 The monitoring results have been used to confirm the conceptual model set out in the tiered assessment (Annex 1 of [APP-282]). The tiered assessment concluded that the Mesolithic deposits at Blick Mead currently remain wetted by the underlying Chalk / sands and gravel aquifer under normal conditions but water levels can drop below the upper level of the Mesolithic deposits when groundwater levels are seasonally low or there is a natural drought. By confirming the conceptual model, the monitoring also confirms the conclusions of the ES that the Scheme will have a negligible effect on the hydrogeology of Blick Mead. A note on the proposals for additional monitoring (HE551506-AMW-EWESW_GN_000_ZZ-TN-WR-0127) [REP1-007] was submitted for Deadline 1 and summarises how the ES assessed effects at Blick Mead and concluded that they are not significant, the development of the tiered assessment, the installation of the monitoring locations, ongoing monitoring and why additional monitoring installations are not required.

4 British Horse Society (REP2-153)

4.1 Alternatives

Key Issue

- 4.1.1 **Alternatively, a new RB could be constructed down the west side of the A360 (rather than the east side) to connect directly with RB BSJA9 (with the route of the old A360 either closed or left as a dead end).**

Highways England response

- 4.1.2 Being situated on the east of the A360 provides greater connectivity between the existing and proposed public rights of way network across the World Heritage Site.
- 4.1.3 A new public right of way is proposed linking the former A344 in the north at Airman's Corner with "Byway 12" at Druid's Lodge in the south (WFOR16 at this point). These include Restricted Byway references UA, U, IB, IA and Bridleway reference V (sheets 14, 5 and 15 of the Rights of Way and Access Plans [APP009]). At the existing Longbarrow roundabout this north-south route connects with the west-east Restricted Byways Reference I and J along the former A303. These link to the byways commonly referred to as 11 and 12 (AMES11 and AMES12 where they meet the existing A303). The proposed route thus improves access to WHS for non-motorised users and minimises the impact on agricultural land.

Key Issue

- 4.1.4 **Alternatively, the connection via RB BSJA9 and a new RB down the A360 to the Longbarrow roundabout could be utilised, see 3 above.**

Highways England response

- 4.1.5 The proposed Restricted Byway, reference IA on sheet 14 of the Rights of Way and Access Plans [APP-009] and described in Schedule 14 to the draft development consent order [REP2-003], provides a link between the proposed restricted byway near the existing Longbarrow junction in the north, the existing restricted byway BSJA9 to the west and new bridleway (Bridleway Reference V on sheet 14 of the Rights of Way and Access Plans [APP-009]) to the south. Pedestrians, cyclists and equestrians can access new bridleway reference V to the south.
- 4.1.6 The new Restricted Byway reference IA connects to BSJA9 by crossing the A360 and not directly from the A360 as existing. The road crossing layout will be developed during detailed design.
- 4.1.7 Being situated on the east of the A360 provides greater connectivity between the existing and proposed public rights of way network across the World Heritage Site.

- 4.1.8 A new public right of way is proposed linking the former A344 in the north at Airman's Corner with "Byway 12" at Druid's Lodge in the south (WFOR16 at this point). These include Restricted Byway references UA, U, IB, IA and Bridleway reference V (sheets 14, 5 and 15 of the Rights of Way and Access Plans [APP-009]). At the existing Longbarrow roundabout this north-south route connects with the west-east Restricted Byways Reference I and J along the former A303. These link to the byways commonly referred to as 11 and 12 (AMES11 and AMES12 where they meet the existing A303). The proposed route thus improves access to WHS for non-motorised users and minimises the impact on agricultural land.

4.2 Design

Key Issue

- 4.2.1 **There needs to be a safe tunnel or bridge crossing at Yarnbury Castle, which will otherwise be too dangerous for NMUs to cross. No provision is made for this.**

Highways England response

- 4.2.2 Alternative crossing facilities have been considered for byway SLAN3 located at the west of the Scheme. In total four options were identified; an overbridge, an underpass, remain open as existing and close with restricted access/egress to/from the A303. The option to close was discounted due to the absence of alternative byway routes to Chitterne (to the north of A303) and Stapleford (to the south). A grade-separated crossing was identified as a preferred solution for several stakeholders. Both the overbridge and the underpass would require significant earthworks to be constructed either side of the A303. An overbridge would create visual intrusion on the skyline and have a negative impact on the setting of the scheduled monument at Yarnbury Castle and would not meet wider policy tests and was therefore discounted. The underpass option was considered not to be appropriate due to buildability constraints underneath a live dual carriageway and impacts on the setting of Yarnbury Castle and also discounted as the alternative routes on the Scheme would be available with less physical and environmental intrusion. Therefore, the crossing is proposed to remain as per the existing arrangement. An alternative reasonably convenient safe crossing point on the A303 trunk road would be available to the east, via Green Bridge No.1, which does not have a negative impact on the setting of Yarnbury Castle.

Key Issue

- 4.2.3 **There needs to be a safe road crossing over the A360 for the new bridleway proposed to run up the south side of the new Winterbourne Stoke approach road, to take it over the A360 and on towards Green Bridge 4.**

- 4.2.4 **A bridge or tunnel is needed, rather than the currently proposed traffic lights, as otherwise horse riders and other NMUs will be forced to queue to cross a dangerous road.**

Highways England response

- 4.2.5 Alternative crossing facilities have been considered for new A360 located at the Longbarrow southern roundabout. A Green Bridge crossing south of the new Longbarrow southern roundabout was discounted, primarily due to visual intrusion on the landscape as it is required to be suitably raised above the A360 carriageway to provide the necessary headroom.
- 4.2.6 The A360 southern link to Longbarrow junction is in cutting to minimise its visual impact on the adjacent World Heritage Site and an underpass is thus not feasible at the crossing point.
- 4.2.7 The precise form of non-motorised user (NMU) crossing will be confirmed during detailed design; at this stage it is anticipated that this will be facilitated through the use of Pegasus crossings (signal-controlled crossings adapted for both pedestrian and equestrian use). Pegasus crossings are widely used and are endorsed by the British Horse Society in their “Advice on Road crossings for horses” which states “A Pegasus crossing is a means of creating a relatively safe means of crossing at grade, which is cheaper and more practical on existing roads, and some new developments, than building an underpass or overpass. However, where new roads are planned, the British Horse Society recommends the use of an underpass as the first choice of crossing if feasible”.

Key Issue

- 4.2.8 **The new RB (created from the route of the old A360) running south down the eastern side of the new route of the A360 apparently goes to a dead end at the A360.**
- 4.2.9 **From the new Longbarrow roundabout it needs to connect with existing RB BSJA9 on the west side of the A360. A suitable road crossing over the A360 is thus be required to achieve this.**

Highways England response

- 4.2.10 The proposed Restricted Byway, reference IA on sheet 14 of the Rights of Way and Access Plans [APP-009] and described in Schedule 14 to the draft development consent order [REP2-003], provides a link between the proposed restricted byway near the existing Longbarrow junction in the north, the existing restricted byway BSJA9 to the west and new bridleway (Bridleway Reference V on sheet 14 of the Rights of Way and Access Plans [APP-009]) to the south. Pedestrians, cyclists and equestrians can access new bridleway reference V to the south.

- 4.2.11 The new Restricted Byway reference IA connects to BSJA9 by crossing the A360 and not directly from the A360 as existing. The road crossing layout will be developed during detailed design.

Key Issue

- 4.2.12 **The new RB (created from the route of the old A360) from Green Bridge 4 running north towards the Visitor Centre on the east side of the A360 apparently goes to a dead end.**
- 4.2.13 **It needs to be connected to the course of the old A344, now an RB, in a way which doesn't involve NMUs clashing with users of the Visitor Centre car park.**

Highways England response

- 4.2.14 The proposed public rights of way, labelled reference U and UA on sheet 14 of the Rights of Way and Access Plans [APP-009] and described in Schedule 14 to the draft development consent order [REP2-003], together provide a link between Longbarrow in the south and the old A344 to the east of Airman's Corner in the north, providing access to the existing restricted byway along the alignment of the old A360.
- 4.2.15 The proposed restricted byway references UA and U provides a connection to the proposed public rights of way network at Longbarrow junction and to the wider public rights of way network. In addition, this route also facilitates connection to the Stonehenge Visitor centre, which is a major tourist attraction in the area, allowing sustainable travel to this destination. As this route runs parallel to the A360, it minimises additional infrastructure within the World Heritage Site. Being situated to the east of the A360 gives the route good views over the World Heritage Site making it more attractive to non-motorised users. This route would also provide a key link in a restricted byway route north beyond Rollestone crossroads which is being promoted by an aspiration of Wiltshire Council. This would provide access to the extensive network of byways on Salisbury Plain. This route was included in the briefing provided to the Walking Cycling and Horse Riding Workshop held on 24 July 2018.
- 4.2.16 Restricted byway references U and UA are being discussed with stakeholders including the affected landowner, Wiltshire Council, and English Heritage.
- 4.2.17 Alternative options to the draft development consent order [REP2-003] proposal for the Restricted Byway from the A360 to the Stonehenge Visitor Centre have been proposed and are under consideration.

Key Issue

- 4.2.18 ***Note: Residents of Shrewton ideally need a direct RB connection to the old A344 RB at the Stonehenge Visitor Centre via a completely new***

route from Shrewton. This route is not within the remit of the plans, but is being considered as one of the legacies of the scheme.

- 4.2.19 *Potentially this new route, if it ran parallel to the A360 from Shrewton to the Visitor Centre, could connect with a new RB put in as part of the scheme down the west, rather than the east, side of the new A360 running towards the Visitor Centre.*

Highways England response

- 4.2.20 This proposal is unrelated to the Scheme and outside its scope.

Key Issue

- 4.2.21 **Byway AMES12. This provides an important access route onto the WHS and across it to Salisbury Plain and beyond for walkers, cyclists, horse riders and carriage drivers both from the south and the north.**
- 4.2.22 **A safe crossing over the A360 at Druids Lodge would make this route much safer and more attractive for NMUs travelling north to Salisbury Plain and south to the Wylde Valley over the WHS.**

Highways England response

- 4.2.23 This proposal is unrelated to the Scheme and is outside its scope.

Key Issue

- 4.2.24 **AMES12 is and will be used by motorised traffic to travel to and park in the vicinity of Stonehenge and NMUs will find themselves sharing with significant levels of motor traffic travelling in both directions. This situation is far from ideal and needs to be addressed, see 7 below.**

Highways England response

- 4.2.25 Highways England wishes to ensure that the Scheme is integrated within the existing byway network and, where the opportunity exists, create legacy benefits for non-motorised users in accordance with its Strategic Business Plan and Roads Investment Strategy, which are aligned with Government policy to encourage walking, cycling & horse-riding through national and local policies and plans. It is not necessary to change the status of byways AMES 11 and AMES 12 to integrate the Scheme in to the network. Changing the status of the existing BOATs is beyond the scope of the Scheme. The designation of byways AMES11 and AMES12 will not change as part of this Scheme. The DCO does not provide Highways England with the powers to undertake this work.

Key Issue

- 4.2.26 **AMES11 is currently shown as a dead end on the project plans (before it meets the new RB formed from the old A303). This means that NMUs will be sharing the route with motorised traffic travelling in both**

directions and attempting to turn round at various points along the route. This situation is, again, far from ideal and needs to be addressed, see 7 below.

Highways England response

- 4.2.27 Byway open to all traffic AMES11 will become a dead end for mechanically-propelled vehicles (MPVs) only; all other users will be able to travel freely between the byway and the former A303. A turning area will be provided within the footprint of the existing byway AMES11 where it meets the former A303. Motorised traffic is able to travel both ways on AMES11 at present and while all MPV users traveling north will need to return by the same route, there is no reason the volume of MPV users will increase.
- 4.2.28 The future management of AMES11 will be resolved during ongoing discussions between the Council and Highways England.

Key Issue

- 4.2.29 **Motorised use of Byways AMES11 and 12 will deter use by many vulnerable NMUs of the off-road connectivity offered by the scheme (horse riders of all ages and child/family cyclists are particularly vulnerable to motorised traffic, and the rutting of surfaces caused by motorised use is incompatible with cycling and in many cases horse riding). This outcome would significantly diminish the advantages intended to be offered by the scheme both to NMU leisure tourism and local community off-road access.**
- 4.2.30 **A solution must therefore be put in place by the Applicant to avoid this clash of interests between users of the byways.**
- 4.2.31 **New NMU routes running alongside both the byways might be a possibility, or a TRO on AMES11 and a parallel route for NMUs alongside AMES12.**

Highways England response

- 4.2.32 Highways England wishes to ensure that the Scheme is integrated within the existing byway network and, where the opportunity exists, create legacy benefits for non-motorised users in accordance with its Strategic Business Plan and Roads Investment Strategy, which are aligned with Government policy to encourage walking, cycling & horse-riding through national and local policies and plans. It is not necessary to change the status of byways AMES 11 and AMES 12 to integrate the Scheme in to the network. The DCO does not provide Highways England with the powers to undertake this work.
- 4.2.33 Highways England will review the Council's next steps in relation to the Experimental Traffic Order implemented by Wiltshire Council on AMES 11 and AMES 12 and the Experimental Modification Traffic Regulation Order implemented on 19 November 2018.

- 4.2.34 The future management of AMES11 will be resolved during ongoing discussions between the Council and Highways England.

Key Issue

- 4.2.35 **Where possible, all bridleways and restricted byways should have a grassed surface of at least 10 feet wide for the use of horse riders and walkers, as well as an all-weather surface for cyclists and carriage drivers. Where the available width does not permit this, a friable, non-slip all-weather surface should be provided that is safe for use by all NMUs.**
- 4.2.36 **Grass surfaces on rights of way allow for the retention of a rural character for the network, and green corridors for plant and wildlife.**

Highways England response

- 4.2.37 All of the new Public Rights of Way (PRoW) proposed along the length of the Scheme would be constructed in a way that will make them fit for all the uses permitted by their designated status. In the context of disability discrimination and disabled users, where existing topographical constraints allow, there will be disabled access to all new PRoW proposed along the Scheme and safer crossings for all are proposed as part of the Scheme. This will be developed through the requirement in D-CH14 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) for surfacing within the WHS to be developed in consultation with key stakeholders. The PRoW surfacing outside the WHS is currently under discussion with Wiltshire Council. Further clarification is provided within the PRoW report submitted at Deadline 2 [02-040].
- 4.2.38 Exact cross-sectional details and construction materials will be determined as part of the Scheme's detailed design, and will be sensitive to the landscapes through which the rights of way will pass.
- 4.2.39 The Applicant is developing Design Principles, to be submitted at Deadline 3 and which will form part of the OEMP secured by requirement 4 in Schedule 2 to the draft development consent order [REP2-003] to guide the development of the detailed design of elements of the Scheme.

Key Issue

- 4.2.40 **All roads and cuttings must be securely fenced at a suitable height to prevent access by children and loose animals. Thorny hedging like hawthorn should be planted alongside all fencing to provide long-term, impenetrable barriers and bird-nesting opportunities.**

Highways England response

- 4.2.41 The detail of the fencing strategy for the Scheme would be developed in consultation with Wiltshire Council and, within the WHS, the National Trust, Historic England and English Heritage in addition to Wiltshire Council, in

accordance with measure D-CH14 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), compliance with which is secured by requirement 4, in paragraph 4 of Schedule 2 to the draft development consent order [REP2-003], and will follow at the detailed design stage if development consent for the Scheme is granted. At this stage it is envisaged that fences along the Scheme would be provided to prevent access onto private land, grazed grassland or the highway, or to provide a buffer zone to the retained cutting between Longbarrow junction and the western tunnel entrance. Where necessary for adjacent land use, appropriate stock-proof netting would be added to strained wire or other boundary treatment provided by way of accommodation works, as agreed between Highways England and the adjacent landowner. Indicative details are available in Series 3 of the Highway Construction Details, Manual of Contract Documents for Highway Works

http://www.standardsforhighways.co.uk/ha/standards/mchw/vol3/section1/h_series.pdf. Some of these details may be modified within the World Heritage Site.

- 4.2.42 The Applicant is developing Design Principles, to be submitted at Deadline 3 and which will form part of the OEMP secured by requirement 4, to guide the development of the detailed design of elements of the Scheme.

Key Issue

- 4.2.43 **A non-thorny dividing hedge between two user surfaces could be considered, subject to suitability of the environment of the WHS, which would also be very good as a wildlife corridor.**

Highways England response

- 4.2.44 While the detail design of the public rights of way remains to be undertaken, at this stage, no separation is envisaged between user surfaces. Users are expected to respect the needs of others on new rights of way, in common with existing rural public rights of way. The Applicant is preparing Design Principles to guide the detailed design of elements of the Scheme, including public rights of way within the WHS, which will be submitted at Deadline 3.

5 Cycling UK (REP2-084)

5.1 Design

Key Issue

Western Section

- 5.1.1 The proposed bridleway alongside and then south of the A303 from Winterbourne Stoke to Longbarrow junction should be suitable for commuting cyclists. If the width is inadequate for differential surfacing, the surfacing should be suitable for all NMUs and we suggest a material such as Flexipave (see <http://www.kbiuk.co.uk/>), which is acceptable for walkers, cyclists and equestrians.

Highways England response

- 5.1.2 The bridleway from Winterbourne Stoke to Longbarrow junction is proposed to run along the north side of the existing A303 rather than its south side. The bridleway will include a surface suitable for road cycles.

Key Issue

- 5.1.3 We strongly support the provision of a restricted byway (RB) from Longbarrow Junction north to Airmen's Corner. This is essential to allow cyclists to access the road to Shrewton at Airmen's Corner. In particular we note the objection by English Heritage to this RB. We refer here to the experience gained from the stopping up of the A344 which exacerbated the existing severance for cyclists in this area. The exclusion of this RB from the scheme would be a major blow to sustainable transport and would be contrary to Highways England own cycling strategy. The proposed width of this RB is 4m and so we suggest a material such as Flexipave that can safely accommodate all NMUs. The detailed design of the route for accessing the proposed RB from the south and north should be safe and convenient.

Highways England response

- 5.1.4 This support for the proposed restricted byway from the existing Longbarrow roundabout north to Airman's Corner is welcomed. The surface will be suitable for road cycles and other users.

Key Issue

Central section

- 5.1.5 On the alignment of the former A303, we strongly support the provision of an 8m wide RB and a suitably coloured surface for the bound section through the WHS. The bound surface should facilitate effective drainage which will also minimise ice build-up and enable every type of cyclists to cycle at the recommended design speed for utility routes.

The Amesbury end of the RB should flow into the existing Stonehenge Road.

Highways England response

- 5.1.6 This support for the proposed restricted byway along the former A303 is welcomed. The bound surface will accommodate effective drainage. Travelling east, the proposed restricted byway will follow a smooth alignment from A303 into Stonehenge Road.

Key Issue

- 5.1.7 **We note that the section of the road to be stopped up between the new 'link' Allington road and the A303 will remain open for authorised access. We urge that this section is also kept available to cyclists and pedestrians travelling to and from the Cholderton Road, including Stonehenge YH. There is currently no direct route to and from Stonehenge YH at Cholderton to Amesbury avoiding the A303 other than the byway south-west from the YH to Arundel Farm, the surface of which is at present completely unsuitable for the majority of cyclists. This severance should be eliminated. The current scheme offers a cost-effective way for Highways England to provide a bidirectional, off-carriageway shared cycleway/footway to allow users to access the new Allington Road to Solstice Park.**
- 5.1.8 **If such a route were provided, we would not object to the stopping up of the section of Allington Road from the A303 to the new road. If it is not provided, we object to the stopping up of that section of road to NMU traffic.**

Highways England response

- 5.1.9 It is intended that the existing Allington Track north of the proposed Allington Track link be stopped up with no public access for safety reasons.
- 5.1.10 An off-carriageway shared cycleway/footway between Cholderton and Allington Track is outside the scope of the Scheme. However, through its Benefits Steering Group, Highways England is also looking to support partners to plan for the post-scheme future and implement proposals for legacy improvements to realise the full benefits of the Scheme for local communities and visitors.

Key Issue

Eastern section

- 5.1.11 **Amesbury 44 has a tarmac bridge over the A303 from Amesbury to Ratfyn. Access to the bridge from Ratfyn Road (Amesbury side) needs minor improvement, which would improve access for cyclists wishing to cycle from Amesbury to Bulford and complement the scheme built by Wiltshire Council from the Solstice Roundabout to Bulford.**

- 5.1.12 **Highways England has stated that “access improvements to Ratfyn Bridge are not needed as part of the Scheme and are beyond its scope”. However, it also says that construction work will involve work from the Ratfyn sub-station to the A303. Improvements to the link from Ames 44 to Ames 35 could tie in with this work.**

Highways England response

- 5.1.13 Changes to AMES44 are outside the scope of the Scheme. However, as described above, through its Benefits Steering Group Highways England is looking to support partners to plan for the post-scheme future and implement proposals for legacy improvements to realise the full benefits of the Scheme for local communities and visitors.
- 5.1.14 Where the bridleway crosses the approach roads to Ratfyn substation, any impacts would be controlled pursuant to the Traffic Management Plan required by item MW-TRA2 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), which is required to be developed in consultation with Wiltshire Council and which is required to set out how the traffic management of NMU routes affected by the works will be managed.

Key Issue

- 5.1.15 **During scheme construction it is very important that the needs of cyclists of all types are fully met throughout all phases of construction without loss of existing rights, and where necessary for safety, prioritised. Any temporary alternatives must be acceptable to cyclists and meet HE’s Cycling Strategy. In the absence of other suitable facilities cyclists must still be able to ride along the entire length of the existing roads within the scheme, including the A303.**

Highways England response

The Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) sets out in Table 3.2b under MW-G32 an obligation to co-ordinate activities and, under MW-TRA1, MW-TRA2 and MW-TRA10, a requirement to implement traffic management measures and provide alternative appropriate, safe and accessible routes (including in relation to cyclists) as part of a Traffic Management Plan and to consult with Wiltshire Council when developing that plan.

5.2 Traffic and Transport

Key Issue

- 5.2.1 **The scheme takes insufficient account of the needs of cyclists wishing to cycle for transport reasons. It is the policy of both central and local governments to encourage sustainable transport and pedal cycles (of any type) are an important element of this mix. The scheme categorises**

cyclists as a single group wishing to access the public rights of way network. Although the needs of recreational users are important, the scheme should better reflect government policy on sustainable transport and also Highways England's own Cycling Strategy, which says:

- 5.2.2 **Our Cycling Strategy shows how our planned roads improvements programme will provide integrated schemes which improve cycling facilities. This will contribute towards the development of an integrated, safe, comprehensive and high-quality cycling network. For our network this means cycling facilities which are safe, separate from traffic and that enable users of all abilities to cycle, encouraging cycling as a sustainable form of transport.**

Highways England response

- 5.2.3 The NMU strategy satisfies Interim Advice Note 195 "*Cycle Traffic and the Strategic Road Network*", part of the Design Manual for Roads and Bridges suite of documents which contains requirements and advice relating to works on motorway and all-purpose trunk roads.
- 5.2.4 Highways England's Cycling Strategy includes the following guiding principles, adopted during the development of the Scheme:
- 5.2.5 ***Improving cycling facilities*** – *we will plan and deliver an investment programme to improve cycle facilities which are safe and separate from traffic.*
- 5.2.6 The Scheme includes extensive off-road cycling routes linking Yarnbury Castle in the west with Solstice Park and National Cycle Network Route 45 in the east, and from Stonehenge Visitor Centre in the north to Druid's Lodge in the south.
- 5.2.7 ***Partnership working*** – *we recognise the role of our partners and stakeholders in helping us to identify and support the delivery of cycling facilities and will work closely with them.*
- 5.2.8 The development of the Scheme has been informed by a Walking Cycling and Horse Riding Workshop, consultation feedback and closely working with Wiltshire Council's rights of way officers.
- 5.2.9 ***Impact*** – *our cycling improvements will have a positive impact on communities, such as improving connections across roads that divide communities and providing an integrated and safe cycling network.*
- 5.2.10 Connections between Winterbourne Stoke and Amesbury and with other local employers such as the Stonehenge Visitor Centre would be significantly improved through the provision of largely off-road cycle routes.
- 5.2.11 The tunnel cannot be used by cyclists so the Restricted Byways Reference I and Reference J, together with Bridleway Y, would provide an enhanced east-west cycle route for use by commuters as well as recreational cyclists.

These routes are shown on sheets 5, 6 and 7 of the Rights of Way and Access Plans [APP-009] and are described in Schedule 3 to the draft development consent order [REP2-003]. The route follows the direct east-west route of the existing A303 and so does not inconvenience commuting cyclist whilst also providing a safe and enjoyable experience. The grade separation of the Longbarrow and Countess junctions would also significantly improve north-south connectivity for commuting cyclists.

Key Issue

- 5.2.12 **We support the decision to make the routes accessible to cyclists definitive rights of way and not permissive routes, particularly in view of the experience of the stopping up of the A344 between the A303 and Airman's Corner, especially the section between the A303 at Stonehenge Bottom and Byway 12. Many cyclists are unable to use this section because of its inadequate surface (and were prevented from using for 5 years while the grass established itself). In particular, this has a bearing on our comments below regarding the restricted byway proposed alongside the A360.**
- 5.2.13 **Surfacing of the proposed bridleways and restricted byways is of crucial importance to facilitate easy all-year, any time of day and all-weather usage by every type of cycle. When making the final decisions on this, we recommend that a cycling representative either from Cycling UK or the Cycle Opportunities Group Salisbury (COGS) is party to the discussions.**

Highways England response

- 5.2.14 This support for new public rights of way and surface routes is welcomed. All the new Public Rights of Way (PRoW) proposed along the length of the Scheme would be constructed in a way that will make them fit for all the uses permitted by their designated status. Further clarification on the proposals for how the design for these PRoWs will be taken forward is provided within the PRoW report submitted at Deadline 2 [REP2-040] and the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) to provide the design principles that will be used for PRoW design. Outside of the World Heritage Site, the design details will be determined in consultation with Wiltshire Council, who will be the highway authority responsible for their maintenance.

6 Winterbourne Stoke Parish Council and Dr A D Shuttleworth (REP2-149, REP2-150, REP2-182 and REP2-183)

6.1 Air quality and emissions

Key Issue

6.1.1 Concerns Regarding Hazards Posed by Phosphatic Chalk.

6.1.2 The need to ensure that Highways England have sought the appropriate scientific and health advice regarding the inhalation risks posed by radiation from particulate alpha emitters (particularly isotopes of polonium, bismuth and lead) found in any phosphatic chalk excavated from the proposed tunnel. Highways England have seemed unable to understand that the hazard posed by dried phosphatic chalk spread onto the land surface, comes not from the radon, a decay product of the uranium contained therein, but from particulate, α -emitting radon progeny, which can be inhaled into the deep lung, or ingested, by animals and humans. This can lead to increased incidence of cancer in those so exposed; and the level of risk needs to be determined.

6.1.3 This concern has now been overtaken by events and is the subject of AQ 1.20 of the Planning Inspectorates first Written Questions.

Highways England response

6.1.4 The study area does not lie within a radon Affected Area, as identified by Public Health England, and as reported in ES Chapter 10 [APP-048], paragraph 10.6.26. However, it is acknowledged that excavated phosphatic chalk could give rise to emissions of radon gas, though in an outside environment this would disperse rapidly, posing no risk to health (paragraph 10.6.73 of ES Chapter 10 [APP-048]). Radon gas does not represent an impact pathway for biodiversity receptors and so is not considered as part of a biodiversity assessment.

6.1.5 As part of the geology and soils assessment, as reported in Chapter 10 of the Environmental Statement [APP-048], phosphatic chalk cores were screened for radiation to quantify the radon potential and level of potential risk to human health. Each of the readings taken was recorded to be below the threshold for determining the presence of measurable radioactivity, and therefore below the threshold for posing a potential risk to human health, as concluded in paragraph 10.6.80-10.6.81 of ES Chapter 10 [APP-048].

6.1.6 The Applicant has engaged with Public Health England (PHE) to undertake independent testing in relation to potential human health impacts, the results of which confirm the phosphatic chalk would pose little radiological risk to

people and as such do not change the conclusions of the ES as set out above. The report from PHE is appended to Written Questions [REP2-021].

6.2 Biodiversity, ecology and biodiversity

Key Issue

6.2.1 The Undesirability and Lack of Credible Justification for Green Bridge 1 in Winterbourne Stoke

[Professor John] Altringham's most recent available paper "Bats and Linear Infrastructure" (2017), was a DEFRA research project and had the following as key findings:

- The effectiveness of nine existing mitigation features for bats on roads was assessed: three underpasses, three wire bridges, an overpass, an environmental bridge and a green bridge.
- One underpass and the green bridge were effective in guiding a large majority of bats under or over the roads.
- Underpasses were more likely to be used successfully by commuting bats than overpasses and bat gantries/wire bridges, both of which were consistently ineffective.
- A bat gantry erected close to a known commuting route was not being used by bats nine years after construction (Berthinussen & Altringham 2012b).
- Green bridges appear to have considerable potential as mitigation structures.
- The results suggest that the effectiveness of crossing structures increases with their size, connectivity and similarity to natural linear features.

6.2.2 Unfortunately, whilst Altringham claims that green bridges have considerable potential as mitigation structures, most scientists would suggest that basing this claim on a data-set of 1 (Scotney Bridge on the A21 in Kent) is somewhat overblown.

6.2.3 ADS provided Highways England with some very important detail omitted from that report - a map of the area and also a shot from Google Earth. These introduced a further concern regarding the claim of the Green Bridge having "considerable potential". First was a major linear feature running almost parallel to the green bridge and only a few metres away from it - the tree-lined B2169, which would certainly have an impact in 'guiding' bats to use the green bridge. This second feature making it very different to conditions on the A303 are the masses of mature trees on either side of the A21 and to the south west of the green bridge alongside the B2169.

- 6.2.4 **We think that on the basis of the evidence presented to date, the most Prof Altringham can claim is that green bridges might have some potential as mitigation features, in heavily wooded areas where secondary linear features might encourage bats to make use of it. There is little, or no credible evidence, at this time, to support building a green bridge in Winterbourne Stoke for the purpose initially claimed.**

Highways England response

- 6.2.5 The findings of the DEFRA research project WC1060 (Development of a cost-effective method for monitoring the effectiveness of mitigation for bats crossing linear transport infrastructure) have been accepted (by Natural England, Natural Resources Wales, DEFRA and Highways England) as the current best practice principles when designing bat mitigation specifically for large infrastructure projects. It should be noted that these principles are usually updated annually.
- 6.2.6 It should be noted that the objectives of the green bridge are to promote dispersal of chalk grassland species; to reduce mortality; and improve connectivity to existing habitat features to aid crossing for many species: invertebrates (particularly butterflies), reptiles, and mammals including bat species, badger, and other species of principal importance, such as hedgehog.
- 6.2.7 The green bridges to be delivered as part of the Scheme are proposed to be in line with Natural England's recommendations regarding green bridges, with a view to ensuring they meet the relevant objectives. All of the green bridges will contribute to connectivity for wildlife. Suitable measures to ensure the effectiveness of the green bridges (e.g. the provision of habitat heterogeneity across the bridges that will provide a range of micro-climates to facilitate dispersal of fauna and flora) would be considered and reflected in both a scheme-wide Landscape and Ecology Management Plan (must be prepared as required in the Outline Environmental Management Plan [APP-187], MW-LAN1), as well as the detailed landscaping scheme required by the draft development consent order landscaping requirement. Furthermore, the false cuttings, embankments, fencing and landscape planting are likely to deter individual species from crossing the A303 at unsafe places or heights (ES Chapter 8 Biodiversity, paragraphs 8.9.217-8.9.227-228, 8.9.232, 8.9.234) [APP-046]. The combination of these measures would provide suitable mitigation for the identified biodiversity receptors within this location, including bats.

Key Issue

- 6.2.8 **The Undesirability and Lack of Credible Justification for Green Bridge 1 in Winterbourne Stoke**

Even if Altringham's evidence is taken at face value. He makes the point in the summary report that:

- **Crossing structures should be placed on the exact location of existing bat commuting routes. Attempts should not be made to divert bats from their existing commuting routes.**

6.2.9 **Previous studies indicate that Green Bridge 1 is to be located 300 metres west of the actual flight line of the Barbastelle bats. The actual flight line will intersect the new A303 at an elevated section and so if Altringham is being followed, a bat tunnel would be more appropriate at the correct location; and Altringham has much more evidence to support tunnels than bridges.**

Highways England response

6.2.10 It is important to make clear that Green Bridge No.1 is intended to perform a number of environmental mitigation and enhancement functions, that it is not being proposed solely as mitigation for the severance of an existing bat commuting corridor by the Scheme. When considered in combination, all of these environmental mitigation and enhancement functions make Green Bridge No.1 an essential environmental component of the scheme.

6.2.11 If Green Bridge No.1 had been sited on the existing commuting route located at the north-western boundary of Scotland Lodge (Crossing Point 8 in the Environmental Statement [APP-160]), it is anticipated that it would give rise to significant adverse effects when compared to its proposed location. These significant effects would be from the loss of mature woodland, impacts on retained archaeological features, reduced landscape integration and increased visibility. The location of Green Bridge No.1 was influenced by several factors detailed below.

6.2.12 **Construction footprint:** The height of the bridge soffit would need to be at least 6.45 m to allow safe clearance of high sided vehicles underneath the bridge. The proposed bridge location is at a point where the cutting depth of the proposed A303 allows for this clearance while keeping the proposed Right of Way over the bridge at existing ground level, and hence minimises the required construction footprint.

6.2.13 If the bridge was located to the east of the current location (e.g. closer to Scotland Lodge), the bridge would cross over a progressively shallower cutting the closer it was moved towards the existing field boundary (where bats have been recorded). Additional landscaping fill would be required in order to raise the bridge to a suitable height to allow clearance under the structure. At the existing field boundary, the Scheme emerges from the cutting and onto an embankment. This embankment is required to cross the northward sloping ground and take the A303 over the B3083. In order for the green bridge to cross at the start of the A303 embankment it would require a much larger construction footprint to accommodate the bridge embankments. This would likely result in the permanent loss of part of the Scotland Lodge mature woodland (none of which would be lost to the Scheme as designed).

- 6.2.14 Likewise, if the bridge was to be located further west, as the proposed A303 moves into a shallower cutting, the bridge would require more land-take and fill to achieve the necessary clearance, increasing as the bridge moves west. Given the land-take requirements of the cutting, the proposed location of this green bridge represents an efficient use of land to be permanently acquired for construction of the Scheme.
- 6.2.15 **Archaeological impact:** The current bridge and associated footpath has been designed so as to avoid impacts on the archaeological features that are present directly west of the woodland at Scotland Lodge (refer to the masterplan for further details, Environmental Statement Figure 2.5 [APP-059]).
- 6.2.16 **Landscape and Visual impact:** The physical requirement of the arch-shaped bridge structure at the location of Green Bridge No.1 requires a minimum cutting / false cutting of a depth of about 12 m so that the bridge does not rise high within the landscape and is well integrated within the landscape. Re-location of the bridge to the east (e.g. closer to the existing bat crossing zone near Scotland Lodge) could be integrated into the landscape with fill part of the way, but only where the Scheme remains in cutting. Where the Scheme changes onto embankment, at the existing bat crossing, the bridge would be higher in the landscape, and more visible from locations to the north and east. As a result, integrating the bridge in this location would require a much greater land take and depth of fill. This would result in an increased prominence of the bridge and contrast to the landform, such that the green bridge is more exposed and likely to require a steep gradient along the access ramps, resulting in a greater visual impact than the proposed location of Green Bridge No.1. Likewise, moving the bridge to the west would also require a higher structure within the landscape, increasing intrusion the visual impact as the bridge moves west, towards the scheme boundary.
- 6.2.17 **Connectivity to the adjacent SSSI:** The bridge has been located in close proximity to the SSSI that will act as a source to aid dispersal of flora and fauna species associated with chalk grassland habitats.
- 6.2.18 If the bridge was sited further to the west of the current location, it would be further from the existing fence line and the woodland at Scotland Lodge and Parsonage Down. More extensive woodland planting would be required to link the green bridge and the existing bat crossing zone. That would encroach on the grassland habitat creation, i.e. the grassland interface between the SSSI and the Scheme, reducing the connectivity.
- 6.2.19 Siting the bridge to the east of the current location, closer to the bat crossing zone, would move it further from the chalk grassland source habitat within the SSSI, reducing the connectivity for chalk grassland flora and fauna species.

- 6.2.20 The current proposed location allows for Green Bridge No.1 to be integrated into the local landscape and will provide micro-climates / suitably sheltered habitat to aid the dispersal of a range of species.
- 6.2.21 Landscaping, planting regimes (as secured by the DCO), when combined with the provision of the proposed Green Bridge No.1 are considered suitable to maintain a permeable landscape, whilst also deterring bats from crossing the proposed A303 at Crossing point 8 in the Environmental Statement [APP-160]. This is considered suitable to provide mitigation and enhancement measures for a number of species, including bats.
- 6.2.22 It would also not be suitable to include a specific underpass at this point suitable for bat mitigation at crossing point 8 [APP-160] for the similar reasons to that of a green bridge of the same location (much larger footprint, permanent loss of woodland, possible visual impacts due to the creation of cuttings and ramps to access the underpass from the north, and archaeological impacts). Furthermore, as the bats are currently using an exposed feature to commute along / forage, a tunnel may not be a suitable mitigation measure at this specific location. The provision of an underpass would only have mitigated for the impact on bats and possibly some other mammal species, it would not have facilitated the spread of chalk grassland plants or invertebrates (for which, marsh fritillary butterfly is one of the primary reasons for the designation of the Salisbury Plain SAC). As such, an underpass would not add to the creation of a strong ecological network.

Key Issue

- 6.2.23 **The Undesirability and Lack of Credible Justification for Green Bridge 1 in Winterbourne Stoke**
- 6.2.24 **We would contend that Highway’s England’s latest rationale is equally flawed. Firstly, the landscape is already severed by the A303, so a Green Bridge cannot “maintain a connected landscape for flora and fauna species”; there is no connection to maintain. It would provide a link that does not presently exist.**
- 6.2.25 **[Highways England] claim [Green Bridge 1] will assist in the dispersal of chalk land species - but the new chalk downland being created near Parsonage Down is already directly linked to the rest of Salisbury Plain’s chalk downland to the east and north - there is no sound ecological reason for a link to the south for this purpose.**
- 6.2.26 **Consequently, Green Bridge 1 is little more than a feature that is “nice to have”.**

Highways England response

- 6.2.27 The current A303 directly bisects the Salisbury Plain landscape, running 8km east to west between Amesbury and Winterbourne Stoke, which fragments the current habitats present in the landscape, a barrier with minimal habitat

along the verges. The current A303 presents a barrier to movement of individual species, and there are operational impacts associated with the existing road, including direct mortality of particularly vulnerable species such as barn owl (as shown in the Environmental Statement, Figure 8.10 Barn Owl Habitat Suitability and Road Casualties) [APP-158], otter (ES Chapter 8 Biodiversity paragraph 8.9.232) [APP-046], and badger (ES Chapter 8 Biodiversity paragraph 8.9.234) [APP-046].

- 6.2.28 The creation of chalk grassland in the area between Green Bridge No.1 and the boundary of Parsonage Down on what is currently arable land would provide a direct habitat connection between the grassland habitat within the SSSI and the new chalk grassland habitats on both sides of the A303. The habitat creation associated with the proposed Scheme is likely to assist with the realisation of linking Salisbury Plain with Porton Down (both large areas of species rich calcareous grassland) and in the establishment of a coherent ecological network (as required by the National Planning Policy Framework paragraph 170 and National Networks National Policy Statement paragraphs 5.23 to 5.26) within the landscape. The contribution of the Scheme to the ecological network has been agreed in the Statement of Common Ground between Highways England and Natural England [REP2-016], issue 3.6, submitted into the Examination at Deadline 2.
- 6.2.29 The existing impacts associated with species mortality are likely to be reduced following construction of the proposed Scheme due to the inclusion of safe passage across the A303 in the form of moving a section of the A303 into a tunnel, and the delivery of the proposed green bridges, the River Till viaduct, B3080 underbridge and mammal tunnels, along with the suitable landscaping design. Furthermore, the false cuttings, embankments, fencing and landscape planting are likely to deter individual species from crossing the A303 at unsafe places, and to funnel them towards the safe crossing areas (ES Chapter 8 Biodiversity, paragraphs 8.9.217-8.9.227-228, 8.9.232, 8.9.234) [APP-046]. This will be secured within MW-BIO2 within the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), compliance of which is secured through the requirement contained in paragraph 4 of Schedule 2 to the draft development consent order [REP2-003], as well as the landscaping requirement in the draft.

Key Issue

- 6.2.30 **The Need for Removal/Filling-In of the Existing Lay-By to the West of Winterbourne Stoke**
- 6.2.31 **A small car park could be provided for the Parsonage Down site [to the north of Green Bridge 1], rather than at [Scotland Lodge Farm] or [the existing layby] as has been proposed in the past by Highways England. The short stretch of our proposed byway from [the B3083 following the alignment of the proposed A303] to [the north of the proposed Green**

Bridge 1] could be provided with a metalled surface to facilitate access to this new Parsonage Down car park.

Highways England response

- 6.2.32 The provision of a car park north of Green Bridge No.1 would reduce the area of chalk grassland that would connect Parsonage Down SSSI to Green Bridge No.1 and would affect the placement of the bunds that would help direct species towards the green bridge. The scheme as designed would utilise the existing metalled A303 without requiring construction of a separate parking area.

6.3 Draft Development Consent Order

Key Issue

- 6.3.1 **The Need for Both Visual and Sound Barriers on the Southern Side of the Till Viaduct**

Whilst a visual barrier of this height would be quite daunting, it could be ‘softened’ considerably when viewed from the south, by making use of green-wall technology - already used by many of the more forward-thinking road builders, such as those in Hong Kong.

Highways England response

- 6.3.2 The Applicant understands that the issue raised is suggesting a green wall barrier to a height of 4.9 metres, to reflect the suggested height in issue 6.4.1. Green wall technology would have to be considered in relation to the additional structural requirements of attaching it to the viaduct, the choice of plants which would be able to tolerate the conditions of being planted on the viaduct and the future management of the vegetation to ensure its long term establishment.
- 6.3.3 A green wall barrier of this scale would also be outside of the assessment parameters that were considered in the Landscape and Visual Impact Assessment [APP-045].
- 6.3.4 The design of the viaduct has taken account of a number of factors as set out in The Applicants response to issue 6.4.1. The Applicant considers that the scale, mass and height of the River Till Viaduct achieve a carefully weighted balance of impacts on Winterbourne Stoke whilst minimising land take and avoiding or minimising impacts on the River Till SSSI/SAC and its flood zone and retaining views along the valley floor.
- 6.3.5 The detail design stage could result in changes to the size of the barrier and whether it was a green wall technology. But this would have to be considered in combination with the required mitigation which is set out in the Environmental Statement, for example retaining light to the valley floor and not locating piers within the SSSI, as well as the potential visual impact from the increased scale and mass of a green barrier and how that responded to

its context in landscape terms. The Applicant considers that the additional scale of a green wall and the implications on establishment and maintenance, light to the valley floor and its visual appearance of creating a continuous mass above viaduct and the valley floor and the structural changes required to support the green wall would not bring beneficial impacts to outweigh the adverse impacts of a visual screen.

6.4 Landscape and Visual

Key Issue

6.4.1 The Need for Both Visual and Sound Barriers on the Southern Side of the Till Viaduct

Whilst a 1.5 metre barrier might conceal cars on the Till Viaduct from observers in Winterbourne Stoke, it will not conceal the larger vans and HGVs. Their movement will be seen and brought to our attention as a perceived environmental threat - that's simply how we, as humans, are designed.

6.4.2 The situation would be even worse at night, if Highways England's plans are accepted. Clearly, they still believe that most vehicle lights, including those of HGVs, are situated below 1.5 metres from the ground. A few minutes observation by any A-road at night will lend the lie to this idea. All HGVs have "corner lights" which delineate the vehicle at night and indicate to oncoming drivers the presence of an HGV when the road profile might prevent it from being seen. Many HGVs now not only have distracting lights in the cab, behind the driver, a growing number now also have powerful roof-mounted lights that are often between 3.5m to above 4m from the ground.

6.4.3 Whilst the UK, currently, has no legal height limit on HGVs, most of our road network can accommodate lorries up to 4.9 metres high, so any visual barrier that is not going to trigger the human reflexive flight response, and all the hormonal upsets following from its initiation, is going to have to be above the 4.9 metre point.

Highways England response

6.4.4 Paragraph 7.7.4 of the Landscape and Visual Impact Assessment [APP-045] acknowledges that there would be views of vehicles on the River Till viaduct and that due to being in an elevated position within the landscape the impacts would be adverse.

6.4.5 Paragraph 7.9.124 of [APP-045] also acknowledges that additional lighting from vehicle headlights would be introduced within the landscape between Berwick Down and the tunnel within the Stonehenge and Avebury World Heritage Site; however glare from vehicle headlights crossing the River Till viaduct would be reduced by the barrier and the establishment of the new

planting on the approach embankments to the River Till Viaduct as set out in paragraphs 7.9.126 and 7.9.127 of [APP-045].

- 6.4.6 Whilst the design of the River Till Viaduct will be progressed at the detailed design stage and be in accordance with Highways England guide 'The Road to Good Design', the design as presented in the Application is considered to respond to its context. With reference to paragraph 7.8.5 of APP-045, this is because the position for the River Till viaduct has been carefully chosen to ensure it minimises the impact on the valley side by the careful selection of the crossing point through the use of existing elevated landform or 'spurs' within the valley and with the embankments graded out to give the appearance of a valley side. The viaduct design is also considered to retain the open character of the valley floor rather than a bridge with earthworks and the height and width of the viaduct minimise shading to the grass beneath the viaduct and help maintain the visual connectivity of the valley floor.
- 6.4.7 The Design and Access Statement [APP-295] also explains, at Paragraphs 6.3.13 and 6.3.14 the factors that were taken into consideration in the development of the preliminary design of the viaduct, which reflects a carefully weighed balance of impacts on Winterbourne Stoke with minimising land take and avoiding or minimising impacts on the River Till SSSI/SAC and its flood zone. The position of the viaduct optimises the road alignment to cross the River Till at a right angle, enabling shorter spans for the twin deck structure over a narrow section of the river.

Key Issue

- 6.4.8 **The Need for Both Visual and Sound Barriers on the Southern Side of the Till Viaduct**

A visual screen for the southern aspect of the new A303 needs to run from a point west of Scotland Lodge Farm, through the village, across the Till viaduct and onwards to the point the A303 disappears into a cutting to the north west of Longbarrow. This continuous run of visual screening is needed to protect the village at all points HGVs (and their lights at night) might be visible to villagers from their own homes, gardens and public roads and byways. This screening needs to be of sufficient height to prevent the triggering of the human response to movement during both day and at night.

Highways England response

- 6.4.9 The Applicant considers that a visual screen as per the 4.9metre height proposed in 6.4.1 would cause unnecessary additional engineering and construction works, additional land take, disturbance to the landscape and would not fit with the landscape context. It would introduce vertical and horizontal features which would not achieve the integration of the Scheme within a rolling and undulating landscape as set out by the earthwork and

planting design strategy indicated on the Environmental Masterplan [APP-059] which proposes a 3-meter-high false cutting to the north of Winterbourne Stoke and 2-meter high bunds to the north of Scotland Lodge Farm, in combination with an area of extensive new woodland. The indicated design on the Environmental Masterplan is considered appropriate to integrate the Scheme into the pattern and landcover of the landscape, unlike a 4.9m visual screen. The landscape and visual impact assessment [APP-045] has assessed the likely impacts of the Scheme in relation to landscape and visual receptors and the mitigation indicated on [APP-059], and the suggestion of a visual screen is considered not to bring any beneficial impacts which would outweigh the adverse impacts of a visual screen in the construction or operation phases.

6.5 Noise and Vibration Effects

Key Issue

- 6.5.1 **The Need for Both Visual and Sound Barriers on the Southern Side of the Till Viaduct**
- Noise Barriers: Highways England claim that noise mitigation measures are not needed on the southern aspect of the Till Viaduct. Winterbourne Stoke Parish Council believe that the approach taken by Highways England to determine this is fundamentally flawed.**
- 6.5.2 **Highways England’s assessment approach for the proposed road scheme and the procedures to assess the likely noise impacts are laid out in The Highways Agency’s Design Manual for Roads and Bridges and in The Department for Transport’s Webtag guidance as part of its “New Approach to Appraisal”. These are underpinned by calculations based on the Calculation of Road Traffic Noise Guidelines (CRTN), first developed in the 1960s, first published by HMSO in 1975 and revised in 1988.**
- 6.5.3 **The CRTN was originally developed as a means of determining compensation entitlement under the Noise Insulation Regulations. It was specifically targeted at roads in urban environments. A cynic might suggest that such a model was designed, from the outset, to ensure that as few properties as possible might benefit from financial reparation. As time passed and the model gained increasing acceptance, it was adopted for a wider range of applications, including the construction of new roads - hence its use by Highway England here and, historically, by governments around the world.**
- 6.5.4 **In traffic noise modelling, the noise level at a receptor position is usually modelled as a function of the traffic conditions (i.e., traffic volume, traffic composition, and traffic speed), road gradient, road surface nature, absorbent ground cover percentage, street**

- configuration, and distance between the traffic emission source and the receptor.
- 6.5.5 However, there has been increasing realisation by other governments (eg Australia, Hong Kong, Singapore, India, Kuwait, Scotland) that CRTN, at 30 years since the last revision, is getting rather long in the tooth and that many of its core assumptions (i.e., traffic volume, traffic composition, and traffic speed) and other parameters are outdated and they are looking for replacements.
- 6.5.6 We have been told by Highways England on numerous occasions in meetings, and in response to FOIA requests, that because the CRTN is in “common usage”, it is the appropriate model for their purposes here. However, its usage clearly isn’t as common as it once was and other countries are moving to adopt new models.
- 6.5.7 One of the biggest failures of CRTN is that it assesses noise over the period 06:00 to midnight whereas many of the newer models, including those recommended by the EU Noise Directive, assess the noise over the full 24 hour period with different weightings applied depending on the time of day. This EU approach is compliant with WHO recommendations that relate to the specific health impacts of noise at night, CRTN is not.
- 6.5.8 The only way that CRTN can be made to be even part compliant with the latest European Commission guidelines, requires the application of a clumsy fudge- factor to bring it in to line. Even then, because of the way CRTN calculates noise at the receiver, it is likely to underestimate or overestimate noise levels by up to 10 dB. Given the dB scale is logarithmic, a 10dB error means that sound levels experienced in reality may be around half or twice those output from the CRTN model. That’s a very wide error range of error.
- 6.5.9 The CRTN model was designed to work for receivers located up to 300 metres from the noise source. Most of the village is located more than 600 metres from the proposed road and so outside the normal range CRTN was designed for. Whilst CRTN has been used for predictions at ranges greater than 300 metres, even its proponents admit it is applicable in only a few circumstances and we have been able to find no evidence that this would be the case for Winterbourne Stoke.
- 6.5.10 Furthermore, Winterbourne Stoke is not in an urban area with the constant background noise of city life. It is a rural area. Transport for Quality of Life in a report to the UKs Noise Association have observed:
Official noise assessment methodologies for new or existing roads and new noise mapping exercises inadequately reflect the level of road noise disturbance in rural areas, particularly in the open countryside. The emphasis on quantitative estimates and noise impacts within buildings fails to capture how noise is actually experienced in rural

areas where the population is dispersed and road noise may create problematic disturbance outdoors or far from the road itself. As a result much noise nuisance caused by traffic in rural areas is ‘invisible’ to official processes.

- 6.5.11 In other words, the “tranquility” of the countryside, a measure much lauded by Highways England in some of the DCO documentation, is actually studiously ignored by them. The same report notes:
- 6.5.12 *“the noise section of the Webtag guidance explicitly excludes ‘quiet or tranquil areas’ from its quantitative assessment on the grounds that ‘tranquillity’ is part of a qualitative assessment in the landscape section of Webtag.2 However, the definition of tranquillity in the landscape section of Webtag does not explicitly mention noise, and to judge from examples from actual road projects, noise appears to receive little attention in this section. A further issue appears to be that this treatment of noise means that tranquillity is considered as just one part of a whole set of landscape factors, and the issue is effectively ‘submerged’. A ‘large negative’ impact on tranquillity would not, on its own, register in the final ‘Appraisal Summary Table’ even if noise was considered a very major intrusion. It also appears that, because 300 metres is viewed as a ‘cut off’ for noise appraisal, the impacts on tranquil areas which are more distant from the road scheme, but still within earshot, tend to be routinely ignored.”*
- 6.5.13 In a recent (2017) study commissioned by the Council for the Protection of Rural England entitled “The Impact of Road Projects in England”, that draws upon evidence of short-term impacts (between one and five years after scheme completion) from over 80 road schemes, published by Highways England through its Post-Opening Project Evaluation (POPE) process, supplemented by long-term evidence from four road schemes that were completed between 13 and 20 years ago: the A34 Newbury Bypass, M65 Blackburn Southern Bypass, A46 Newark – Lincoln dualling and A120 Stansted to Braintree dualling, it was noted that re-analysis of the metadata shows that Highways England methodologies constantly underestimate the increase in traffic generated by the simple fact of route improvement. This means noise levels and a host of other negative impacts of road improvement are also likely to be underestimated. The report concludes with a number of fairly damning points including:
- 6.5.14 *The evaluation of road schemes is important and necessary, but the way in which it is currently being undertaken does not provide a suitable basis for policy-making. Instead, the POPE approach produces self-evidently incorrect or misleading results*

Highways England response

- 6.5.15 A solid parapet on the southern side of the River Till is not deemed essential noise mitigation to comply with policy, within the context of sustainable development, as it only reduces the adverse noise impact at a single property. However, it does provide both noise and visual benefits. In addition, feedback from the public consultation and Wiltshire Council was in favour of a solid barrier. Therefore, for these reasons a solid parapet is included in the Scheme design.
- 6.5.16 It is agreed that the Noise and Vibration assessment as reported in the Environmental Statement (ES) [APP-047] follows the assessment methodology set out in the Design Manual for Roads and Bridges (DMRB). WebTAG is not used as part of the ES assessment. DMRB is the UK standard which sets out the requirements to be adhered to in undertaking noise and vibration assessments for road schemes.
- 6.5.17 Under the heading of ‘Assessment of permanent impacts’ paragraph A1.19 of DMRB states that “The steps that should be taken at this stage are: i) *Undertake noise calculations for all sensitive receptors in the calculation area as defined in A1.11 (iv). Full calculations should be undertaken in accordance with procedures given in CRTN and Annex 4 of this document.*”
- 6.5.18 The National Policy Statement for National Networks (NNNPS) issued in 2014 sets out Government’s policies to deliver, development of nationally significant infrastructure projects (NSIPs) on the national road network in England. It provides planning guidance for promoters of nationally significant infrastructure projects on the road network, and the basis for the examination by the Examining Authority and decisions by the Secretary of State.
- 6.5.19 Paragraph 1.2 of the NNNPS states “*The Secretary of State will use this NPS as the primary basis for making decisions on development consent applications for national networks nationally significant infrastructure projects in England.*”
- 6.5.20 Paragraph 5.191 of the NNNPS states that “*The prediction of road traffic noise should be based on the method described in Calculation of Road Traffic Noise.*”
- 6.5.21 Both DMRB and the NNNPS explicitly require the use of the CRTN as the methodology to predict road traffic noise levels, therefore this is the methodology that has been adopted for the Noise and Vibration assessment for the Scheme.
- 6.5.22 As stated in the Statement of Common Ground (SoCG) Wiltshire Council [REP2-018] have confirmed they are in agreement with the methodology adopted in the Noise and Vibration assessment reported in the ES, and that they are content that the proposed operational mitigation identified in the ES is suitable and sufficient.
- 6.5.23 The CRTN methodology was comprehensively verified on first publication using data from other 2000 monitoring positions and has been used successfully on a large number of road schemes since its publication, many

of which include a comparison of predicted road traffic noise levels against the results of a baseline noise survey to demonstrate the noise modelling process is producing reasonable results. More recent research has also demonstrated a good correlation of CRTN predicted traffic noise levels against field measurements beyond the originally defined 300m.

- 6.5.24 It is not considered that further demonstrating the validity of the prescribed UK road traffic noise prediction methodology falls within the remit of the Noise and Vibration assessment for the Scheme or the DCO process.

Key Issue

- 6.5.25 **The Need for Both Visual and Sound Barriers on the Southern Side of the Till Viaduct**

Finally, and we believe that this is a fundamental issue, although the CRTN and all that flows from it may be in “common use” for road building purposes, we do not believe the model has ever been independently verified and validated as per the AQUA Guidelines. As a consequence, CRTN and all it leads to cannot be regarded as being “fit for purpose” or, indeed, an example of best practise and the results should be inadmissible as evidence for the DCO. Highways England might argue that the Aqua Guidelines are only recommendations and thus not binding. Unfortunately, government recommendations that impact on government departments, agencies or government-owned companies, as is the case here, carry the same weight as instructions or direct orders. So, all models used in in the DCO process must comply with the Aqua Guidelines, or be deemed unfit for purpose.

- 6.5.26 **If we are incorrect in our belief and the CRTN, WEBTAG, etc have been fully verified and validated in a way appropriate to their use here, then we would ask the Inspectors to ask Highways England to have the model’s Senior Responsible Officer explain to them how CRTN, WEBTAG, etc, have been upgraded since 1988 to deal quantitatively with changes to the scientific understanding of: sound propagation (specifically in rural environments); boundary effects; receiver construction, location and size; rural surfaces and seasonal variations therein; tranquility; etc.**

Highways England response

- 6.5.27 As detailed above, both DMRB and the NNNPS explicitly require the use of the CRTN as the methodology to predict road traffic noise levels, therefore this is the methodology that has been adopted for the Noise and Vibration assessment for the Scheme. The CRTN methodology has not been used simply because it is ‘in common use’.

- 6.5.28 It is noted that the current 2011 version of DMRB includes various updates to the original CRTN methodology.
- 6.5.29 Highways England's Analytical Assurance Framework has been established and supports implementation of the guidance in The Aqua Book (HM Treasury 2015).

Key Issue

- 6.5.30 **The Need for Both Visual and Sound Barriers on the Southern Side of the Till Viaduct**

We suspect, that given the time constraints of the DCO process, Highways England will be unable to demonstrate that their approach to noise modelling is fit for this, or any other purpose. In the short term, we have to take a pragmatic view and whilst the shortcomings of Highways England's modelling should derail the entire process, we do not believe that this would be desirable or in our own best interests - assuming the Inspectors are not minded to ask for the entire scheme to be re-routed several km north into the Salisbury Plain Training Area.

Highways England response

- 6.5.31 As detailed above, both DMRB and the NNNPS explicitly require the use of CRTN as the methodology to predict road traffic noise levels, therefore this is the methodology that has been adopted for the Noise and Vibration assessment for the Scheme.
- 6.5.32 The CRTN methodology was comprehensively verified on first publication using data from other 2000 monitoring positions and has been used successfully on a large number of road schemes since its publication, many of which include a comparison of predicted road traffic noise levels against the results of a baseline noise survey to demonstrate the noise modelling process is producing reasonable results. More recent research has also demonstrated a good correlation of CRTN predicted traffic noise levels against field measurements beyond the originally defined 300m.
- 6.5.33 It is noted that paragraph 5.189 of the NNNPS states that the 'nature and extent of the noise assessment should be proportionate to the likely noise impact'. Paragraph 4.15 of the NNNPS also states that 'Any requests for environmental information not included in the original environmental statement should be proportionate and focus only on significant effects'.
- 6.5.34 It is not considered that further demonstrating the validity of the prescribed UK road traffic noise prediction methodology would constitute a proportionate approach. In particular given the self-evident reduction in traffic noise levels in the centre of Winterbourne Stoke due to the bypass of the village.

Key Issue

6.5.35 **The Need for Both Visual and Sound Barriers on the Southern Side of the Till Viaduct**

Short term: We propose that the most pragmatic and rational solution would be to provide the maximum achievable sound-proofing on the southern side of the new A303, from a point to the west of Scotland Lodge Farm to the eastern side of the proposed Till viaduct, where the new section of road disappears into a cutting. In designing such sound-proofing we note that the human sensitivity and biological response to sound is very similar to that alluded to earlier in relation to light; it is part of the flight response. Any detectable noise above the ambient background - low in a tranquil rural environment - will be noticed and reacted to. Noise levels at inhabited receivers within Winterbourne Stoke should, as a minimum standard, be fully compliant with the World Health Organisation’s “Noise Guidelines for Europe”.

Highways England response

6.5.36 A range of noise and vibration mitigation measures have been incorporated into the design of the Scheme, as detailed in paragraph 9.8.14 of Chapter 9 of the Environmental Statement [APP-047]. Of particular relevance to Winterbourne Stoke are:

- Selection of a route alignment which relocates the A303 from the centre of the village to a bypass to the north of the village.
- The use of ‘false cuttings’ along the route to the north of Winterbourne Stoke to reduce the impact of the new bypass. Over the course of the development of the Scheme to be submitted at DCO the height of the false cuttings has been increased to minimise the adverse traffic noise effect of the Scheme in particular at Foredown House on the northern edge of the village, whilst balancing the traffic noise benefit with the landscape and visual implications of increasing the height.
- Inclusion of a solid parapet on the southern side of the River Till viaduct to connect with the earthwork cuttings to the east and west.

6.5.37 The WHO Guidelines are one source of guidance used in the setting of the Significant Observed Adverse Effect Level (SOAEL) for road traffic noise, as used in the Noise and Vibration assessment reported in the Environmental Statement [APP-047]. For example, the night time traffic noise SOAEL is based directly on the WHO guidelines. Without the Scheme due to the close proximity of the existing alignment of the A303 to properties in the centre of the village just under 30 residential properties are predicted to exceed the SOAEL. With the scheme in operation all properties in the village within the traffic noise modelling study area are predicted to fall below the SOAEL.

6.5.38 A reduction in traffic noise levels during operation of the scheme is predicted at all residential properties in the noise modelling study area in Winterbourne Stoke, with the exception of Foredown House on the northern edge of the

village (although traffic noise levels are predicted to be below SOAEL at that receptor). At over 40 properties in the village the magnitude of the reduction is classed as moderate or major, which is identified as a significant beneficial effect.

Key Issue

6.5.39 The Need for Both Visual and Sound Barriers on the Southern Side of the Till Viaduct

Long term: Highways England should be instructed to ensure all models used in road-building schemes are AQUA-compliant and no further schemes are submitted for DCO until this is achieved (Hence the request to the Inspectors by ADS on 1 April 2019 at the Preliminary Meeting).

Highways England response

6.5.40 It is outside the scope of the Noise and Vibration assessment completed for the scheme, and the DCO process, to comment on the need for future changes to national policy and UK standards.

6.6 Socio-economic effects

Key Issue

6.6.1 The Need for Removal/Filling-In of the Existing Lay-By to the West of Winterbourne Stoke

Winterbourne Stoke Parish Council are strongly of the opinion that the land in the vicinity of [Scotland Lodge Farm] would be ideal for exploitation for legacy purposes; to the benefit of both Winterbourne Stoke and surrounding areas. Ideas that have already been mooted include a small village hall/ meeting room/changing room, a sports field, allotments and/or a village orchard.

6.6.2 **By increasing village-oriented activities in this area, its use for criminal purposes would be discouraged. All other proposed uses for the lay-by area (eg a facility for Wiltshire Council) increase the vulnerability to crime.**

Highways England response

6.6.3 Highways England will continue to engage with the local community and relevant stakeholders in the identification and pursuit of legacy projects/benefits that fall outside of the scope of this DCO. As part of this, a Local Community Forum has been established to consider the wider benefits that the scheme could facilitate, and these matters are being discussed in that forum.

6.7 Traffic and Transport

Key Issue

6.7.1 The Need for a North/South Crossing of the A303 at Yarnbury Castle

Once the bypass of Winterbourne Stoke is completed, vehicles travelling east will no longer anticipate needing to slow on the approach to Winterbourne Stoke and all vehicles travelling westwards will be travelling above, at or only slightly below the national speed limit of 70 mph when they arrive at [the Yarnbury Castle crossing]. Both these effects will combine to make crossing the A303 at this point much more dangerous than at present as users will have less time to cross to, or from the central reservation in front of vehicles.

6.7.2 There is a strong likelihood that traffic on the A303 will increase once the road is improved, above and beyond any year-on-year increases anticipated. This will reduce gaps between vehicles, contributing further to the danger of crossing.

6.7.3 The western end of the scheme should be moved to the west of the Yarnbury Crossing. To minimise these legitimate safety concerns, an underpass of the A303 should be provided (a bridge would not be appropriate at this point due to the archaeology). Entry/exits onto the A303 from SLAN3 and BSJA4 should be removed for the same reason and the gap in the central reservation could be stopped-up, enhancing traffic safety on the A303.

Highways England response

6.7.4 Alternative crossing facilities have been considered for byway SLAN3 located at the west of the Scheme. In total four options were identified; an overbridge, an underpass, remain open as existing and close with restricted access/egress to/from the A303. The option to close was discounted due to the absence of alternative byway routes to Chitterne (to the north of A303) and Stapleford (to the south). A grade-separated crossing was identified as a preferred solution for several stakeholders. Both the overbridge and the underpass would require significant earthworks to be constructed either side of the A303. An overbridge would create visual intrusion on the sky line and have a negative impact on the setting of the scheduled monument at Yarnbury Castle and would not meet wider policy tests and was therefore discounted. The underpass option was considered not to be appropriate due to buildability constraints underneath a live dual carriageway and impacts on the setting of Yarnbury Castle and also discounted as the alternative routes on the Scheme would be available with less physical and environmental intrusion. Therefore, the crossing is proposed to remain as per the existing arrangement. An alternative reasonably convenient safe crossing point on the A303 trunk road would be available to the east, via Green Bridge No.1, which does not have a negative impact on the setting of Yarnbury Castle.

- 6.7.5 Accident safety benefits have been assessed in accordance with WebTAG unit A4.1 Section 2. Table 7-1 of the Transport Assessment [APP-297] sets out an assessment of the number of accidents forecast from the traffic flow and accident rates over the 60-year appraisal period.
- 6.7.6 The forecast reduction in both accidents and casualties occurs despite the increases in traffic that are forecast through this section of the A303 following implementation of the Scheme, and despite overall increases in distance of the A303 as a result of the realigned Longbarrow junction and Winterbourne Stoke bypass. This is due to the reduced incident rates that can be anticipated for modern dual 2-lane roads compared to older 2 lane dual carriageways or single carriageway roads such as the existing A303. Hence, these figures reflect a safer road design for the Scheme than the existing road. Further detail of this analysis can be viewed in Combined Modelling and Appraisal Report Appendix D –Economic Appraisal Package [APP-302].

Key Issue

- 6.7.7 **The Need for a North/South Crossing of the A303 at Yarnbury Castle**
Suggestions that vehicles (including farm and military vehicles), pedestrians, cyclists and equestrians should divert eastwards along the new byways to the north and south of the line of the A303, to make a crossing of the A303 in Winterbourne Stoke, are simply unrealistic

Highways England response

- 6.7.8 The proposed public rights of way, labelled reference A, B and D on sheets 1, 2 and 3 of the Rights of Way and Access Plans [APP-009] and described in Schedule 3 to the draft development consent order [REP2-003] provide a coherent link between the A303, the existing byway network (via SLAN3) and the village of Winterbourne Stoke. As an alternative route to the A303, the routes referenced A and D run parallel to the south of the proposed carriageway. The route is intended to address Highways England's requirement to provide parallel routes to new trunk roads for non-motorised users in accordance with their Cycling Strategy as set out in Interim Advice Note (IAN) 195/16.

Key Issue

- 6.7.9 **The Need for a North/South Crossing of the A303 at Yarnbury Castle**
A safe crossing at [the Yarnbury Castle crossing] is critical in joining byway networks to the north that run towards Wales and to Grovelly Wood and the Kings Way to the south - which connect byway networks westward to Dorset and Devon.

Highways England response

- 6.7.10 No crossing is proposed as part of this Scheme. While the opening in the central reservation would remain open for users, the Scheme would provide a safe means of crossing for non-motorised users at Green Bridge No.1, albeit at additional length for north-south non-motorised users of the SLAN3 byway. The location of these changes is shown in the Rights of Way and Access Plans [APP-009].

Key Issue

- 6.7.11 **The Undesirability and Lack of Credible Justification for Green Bridge 1 in Winterbourne Stoke**

Subsequent to ADS providing Highways England with this critique, they produced a new document in November of 2018, now claiming that Green Bridge 1 was needed:

“to perform a number of environmental mitigation and enhancement functions, including to maintain a connected landscape for flora and fauna species and assist in the dispersal of chalkland species, whilst also integrating the bridge into the landscape, maintaining and enhancing the public rights of way, and providing agricultural access, and is located to in the best possible location to meet these needs.”

- 6.7.12 In other words, Highways England are now claiming that the bats are no longer the prime rationale for Green Bridge 1. We realised at this point that when confronted with hard evidence, rebutting their arguments, Highways England seem to prefer changing their rationale rather than their plans - presumably to save money.

Highways England response

- 6.7.13 The rationale for the Green Bridge No.1 has remained consistent throughout the process. As noted above, Green Bridge No.1 performs several environmental mitigation and enhancement functions. It was considered as part of the Environmental Impact Assessment process resulting in a holistic approach to the package of mitigation measures. Chapter 8 of the Environmental Statement [APP-046] highlights the biodiversity rationale for incorporating green bridges into the scheme:

- Mitigation for habitat loss and fragmentation, paragraphs 8.8.4, 8.8.5 and 8.8.8 [APP-046].
- Enhancement measures to facilitate the movement and colonisation of invertebrates, such as butterflies and the dispersal of plants paragraph 8.8.14 and 8.8.16 [APP-046].
- Mitigate for bat habitat fragmentation paragraph 8.9.152 [APP-046].
- Mitigate direct mortality of barn owl paragraph 8.9.217 [APP-046] and badger paragraph 8.9.234 [APP-046].

- Summary of the assessment of effects 8.9.239 [APP-046]: *“The chalk grassland of the Scheme would enhance the west east connectivity, improving the ecological network along the whole length from Yarnbury Castle to Amesbury. Overall, there would be a net gain of approximately 186ha of semi-natural habitats. This, in conjunction with the provision of four green bridges, would represent a significant beneficial effect in terms of ecological network connectivity.”*

6.7.14 With regards to bats, Green Bridge No.1 should not be viewed as compensation for loss of the existing crossing feature at that location, but rather is part of a holistic or landscape-scale package of mitigation and enhancement measures for bats within the Scheme as a whole. As part of the holistic approach, a combination of mitigation measures (Environmental Statement Chapter 8 Biodiversity paragraph 8.8.4 – 8.8.9, and 8.9.149 [APP-046]) are proposed to be included in order to:

- a. Minimise the potential loss of roosting resource (trees that are suitable to support bat roosts); and,

Minimise severance of commuting routes across the Scheme (in general).

6.7.15 The Scheme will provide new habitat with potential for future foraging and with features such as green bridges and the 3km tunnel to aid safe crossing of the A303. It will also include features for roosting (to compensate for losses of potential roosting resource) and for hibernation (as enhancement). Delivery of these measures are secured by commitments contained in, for example, the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) compliance with which is secured by the requirement contained in paragraph 4 of Schedule 2 to the draft development consent order.

Key Issue

6.7.16 **The Undesirability and Lack of Credible Justification for Green Bridge 1 in Winterbourne Stoke**

HE’s tertiary claim for Green Bridge 1, that it is: “maintaining and enhancing the public rights of way, and providing agricultural access” is, at least superficially, more reasonable, but still bears closer examination as it betrays a near total lack of understanding of local issues. There are currently no usable [PRoW] close to the site of the proposed Green Bridge, so the claim of maintaining [PRoW] is rather overstated. WST03 is currently overgrown, gated and blocked by barbed wire at its southern end.

6.7.17 **The needs of agricultural access could be better met by providing an access from the B3083, north of the A303. So, access to fields [to the north of the proposed A303 alignment], instead of being via Green Bridge 1, should be from the northern side of the B3083, westwards [following the A303 alignment].**

Highways England response

- 6.7.18 The route is intended to address Highways England's requirement to provide parallel routes to new trunk roads for non-motorised users in accordance with their Cycling Strategy as set out in Interim Advice Note (IAN) 195/16. This route provides a route from byway SLAN3 near Yarnbury Castle to the segregated crossing point at Green Bridge No.1. There will therefore be a PRow network for it to serve. The location of Green Bridge No.1 provides ecological connectivity with Parsonage Down SSSI for chalk grassland species and provides potential connectivity for bats. Details can be found in section 8.8 in ES Chapter 8, Biodiversity [APP-046]. It also provides agricultural accesses in this location and accommodates the new restricted byway. A crossing point further west would require significant earthworks and additional land to cross either under or over the proposed A303, and crossings over A303 would have an unacceptable impact on the setting of scheduled monument Yarnbury Castle.
- 6.7.19 Routing the right of way and agricultural access over Green Bridge No.1 is preferred because the alternative via the B3083 would be a 1.3km longer detour for users of Byway SLAN3 seeking to cross the A303 and avoid the existing crossing at Yarnbury.
- 6.7.20 The alternative route would appear to offer no advantage over the proposed route over Green Bridge No.1 for agricultural access, and require additional land over which to create the access.

Key Issue

- 6.7.21 **The Undesirability and Lack of Credible Justification for Green Bridge 1 in Winterbourne Stoke**

The greatest reason for local objection is the vulnerability to crime that [Green Bridge 1] creates. This part of Wiltshire is frequently visited by hare coursers and the associated criminality that follows in its wake. Green Bridge 1 would make it much easier for individuals to participate in these events to access fields, to which access is currently difficult, and provide a ready escape route in the case of police intervention.

Highways England response

- 6.7.22 As set in submission Public Rights of Way Clarifications [REP2-040] it is currently anticipated that Kent Carriage Gaps will be provided at the junction of the restricted byway with the former A303 to prevent access by vehicles. Alongside this there will be a field gate to provide for authorised landowner access. This gate will be capable of being locked. The management of access across Green Bridge No.1 is a matter for Wiltshire Council, as the highways authority with responsibility for the public rights of way. Fences along the public rights of way will be provided to prevent access onto private land, grazed grassland or the highway (to be developed in conjunction with landowners pursuant to item MW-COM3 of the Outline Environmental

Management Plan) (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).

Key Issue

6.7.23 The Need to Convert the Route of the Existing A303 to the West of Winterbourne Stoke to a Gated, Restricted Byway

Replacement of a section of the A303 to the west of the village creates a dead-end that is likely to prove very attractive to travellers, hare-courers and other ne'er-do-wells.

6.7.24 It is away from the centre of the village and consequently criminal and antisocial activities are unlikely to be noticed in the first instance; something we are keen to prevent. Closure of the existing route of the A303 to all traffic to the west of Scotland Lodge in Winterbourne Stoke is desirable and the route of the old road should become a gated, restricted byway.

Highways England response

6.7.25 The section of downgraded A303 west of Winterbourne Stoke to its junction with the existing bridleway BSJA3A will become a BOAT that MPVs including farm vehicles will be able to use without restriction. This proposal, alongside the proposed upgrade of bridleway BSJA3, is required to preserve a continuous Byway Open to All Traffic (BOAT) link between Berwick St James and Winterbourne Stoke. It is thus inappropriate to seek to block access to existing byway BSJA3 and the eastward extension to it proposed as part of the scheme.

Key Issue

6.7.26 The Need to Convert the Route of the Existing A303 to the West of Winterbourne Stoke to a Gated, Restricted Byway

Concrete barriers should be placed across the route of the old A303 at [Scotland Lodge Farm], to prevent vehicular access beyond [this point], there would be a locking gate at [Scotland Lodge Farm] to allow access by local farm vehicles only. We would strongly oppose any suggestion that the route from the old A303 to BSJA3 should be open to HGVs to service the chicken farm south of the A303 on BSJA3. Whilst Wiltshire Council imposed a planning condition on the chicken farm that it should have access and egress onto the A303, that condition can clearly no longer be met in full - unless a larger junction is made at [the Yarnbury Castle crossing point].

6.7.27 Consequently, as a compromise, we would suggest that access to this farm should be via BSJA3 from Berwick St James (B3083) and egress should be westwards, joining the westbound A303 via a short slip-road

at [the Yarnbury Castle crossing point]; minimising the works needed at this point.

- 6.7.28 Furthermore, non-local vehicles, including HGVs, wishing to visit the chicken farm would do so from the Longbarrow [south] Roundabout, travel down the route of the old A303 to the junction with the southern B3083, then travel south to Berwick St James, up byway/farm track BSJA3 to the farm. On leaving the farm, vehicles (HGVs in particular) would travel north towards the A303, then west to an exit onto the A303 at Yarnbury Castle at [the existing crossing point]. Smaller vehicles could reverse the route back towards Berwick St James.
- 6.7.29 **3.6** If this alternative is deemed not viable (ie BSJA3 - already a byway open to all traffic is not suitable for the types of HGV needed to service the chicken farm and the type of vehicle cannot be altered) then a compromise may be for these vehicles to access the proposed gated restricted byway at [Scotland Lodge Farm] and proceed by [the A303] to the north of the chicken farm and then south on BSJA3.

Highways England response

- 6.7.30 Blocking the existing A303 as proposed is not consistent with either byway open to all traffic or restricted byway status. BSJA3 from Berwick St James in the south to the chicken farm is unsuitable for HGV use, due to its gradient. This suggestion would route additional HGV traffic through the village. Highways England does not consider it appropriate to provide a new access onto the A303 at Yarnbury Castle, which would create a direct access from Berwick St James via Byway Open to All Traffic BSJA3 onto the westbound A303. Creating private access rights over a restricted byway would not address the severance of the Byway Open to All Traffic BSJA3 described above.

Key Issue

- 6.7.31 **The Need for Removal/Filling-In of the Existing Lay-By to the West of Winterbourne Stoke**

The existing layby on the A303 at [Scotland Lodge Farm] should be removed and the ground brought up to level with the existing A303. It has been used for many years as a look-out point to the south and the north of the A303 by hare coursers and removing it is the simplest way of preventing its use in this way.

Highways England response

- 6.7.32 Following confirmation by Wiltshire Council that the lay-by is no longer required by them for operational reasons, Highways England has given a commitment that this lay-by will be closed, filled and profiled to prevent access, top-soiled and seeded to return it to a grassed verge. This is recorded in the Wiltshire Council Statement of Common Ground [REP2-018]

issued at Deadline 2, section 3.5 'Matters Under Discussion in relation to Highways Design', issue reference 3.5.2.

Key Issue

- 6.7.33 **The Need for Removal/Filling-In of the Existing Lay-By to the West of Winterbourne Stoke**
- 6.7.34 **All tarmac between [Scotland Lodge Farm] and [the A303] should be removed and returned to a gravelled track, unsuitable for non-farm vehicles.**

Highways England response

- 6.7.35 The surface of the downgraded A303 west of Winterbourne Stoke to its junction with the existing bridleway BSJA3 will be determined in consultation with affected stakeholders, landowners and tenants as appropriate and pursuant to the principles set out in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).

Key Issue

- 6.7.36 **The Need to Reroute the Proposed Cycleway and Footpath to the East of Winterbourne Stoke and a Green Bridge Crossing of the A360**
- The entire route from [the A303 to the west of Winterbourne Stoke] to [the proposed Longbarrow South Roundabout], should be suitable for pedestrians, cyclists and equestrians. From point [Scotland Lodge Farm] eastwards towards [the proposed Longbarrow South Roundabout], pedestrians, cyclists and equestrians would, ideally, need to be separated from vehicular traffic. From [east side of Winterbourne Stoke] eastwards, the route for pedestrians, cyclists and equestrians should be on the southern side of the current A303, rather than the northern side as proposed by HE. Most of the village lies to the south of the A303 and so placing a pedestrian route on the northern side is simply perverse and illogical when considering likely users and usage.**
- 6.7.37 **The southern side of the existing A303 is preferable, as it already has wider grass verges than the northern side for much of its length. Elsewhere, the southern side consists of rough scrub, hedgerow and land of low farming value. All the land to the north of the A303 on the route proposed by HE would be farmland or farmland to be restored to Manor Farm upon scheme completion. This would further serve to reduce the overall amount of land taken from Manor Farm by a further 0.57h plus 0.18h. It is notable that in our latest meeting with Highways England in relation to the SOCG, their representatives observed that they had failed to notice the amount of land available to the south of the A303 “as it had been obscured by the scrub and leaves on the**

hawthorn bushes when they had looked in summer”. Not very reassuring if the same levels of due diligence have been exercised on other parts of the scheme.

Highways England response

- 6.7.38 The proposed non-motorised user route referred to facilitates travel between Winterbourne Stoke and Longbarrow junction and on into the WHS, via Green Bridge No. 4 to the east of the existing Longbarrow junction. This route ties in with the existing rights of way network through its junction with existing byways WSTO4 and WSTO6B. This route will be of significant benefit to local people, encouraging walking and cycling, and adding to the amenity of the area. It will connect these users, as well as equestrians, to the new public rights of way proposed within the WHS, providing convenient safe access and the opportunity for the WHS to be explored and enjoyed, thus fulfilling one of the objectives of the Scheme. Full details are shown on the Rights of Way and Access Plans [APP-009] and are described in Schedule 3 to the draft development consent order [REP2-003]. The existing A303 will carry significantly less traffic and become much less of a barrier to those wishing to cross the road to access routes north or south of the existing A303, or for equestrians sharing the road with local traffic through the village where a 30mph speed limit will be imposed as set out in the draft development consent order Schedule 10, Part 1 [REP2-003] and shown on Sheet 4 of the Traffic Regulation Measures Plans (Speed Limits) [APP-013]. No segregation is thus required for equestrians through the village. East of the village pedestrians, cyclists and equestrians will be able to use the fully segregated bridleway ref Z as shown on Sheet 4 of the Rights of Way and Access Plans [APP-009].
- 6.7.39 This proposed bridleway between Winterbourne Stoke and Longbarrow junction (ref Z) is better located on the north side of the old A303, separated from the existing road by an existing mature hedge along part of the route. The alternative route on the south side would mean the removal of approximately 0.128ha of scrub woodland. It would also require additional earthworks including widening the existing embankment or creating a low retaining structure approximately 250mm high over a length of approximately 160m.
- 6.7.40 Placing the shared use cycle path on the north side of the existing A303 provides a safer crossing of the B3083 between Shrewton and Berwick St James at the existing T-junction, which is likely to remain in its existing configuration. The angle of the junction between the A303 and the road to Berwick St James is likely to encourage higher vehicle speeds and it is possible this will be marked as the through route following detailed design. Formal crossing points will be confirmed during detailed design, but given the predicted volume of traffic through the village, crossing the existing A303 at any point will be very much easier than at present.

Key Issue

6.7.41 **The Need to Reroute the Proposed Cycleway and Footpath to the East of Winterbourne Stoke and a Green Bridge Crossing of the A360**

Importantly, there would be no requirement for a crossing of the A303 at the new Longbarrow [South] Roundabout. We regard this as a secondary safety feature to protect pedestrians, cyclists and equestrians from the inevitable high-speed tourists taking the wrong exit from the A360 in their attempts to find the A303 or the Stonehenge Visitor's Centre.

6.7.42 **Firstly, the proposal should be rejected on safety grounds alone. Pegasus crossings are unusual and rarely encountered in the UK. The route it is proposed for is going to be used by many foreign visitors, many of whom struggle with the UK traffic system as it is, let alone with the introduction of something unusual; even for this country.**

6.7.43 **Mixing equestrians, pedestrians and cyclists at such a crossing on a busy A road and feeder to the A303, as well as a prime access route to the WHS, is the height of folly. There are risks to cyclists from the equestrians and vice versa in the holding area; though pedestrians could be separated.**

6.7.44 **Much of the traffic travelling from the south will be focussing on joining the A303 or entering the WHS. We are concerned that little attention will be paid to an unusual crossing situated in a hidden dip in the road; thereby increasing the risks to NMU.**

Highways England response

6.7.45 As the traffic flows on the former A303 will be significantly lower than at present, the benefits of removing this crossing at new Longbarrow [South] Roundabout were not considered sufficient to promote the southern route proposed, given the concerns with that route expressed above. A green bridge crossing south of the new Longbarrow southern roundabout was considered and subsequently discounted, primarily due to visual intrusion on the landscape as it is required to be suitably raised above the carriageways of the former A303 and A360 to provide the necessary headroom.

6.7.46 The precise form of non-motorised user (NMU) crossing will be confirmed during detailed design; at this stage it is anticipated that this will be facilitated through the use of Pegasus crossings (signal-controlled crossings adapted for both pedestrian and equestrian use).

6.7.47 Pegasus crossings are widely used and are endorsed by the British Horse Society in their "Advice on Road crossings for horses" which states "A Pegasus crossing is a means of creating a relatively safe means of crossing at grade, which is cheaper and more practical on existing roads, and some new developments, than building an underpass or overpass. However, where new roads are planned, the British Horse Society recommends the

use of an underpass as the first choice of crossing if feasible.” The A360 southern link to Longbarrow junction is in cutting to minimise its visual impact on the adjacent World Heritage Site and an underpass has been discounted due to the potential flood risk, the difficulty of providing it in a cutting and the length of approach ramps required to accommodate a 3.4m minimum height for horse riders. An underpass for Walkers, Cyclists, Horse Riders (WCHs) under the A360 at Longbarrow junction would thus require a significant structure.

Key Issue

- 6.7.48 **The Need to Reroute the Proposed Cycleway and Footpath to the East of Winterbourne Stoke and a Green Bridge Crossing of the A360**
- 6.7.49 **Secondly, it creates an artificial barrier between the World Heritage Site entrance and Winterbourne Stoke - effectively severing an easy connection between two halves of the same Parish (The Stonehenge Visitor’s Centre being part of Winterbourne Stoke. The severance could impact on tourism and other economic advantages to the detriment of this village.**

Highways England response

- 6.7.50 As set out above it is not considered that the crossing proposed will create a significant barrier to movement, a key objective of the Scheme is to provide a positive legacy for communities and improve access both within and to the WHS. The new public rights of way (PRoW) proposed along the Scheme will not only maintain, but will also considerably enhance the existing PRoW network, significantly improving connectivity for users.

Key Issue

- 6.7.51 **The Need to Reroute the Proposed Cycleway and Footpath to the East of Winterbourne Stoke and a Green Bridge Crossing of the A360**
- 6.7.52 **Third, the crossing will have to be lit, in order to allow it to be used 24/7. This will require downlighter in the assembly areas and across the carriageway in order that the users can see and be seen by motorised traffic travelling both north and south; contrary to claims by Highways England that there will be no lighting in this area.**
- 6.7.53 **For safety’s sake, westbound traffic leaving the A303 at Longbarrow would need to be stopped from joining the roundabout, otherwise the risks of collision with traffic queuing at the Pegasus crossing would be unacceptably high.**
- 6.7.54 **It seems inevitable that the construction and operation of a Pegasus crossing at this point will introduce a source of unwanted, unwarranted and unnecessary light pollution at the western edge of the World Heritage site.**

Highways England response

- 6.7.55 As detailed in Section 2.3.50 of the Transport Assessment [APP-040], given the WHS context, dark skies are an important consideration within the Scheme design. There would be no permanent night-time road lighting associated with the Scheme within the WHS, outside of the tunnel (the dual carriageway beneath Green Bridge No.4 will only be lit during times of daylight). For this reason, traffic lights will be installed at the junction for safety purposes.
- 6.7.56 The Pegasus crossing signals will be integrated with the traffic control signals to ensure the safety of all users. The detailed design will include a visibility analysis for the roundabout and signals, and will be subject to a Stage 2 Road Safety Audit (RSA). The completed installation being subject to a Stage 3 RSA prior to opening and a Stage 4 RSA will be undertaken following a period of operation.
- 6.7.57 Traffic signals will be designed to direct the signals towards the intended user and minimise light spill.

Key Issue

- 6.7.58 **The Need to Reroute the Proposed Cycleway and Footpath to the East of Winterbourne Stoke and a Green Bridge Crossing of the A360**

We propose that a new Green Bridge should be sited over the A360 at this point; and the A360 lowered if necessary to minimise the impact on the sight lines from the WHS. As this Green Bridge would lie outside the WHS and would be used only by pedestrians, cyclists and equestrians, its impact should be minimal. Even if such a Green Bridge had to be raised slightly, it's visual intrusion into the WHS sight lines would, at worst, be minimal and, at best, would afford a slightly raised viewing point from which to observe archeological features at the western edge of the WHS.

- 6.7.59 **This proposal would be cost neutral to the scheme if plans for Green Bridge 1 were abandoned, as we would prefer.**

Highways England response

- 6.7.60 As set out in the response to 6.3 above, a green bridge crossing south of the new Longbarrow southern roundabout was considered and subsequently discounted. The precise form of non-motorised user (NMU) crossing will be confirmed during detailed design; at this stage it is anticipated that this will be facilitated through the use of Pegasus crossings (signal-controlled crossings adapted for both pedestrian and equestrian use).
- 6.7.61 Green Bridge No.1 is an essential component of the scheme as set out above.

7 Cycling Opportunities Group for Salisbury (COGS) (REP2-080)

7.1 Design

Key Issue

- 7.1.1 **In the present Scheme, cyclists and other NMUs will be excluded from the proposed tunnel leaving no east-west surfaced route between the tunnel portals unless the proposed new restricted byway along the route of the existing A303 is suitably constructed, surfaced and maintained.**

Highways England response

- 7.1.2 In support of the Scheme objective to remove the sight and sound of traffic from the World Heritage Site (WHS) landscape, the old A303 will become a restricted byway (available to NMUs only, which would include cyclists). All of the new Public Rights of Way (PRoW) proposed along the length of the Scheme would be constructed in a way that will make them fit for all the uses permitted by their designated status. This will be achieved through the requirement in D-CH14 of the Outline Environment Management Plan, for surfacing within the WHS to be developed in consultation with stakeholders. Further clarification on this matter is provided within the PRoW report submitted at Deadline 2 [REP2-040].

Key Issue

- 7.1.3 **We would like to refer the Panel to Highways England's Cycling Strategy (2016) (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/490545/S150572_Cycling_Strategy.pdf) for how we would expect the Scheme to take account of the requirements of cyclists and indeed other NMUs whose needs largely coincide in that they want routes that are safe, coherent, direct and convenient, minimise gradients as far as possible and avoid lengthy detours.**

Highways England response

- 7.1.4 An objective of the Scheme is to create legacy benefits for non-motorised users in accordance with Highways England's Strategic Business Plan and Road Investment Strategy, which are aligned with Government policy to encourage walking, cycling & horse-riding through national and local policies and plans. Details are shown on the Rights of Way and Access Plans [APP-009] and described in Schedule 3 to the draft development consent order [REP2-003]. This approach aligns with Government policy to encourage cycling and walking (Cycling and Walking Investment Strategy

<https://www.gov.uk/government/publications/cycling-and-walking-investment-strategy>).

- 7.1.5 Highways England's Cycling Strategy includes the following guiding principles, adopted during the development of the Scheme:
- 7.1.6 Improving cycling facilities – we will plan and deliver an investment programme to improve cycle facilities which are safe and separate from traffic.
- 7.1.7 The Scheme includes extensive off-road cycling routes linking Yarnbury Castle in the west with Solstice Park and National Cycle Network Route 45 in the east, and from Stonehenge Visitor Centre to the north to Druid's Lodge in the south.
- 7.1.8 Partnership working – we recognise the role of our partners and stakeholders in helping us to identify and support the delivery of cycling facilities and will work closely with them.
- 7.1.9 The development of the Scheme has been informed by a Walking Cycling and Horse Riding Workshop, consultation feedback and closely working with Wiltshire Council's rights of way officers.
- 7.1.10 Impact – our cycling improvements will have a positive impact on communities, such as improving connections across roads that divide communities and providing an integrated and safe cycling network.
- 7.1.11 Connections between Winterbourne Stoke and Amesbury and other local employers such as the Stonehenge Visitor Centre have been significantly improved through the provision of largely off-road cycle routes.
- 7.1.12 The proposals would link Yarnbury Castle and Winterbourne Stoke and allow access all the way through the WHS to Amesbury, making it easier for walkers, cyclists and horse riders to access and enjoy the WHS. The majority of the new public rights of way would be restricted byways accessible to pedestrians and those using mobility scooters, cycles, horses and carriages. These routes would not be available for the public use of motorised vehicles.
- 7.1.13 The NMU strategy satisfies Interim Advice Note 195 "Cycle Traffic and the Strategic Road Network", part of the Design Manual for Roads and Bridges suite of documents which contains requirements and advice relating to works on motorway and all-purpose trunk roads.

Key Issue

- 7.1.14 **Routes should be surfaced so as to be easily usable by all types of cycle in all weather conditions, and where possible (e.g. sufficient available width), differential provision made for the needs of all NMUs to minimise wear, damage and conflict, particularly where higher levels of use are likely. We welcome the plan for a restricted byway with bound surface across the WHS and look forward to involvement in**

discussions regarding its construction and surface at the detailed design stage, which should be of similar surface quality and durability to the existing A303.

- 7.1.15 **It is essential that its surface should be of similar quality and durability to the existing A303 and maintainable so that it is easily usable by all types of cyclists all day and year-round.**

Highways England response

- 7.1.16 As described in our response to part a, all the new Public Rights of Way (PRoW) proposed along the length of the Scheme would be constructed in a way that will make them fit for all the uses permitted by their designated status. Further clarification on the proposals for how the design for these PRoWs will be taken forward is provided within the PRoW report submitted at Deadline 2 [REP2-040].

Key Issue

- 7.1.17 **A safe crossing needs to be provided at Yarnbury, where the PRoW SLAN3 crosses the A303. The proposed restricted byway leaves users heading west on the north or south of the carriageway with no safe means of crossing except at Green bridge 1. This is inconsistent with HE policy and Wiltshire Council also note in the Local Impact Report, that motorised vehicles using the PRoWs will need to cross the A303 at this point.**

Highways England response

- 7.1.18 Alternative crossing facilities have been considered for byway SLAN3 located at the west of the Scheme. In total four options were identified; an overbridge, an underpass, remain open as existing and close with restricted access/egress to/from the A303. The option to close was discounted due to the absence of alternative byway routes to Chitterne (to the north of A303) and Stapleford (to the south). A grade-separated crossing was identified as a preferred solution for several stakeholders. Both the overbridge and the underpass would require significant earthworks to be constructed either side of the A303. An overbridge would create visual intrusion on the sky line and have a negative impact on the setting of the scheduled monument at Yarnbury Castle and would not meet wider policy tests and was therefore discounted. The underpass option was considered not to be appropriate due to buildability constraints underneath a live dual carriageway and impacts on the setting of Yarnbury Castle and also discounted as the alternative routes on the Scheme would be available with less physical and environmental intrusion. Therefore, the crossing is proposed to remain as per the existing arrangement. An alternative reasonably convenient safe crossing point on the A303 trunk road would be available to the east, via Green Bridge No. 1, which does not have a negative impact on the setting of Yarnbury Castle.

Key Issue

- 7.1.19 **We welcome the removal of the hazardous crossing of the A303 from the B3083 at Winterbourne Stoke, making this attractive road through the Till Valley part of a potential circular cycle route from Salisbury, Wilton or Amesbury, although this is still blighted by the need to travel along the A36 in Wilton and from Stoford to Stapleford. These wider issues should be tackled as part of the overall legacy of the project in line with HE Cycle Strategy.**

Highways England response

- 7.1.20 This is outside the scope of the Scheme. Highways England has obtained Designated Fund money to support the WHS in delivering three of the 2015 Management Plan objectives, including their Land Access Strategy, Sustainable Tourism Strategy and Sustainable Transport Strategy. Through its Benefits Steering Group, Highways England is also looking to support partners to plan for the post-scheme future and implement proposals for legacy project improvements to realise the full benefits of the Scheme for local communities and visitors.

Key Issue

- 7.1.21 **It is essential that the proposed provision is made for cyclists to reach Airman's Corner from the restricted byway over the tunnel, giving safe access to the Stonehenge Visitor Centre, avoiding the new double roundabout, and for utility journeys between Shrewton and Amesbury, and longer distance cycle routes across the Plain. We note that discussions are on-going between English Heritage, HE and a third party (HE comments on Relevant Representations) regarding an alternative route, but this should not be longer or less safe and attractive than the proposed route and should consider safety when re-joining the carriageway after Airman's corner.**

Highways England response

- 7.1.22 The draft development consent order [REP2-003] includes a restricted byway route from the former A303 at Longbarrow to the former A344 at Airman's Corner. This will have a surface suitable for cycles.
- 7.1.23 Ongoing discussions with English Heritage, Wiltshire Council and other stakeholders are seeking to find an alternative that reduces the impact on the World Heritage Site and Visitor Centre but will remain available to cyclists and pedestrians.

Key Issue

- 7.1.24 **Stonehenge Road forms an important link into Amesbury from NCN 45 and we would suggest that completing the section from the Woodford valley through Amesbury to Telegraph Hill via Ratfyn (see below) would**

form an excellent legacy project. There must be a high quality link between Stonehenge Road and the new restricted byway across the WHS.

Highways England response

- 7.1.25 The provision of a link from the Woodford Valley to Telegraph Hill is outside the scope of the Scheme. Highways England has obtained Designated Fund money to support the WHS in pursuing three of the 2015 Management Plan objectives, including their Land Access Strategy, Sustainable Tourism Strategy and Sustainable Transport Strategy. Through its Benefits Steering Group, Highways England is also looking to support partners to plan for the post-scheme future and implement proposals for legacy improvements to realise the full benefits of the Scheme for local communities and visitors. Stonehenge Road will link seamlessly along a smooth alignment with the new restricted byway on the former A303.

Key Issue

- 7.1.26 **We invite the Panel to compare the facilities proposed on the A360 and the unclassified road between Bulford and Solstice Park with those for the A345, leaving the A345 as the only major north-south route in the Scheme area with no facilities for cyclists, although it joins two growing centres of population.**

Highways England response

- 7.1.27 This is outside the scope of the Scheme. As described above, through its Benefits Steering Group Highways England is looking to support partners to plan for the post-scheme future and implement proposals for legacy improvements to realise the full benefits of the Scheme for local communities and visitors.

Key Issue

- 7.1.28 **We await details of a proposed cycling route at Countess roundabout, the route on sheet 9 of TR010025 - 2.9 is shown as a footway only, although section 6.5.6 of 7.2 Design and Access Statement refers to use by cyclists to access NCN45 (access route not specified, but presumably via Amesbury or Durrington, a contribution towards providing this route would be a welcome legacy project as mentioned above).**
- 7.1.29 **At present cyclists use an on-carriageway route to cross the A303 with traffic-light controlled junctions so moving with motor traffic, or use the pedestrian underpass on the east side. The new roundabout under the A303 flyover should not make this less convenient for cyclists by displacing them on to a parallel cycleway that takes longer to cross slip roads than if they stayed on the carriageway. A badly designed**

cycleway is likely to be avoided by more confident cyclists who will stay on the carriageway rather than wait to re-join it from a cycleway that requires them to give way after traversing the roundabout. However, safety at the slip road junctions with a foot/cycleway is an important consideration and we would be happy with suitably responsive light-controlled crossings.

Highways England response

- 7.1.30 The shared-use cycle routes through Countess junction will include NMU-activated signalised road crossings to provide safe and convenient crossing points along the desire line for pedestrians and cyclists, preserving north/south connectivity along the A345 and enabling pedestrians and cyclists to pass beneath the A303 flyover above as stated in the Environmental Statement Chapter 2: The Proposed Scheme [APP-040], paragraph 2.3.24. The precise form of non-motorised user (NMU) crossing will be confirmed during detailed design.
- 7.1.31 The crossing will allow cyclists to access NCN45 at West Amesbury for journeys to the south. Access to NCN45 northbound is via London Road and the Solstice Park junction.

Key Issue

- 7.1.32 **Consideration also needs to be given to cycling facilities in Countess Road where cyclists may wish to visit Woodhenge and thence use bridleways to get to Salisbury Plain and the WHS.**
- 7.1.33 **Commuting to and from Durrington is also poorly served with cyclists having to mix with fast moving traffic. Whilst the A345 is the responsibility of Wiltshire Council, little funding is available to local authorities and a contribution from HE funds would be welcome.**

Highways England response

- 7.1.34 This is outside the scope of the Scheme. Through its Benefits Steering Group Highways England is supporting partners to plan for the post-scheme future and implement proposals for legacy project improvements to realise the full benefits of the Scheme for local communities and visitors.

Key Issue

- 7.1.35 **The bridge carrying bridleway AMES44 over the A303 at Ratfyn is a key north-south off-road route for cyclists and horse-riders but it is not shown on maps in 2.6 Rights of Way and Access Plans or 2.9 General Arrangement plans. We would like its status clarified as it is over the position of the eastern end of the Countess flyover. Furthermore, approach roads are to be used to gain access to power supplies as part of the works. We would like to see the approaches to this route**

from Amesbury improved to make a high quality link with NCN45 and the Wiltshire Cycleway at Solstice roundabout.

- 7.1.36 **These links already exist and would be relatively simple to improve.**

Highways England response

- 7.1.37 The bridge carrying bridleway AMES44 over the A303 at Ratfyn and the status of the bridleway are unaffected by the Scheme.
- 7.1.38 Where the bridleway crosses the approach roads to Ratfyn substation; any impacts would be controlled pursuant to the Traffic Management Plan required by item MW-TRA2 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3); which is required to be developed in consultation with Wiltshire Council and which is required to set out how the traffic management of NMU routes affected by the works will be managed. Improvements to AMES44 are outside the scope of the Scheme.
- 7.1.39 As described above, through its Benefits Steering Group Highways England is looking to support partners to plan for the post-scheme future and implement proposals for legacy improvements to realise the full benefits of the Scheme for local communities and visitors.

Key Issue

- 7.1.40 **The proposed modifications to Allington Track and closure of AMES1 and 2, will increase severance for NMUs and lengthen journey times as well as increasing the risk to cyclists and other NMUs sharing road space with motorised traffic. Whilst appreciating the safety issues of keeping the crossing open to slower moving traffic, we would ask the Panel to consider if the extra distance for cyclists or walkers travelling to and from Bulford village or Camp to Boscombe Down or other destinations in the Bourne Valley for employment or leisure (estimated at 3-5km each way plus extra gradients to negotiate, depending on where journeys begin and end) is acceptable. All NMUs will be forced to use the Solstice roundabout with motorised traffic.**
- 7.1.41 **To mitigate severance, we would support a bridge or underpass at this point and an improved on or off road to provide a two-way link to the Youth Hostel at Cholderton.**

Highways England response

- 7.1.42 The proposals at this location have been brought forward to improve safety along the A303. This is needed because the current arrangement places slow and fast-moving vehicles in potentially dangerous conflict with each other.

- 7.1.43 The distance from Bulford Camp to Boscombe Down entrance is approximately 2.9km via Amesbury Road (AMES1) and 4.9km via Solstice Park junction, so the detour is 2km.
- 7.1.44 The distance from the A3028 cross-roads in Bulford village to Boscombe Down entrance is approximately 3.6km via Amesbury Road (AMES1) and approximately 2.7km via Solstice Park junction. The latter route has a recently-constructed segregated cycle route from A3028 to Solstice Park junction. Existing cyclists or walkers travelling to and from Bulford village to Boscombe Down are not likely to be using the AMES1 route as the other route is shorter and has good quality off-road cycle and pedestrian links.
- 7.1.45 Recent surveys identified an average of fewer than 3 people a day using AMES1 (Amesbury Road) on foot and cycle over a 38 day period from 25th March 2019 as follows:

	Southbound	Northbound
Pedestrians	32	36
Cyclists	10	24

- There were no movements (motorised and non-motorised) observed on 5 of the 38 days.
 - There were five or less one-way movements (motorised and non-motorised) recorded on 18 of the 38 days.
 - Sunday 14th April was the busiest day with 16 one-way movements.
- 7.1.46 It is therefore not appropriate to provide a bridge or underpass for this level of use when there are reasonably convenient alternatives available. The presence of scheduled monuments adjacent to the A303 and both AMES1 and Allington Track would also limit what could be constructed.
- 7.1.47 The existing Solstice Park junction contains multiple NMU links, which include sections of either shared or segregated footway/cycleways. London Road to the off-road cycle route to the east of Telegraph Hill forms part of National Cycle Network Route 45. The Applicant considers this junction provides an alternative reasonable convenient safe crossing point over the A303.
- 7.1.48 The suggestion of providing a two-way link to the youth hostel at Cholderton is outside the scope of the Scheme. However, as described above, through its Benefits Steering Group Highways England is looking to support partners to plan for the post-scheme future and implement proposals for legacy improvements to realise the full benefits of the Scheme for local communities and visitors.

8 Shrewton Parish Council (REP2-126)

8.1 Socio-economic effects

Key Issue

- 8.1.1 Highways England have identified rat running as an issue, and highlighted this in their Objectives summary for the Scheme, and also correctly focussed on the issues of accidents, and air quality. It is this context that we feel that our village's situation is being overlooked; not, I hasten to add by Highways England, but by the certain Objectors to the Scheme who claim, without even anecdotal evidence, let alone empirical, that irreparable damage will be done to hitherto undiscovered archaeology, or even the World Heritage Site itself.

Highways England response

- 8.1.2 Thank you for your views. The Transport Assessment [APP-297] section 6.3.14 explains the relief that the Scheme is forecast to provide to Shrewton traffic.

9 Trail Riders Fellowship (REP2-141)

9.1 Traffic and Transport

Key Issue

- 9.1.1 **The proposal is to extinguish the A303, a vehicular road, and by diverting that road into a tunnel, to extinguish a historic connection between Byways 11 and 12, leaving Byway 11 as a dead-end. The DCO proposal seeks to interfere with the Countryside Access Network.**

Highways England response

- 9.1.2 AMES 11 and AMES 12 (Byways 11 and 12) will remain byways open to all traffic (including motorised vehicles). However, along the line of what will be the former A303, from the existing Longbarrow roundabout (sheet 5 of the Rights of Way and Access Plans [APP-009]) to part way along the existing Stonehenge Road, the Scheme proposes a new restricted byway (references IB, I and J shown on sheets 5 to 8 inclusive of the Rights of Way and Access Plans). Motorised vehicles will not be permitted to join the former A303 from BOAT AMES11 (Byway 11), as the new restricted byway will only be available to cyclists, pedestrians, equestrians, horse-drawn carriages and mobility scooters. Not providing public vehicular rights along the new restricted byway is consistent with the Scheme's aim of removing the sight and sound of traffic from the vicinity of Stonehenge and the historic landscape of the World Heritage Site. This is also consistent with the aims of the WHS Management Plan 2015. Traffic survey information indicates that the ability to transit between Byways 11 and 12 is little used by motorcycles.
- 9.1.3 Highways England commissioned a traffic survey of the use of Byways 11 and 12 which was undertaken in June 2018. Concurrent traffic counts were undertaken on the 1st 2nd and 3rd of June 2018. On Byway 11, the survey recorded a range of 0 to 4 movements by motorcyclists per day northbound to the A303 and 2 to 11 movements by motorcyclists southbound from the A303 on Byway 12. On one of those survey days, no motorcyclists were recorded moving north of AMES11 to the A303 at all. Over a 20-day period between 1st and 20th June 2018 a total of 12 motorcycles were recorded travelling north to south and 13 travelling south to north on Byway 11. Even assuming that all of the motorcyclists heading north turned left and then left again into Byway 12, the largest number of people recorded in the traffic survey using the A303 to connect between the byways would be 4 in an entire day.
- 9.1.4 The Scheme does not seek to interfere with the countryside access network as the A303 (at the location of interest to the TRF) is being replaced with the tunnel section of the new A303. There would be a minor impact on the existing limited ability of MPVs to transit between Byways 11 and 12. The Scheme does not cause or result in the loss of any byways and TRF and

other motorcyclists using Byway 11 and Byway 12 will be able to travel between these byways on public roads. The alternative route between Byways 11 and 12 is available via Middle Woodford and the A360, a detour of approximately 5 miles.

Key Issue

- 9.1.5 **The loss of access between the Byways would have a negative impact that has not been properly justified, the Scheme should be altered so that it does not extinguish the link between Byways 11 and 12, or, so that it includes alternative provision.**

Highways England response

- 9.1.6 Byway 11 will terminate as a BOAT where it currently joins the existing A303, which will be converted into a restricted byway. This will prevent vehicles from using the route of the old A303 between Byways 11 and 12 in close proximity to Stonehenge to the detriment of the monument's setting. No link for mechanically-propelled vehicles (MPV) between Byways 11 and 12 has been proposed further south of the A303 as it would have an adverse impact on the adjacent Normanton Down barrow group and on the tranquillity of the WHS at this location. MPVs seeking access to Byways 11 and 12 will be able to use the public highway network. Non-motorised users will be able to link between Byways 11 and 12 via the new restricted byway being created along the route of the old A303 through the WHS. Currently, MPV users are not permitted to make right turns onto the A303 from Byway 12.
- 9.1.7 The Applicant does not agree with TRF that the Scheme proposal to make the old A303 between Byway 11 and Byway 12 a restricted byway would have a negative impact upon motorcyclists. First, there is already a restriction on the link between the two byways using the existing A303 due to right turns onto the A303 being prohibited from Byway 12. So there is no off-road link between these two byways at present. In addition, an alternative route between the two byways is available via Middle Woodford and the A360, a detour of about 5 miles. Further, traffic survey information from June 2018 (see above) indicates that the ability to transit between Byways 11 and 12 is little used by motorcycles.

Key Issue

- 9.1.8 **Considerable importance and weight should be given to the fact that the utility of Byways 11 and 12 has been considered on two occasions by independent planning inspectors (in 2005 and 2011). On both occasions, planning inspectors recommended that the Byways – as linked by the A303 – served an important amenity function for motorised users. Given the conclusions of those inspectors, it cannot sensibly be said that an alternative right of way connecting Byways 11 and 12 is not required in the current proposal.**

Highways England response

- 9.1.9 Every application must be considered on its own merits and since the publication of these recommendation reports, the National Planning Policy Framework (NPPF) was first published in March 2012, which in paragraph 132, gave greater recognition to the conservation of heritage assets of the highest significance (including World Heritage Sites) than had previously been provided in national planning policy. The February 2019 version of the NPPF, in paragraph 184, explains that World Heritage Sites which are internationally recognised to be of Outstanding Universal Value are an irreplaceable resource, and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations.
- 9.1.10 It is important to note that the Inspectors were considering different proposals. This Scheme does not close Byways 11 and 12 to motorised traffic. Indeed, the Scheme results in an improvement in the link between Byway 12 north of the existing A303 and south of it. The 2011 proposals in particular would have closed Byways 11 and 12 to motorised traffic. As a result, the conclusions reached by those Inspectors were reached by reference to different proposals with different impacts.
- 9.1.11 Further, the Inspector's decisions pre-date the publication of the WHS Management Plan in 2015, which states in paragraph 8.2.13 that *'The impact of vehicles on visible and buried archaeology can be severe particularly during periods of poor weather conditions. In the Condition Survey (2012) it was noted that instances of vehicle damage have increased from previous surveys. There were vehicle impacts recorded on 29 monuments at Stonehenge and 23 at Avebury. These are divided into damage on tracks and ad hoc damage within fields. Particular areas of concern are monuments on Byway 12 in Stonehenge at Normanton Down and elsewhere... A review of the impact of vehicle damage should be undertaken and a prioritised schedule of works developed to reduce or remove the impact of vehicle erosion on the attributes of OUV.'*
- 9.1.12 Section 11.4 of the WHS Management Plan (2015) deals specifically with the issues relating to byways. It states *'Issue 47: Damage to archaeology is occurring on byways open to all traffic in the WHS. There are also problems with parking and road safety at junctions.'* *Vehicular access on the BOATs and the damage it causes to archaeology has been an ongoing issue in the WHS, noted in the 2009 Stonehenge Management Plan (e.g. paras. 9.3.8, 10.1.13 & 10.3.3).* Paragraph 11.4.1 of the WHS Management Plan (2015) states that *'Ongoing issues related to vehicle use include direct physical damage to archaeology, negative impacts on the setting of monuments and the wider landscape through illegal parking, impacts on other users and safety at junctions of BOATs with main roads.'* Paragraph 11.4.2 then states that *'A particular area of concern is damage to monuments on BOATs within the WHS which accounts for nearly 20% of all vehicle impacts within the*

Stonehenge area but makes up 50% of the most severe level of vehicles damage. 50% of these were recorded on Byway 12... The WHS Condition Survey (2012) recommended that where damage is due to vehicles on BOATs a Traffic Regulation Order (TRO) be sought to remove motorised vehicles.'

- 9.1.13 The Applicant therefore does not agree with TRF regarding their claim that “it cannot sensibly be said that an alternative right of way connecting Byways 11 and 12 is not required in the current proposal”. The removal of the link to the south of the existing A303 between Byways 12 and 11 was one of three changes put forward for the supplementary consultation. Chapter 6 of the Consultation Report [APP-026] provides a feedback summary on this matter. Following analysis of the feedback, and ongoing engagement particularly with heritage bodies and Wiltshire Council, Highways England determined that it would no longer propose a new link between Byways 11 and 12. The removal of the proposed link would avoid having an additional route open to vehicular traffic within the WHS, which would have otherwise adversely affected the setting of the Normanton Down barrow group and increased disturbance of nesting Stone Curlew in the Normanton Down RSPB reserve. Removing the proposed link would also avoid changes to the tranquillity of the WHS at this location and it would help to achieve Highways England’s objective to remove the sight and sound of traffic from much of the WHS landscape, a key aspiration also of the WHS Management Plan.
- 9.1.14 Further and in any event, traffic survey information from June 2018 (see above) indicates that the ability to transit between Byways 11 and 12 is little used by motorcycles.

Key Issue

- 9.1.15 **The 2005 and 2011 decisions, as well as the witness statement prepared by Wiltshire Council in 2018 and TRF’s 72 User evidence forms (UEFs) provide evidence that both Byways and the link between them are well used by motorcycles. The UEFs also provide evidence of a negative impact on the network were the link on the A303 to be removed for motorcycles.**

Highways England response

- 9.1.16 As set out above, the National Planning Policy Framework (NPPF) has been published since the 2005 and 2011 decisions, which gives greater recognition to World Heritage Sites.
- 9.1.17 The 2018 Witness Statement by Parvis Khansari for Wiltshire Council [REP2-205] provides traffic counts on Byways 11 and 12 for various dates in June 2018. Mr Khansari’s report does not provide any interpretation regarding these figures, instead, in paragraph 28, it says that the highest traffic counts were on Byway 12 (where daily traffic movements ranged between 117 and 264). However, this information related to both motorbikes

and other motorised users including cars, which formed the majority of the users. Highways England collected camera data over a similar period and analysis of the images indicates that the majority of recorded movements were by vehicles including motorcycles turning onto the byways from A303, parking and then leaving on the A303. If motorcycles pulling off A303 and parking, then re-joining the A303 are excluded, there are much fewer actual users of Byway 11. Over a 20-day period between 1st and 20th June 2018 a total of 12 motorcycles were recorded travelling north to south and 13 travelling south to north on Byway 11. Following closure of the byways under the Experimental Traffic Regulation Order (ETRO), these surveys were suspended. This survey demonstrates that the Scheme would have only a very minor effect upon motorcyclists.

- 9.1.18 TRF's 72 user evidence forms provide details of use of both byways and some include images. The data abstracted from these can be summarised as follows:
- 49 members use the byways between 1 and 11 times a year with most (10) using them 5 times and 7 members each using them 3, 4 and 6 times a year
 - 12 members use the byways monthly
 - 10 members use them 18 or more times a year, up to "Multiple times per month", including 2 who use them weekly.
- 9.1.19 The estimated frequency of motorcycle use based on these forms is necessarily subjective. Many of the descriptions are open to interpretation as the forms may describe up to 4 modes e.g. 4x4, motorbike, bicycle or on foot and the descriptions aren't necessarily accurate e.g. "many times a year". The analysis assumes a specific yearly figure where this is given and the higher figure where a range is given. Where "several" is used, 5 trips have been assumed. Based on these assumptions it would appear that there are approximately 800 trips per year, averaging a little over 2 per day. This data appears to contradict TRF's claim that both byways are well used by motorcycles. The 26 sets of images indicate that 8 groups of riders stopped on Byway 11 and 12 groups stopped on Byway 12 to take photos of Stonehenge, suggesting this is one of the attractions of these byways.
- 9.1.20 The evidence does not establish the "negative" impact upon the wider route network asserted by the TRF; rather the evidence is that it will affect a handful of people in preventing a manoeuvre which on some days no motorcyclists make at all and preventing other manoeuvres from being undertaken which are illegal.
- 9.1.21 The user evidence submitted by the TRF does not amount to a traffic count survey which establishes the extent to which the existing westbound link between Byway 11 and Byway 12 is used by motor cyclists. As set out above, the traffic count survey evidence obtained by Highways England demonstrates that this is in fact little used by motorcyclists.

- 9.1.22 For the reasons set out above, the Applicant does not agree with TRF's claims that they have provided evidence that both Byways and the link between them are well-used. The Applicant does not agree with TRF's view that there would be a negative impact on the network were the link on the A303 to be removed for motorcycles. Not providing public vehicular rights along the new restricted byway is consistent with the Scheme's aim of removing the sight and sound of traffic from the vicinity of Stonehenge and the historic landscape of the World Heritage Site. In addition, there is no current off-road link between Byways 11 and 12, the link between the two byways is along the existing A303 and in future it would be by the alternative route, via Middle Woodford and the A360, a detour of approximately 5 miles or 10 minutes at an average speed of 30mph. This assumes 3.4 miles along unclassified roads and 1.6 miles along the A360.

Key Issue

- 9.1.23 **While there are currently restrictions on right hand turning from Byway 12, TRF consider that the Scheme would result in a seriously negative step for the connectivity of the network of publicly accessible green ways in Wiltshire. It would turn Byway 11 into a cul-de-sac and would prevent access from or onto Byway 12 and users would have to find more circuitous (and potentially more dangerous) routes, or stop riding.**

Highways England response

- 9.1.24 The Applicant does not agree with TRF that the Scheme would result in a seriously negative step for the connectivity of the network of publicly accessible green ways in Wiltshire. The A303 would become a new restricted byway, which would be accessible to all non-motorised users, including walkers, horse-riders, cyclists and mobility scooter users. Motorcyclists would be able to use the alternative route on public highways, between Byway 11 and Byway 12 via Middle Woodford and the A360, a detour of about 5 miles or 10 minutes at 30mph. This route uses quiet country lanes for about 3.4 miles, including alongside the River Avon.
- 9.1.25 Highways England commissioned a traffic survey of the use of Byways 11 and 12 which was undertaken in June 2018. Concurrent traffic counts were undertaken on the 1st 2nd and 3rd of June 2018. On Byways 11 the survey recorded a range of 0 to 4 movements by motorcyclists per day northbound to the A303 and 2 to 11 movements by motorcyclists southbound from the A303 on Byway 12. On one of those survey day, no motorcyclists were recorded moving north of AMES11 to the A303 at all. Over a 20 day period between 1st and 20th June 2018 a total of 12 motorcycles were recorded travelling north to south and 13 travelling south to north on Byway 11. Even assuming that all of the motorcyclists heading north turned left and then left again into Byway 12, the largest number of people recorded in the traffic survey using the A303 to connect between the byways would be 4 in an

entire day. The loss of a restricted connection between the byways via the A303 which is little used by motorcyclists cannot reasonably be described as a “seriously negative step”. The reality is it would have little material effect upon connectivity in Wiltshire.

- 9.1.26 Any motorised users of the A303 wishing to gain access to Byways 11 and 12 will be able to do so by leaving the A303 at either the Countess or Longbarrow junctions and travelling to the byways via the A345 or A360 and local public roads.

Key Issue

- 9.1.27 **Under the terms of S136(1) of PA2008, the Applicant needs to demonstrate that the use of the A303 by MPVs accessing the Byways is not required or include suitable alternative provision. The justification for not maintaining a link between Byways 11 and 12, or providing an alternative link is flawed.**

Highways England response

- 9.1.28 The Planning Act 2008 s.136(1) specifies that an order granting development consent may extinguish a public right of way over land only if the Secretary of State is satisfied that –
- An alternative right of way has been or will be provided, or
 - The provision of an alternative right of way is not required.
- 9.1.29 Article 10 of the draft development consent order [REP2-003] would, if the DCO is made in the form submitted at Deadline 2, authorise the extinguishment, and replacement, of the public rights of way listed in Schedule 3 and shown on the Rights of Way and Access Plans [APP-009]. In respect of public rights of way, Schedule 3 is divided into three parts. Part 1 of Schedule 3 describes the public rights of way which are to be stopped up (extinguished) in column (2) and for which an alternative right of way is to be provided, which are described in column (4), as well as new public rights of way which are otherwise to be provided. Article 10(2) of the draft development consent order [REP2-003] requires Highways England to provide either the permanent replacement right of way specified in column (4) of Part 1, or a temporary replacement pending completion of the permanent replacement right of way, before the corresponding right of way described in column (2) of Part 1 is permanently extinguished. It follows then that the Secretary of State can be satisfied that the condition in section 136(1)(a) is satisfied in respect of the extinguishment of rights of way listed in Part 1 of Schedule 3 to the draft development consent order [REP2-003], if it was made.
- 9.1.30 Part 2 of Schedule 3 lists the rights of way which are to be extinguished and for which no substitute is to be provided. Article 10(3) of the draft development consent order [REP2-003] would authorise the extinguishment

without substitution of these rights of way only if one of the conditions in paragraph (4) are satisfied, which ensure that no private access is required from the right of way to be extinguished. In each case where paragraph (4) applies, the changed circumstances which would arise if the Scheme was implemented are such that the part of the public right of way in question, which is to be stopped up, would no longer be required. The Secretary of State can be satisfied that the requirement in section 136(1)(b) is met by the Scheme.

- 9.1.31 The Applicant considers that there is no necessity for an alternative link between Byways 11 and 12 for MPVs (which is currently along a part of the existing A303), as there is an alternative route between these Byways (albeit using public roads via Middle Woodford and the A360, a detour of about 5 miles). The existing A303 is to be replaced by the tunnel section of the A303, so an alternative right of way will be provided for through traffic. Any motorised users of the A303 wishing to gain access to Byways 11 and 12 will be able to do so by leaving the A303 at either the Countess or Longbarrow junctions and travelling to the byways via the A345 or A360 and local public roads.
- 9.1.32 The Applicant does not agree with TRF's claims that they have provided evidence that both Byways and the link between them are well used. The June 2018 survey demonstrates that the Scheme would have only a very minor effect upon motorcyclists, and as discussed above, TRF's own evidence submitted to the Examination does not refute this. The evidence certainly does not establish the "negative" impact upon the wider route network asserted by the TRF; rather the evidence is that it will affect a handful of people in preventing a manoeuvre between Byways 11 and 12 which on some days no motorcyclists make at all.

Key Issue

- 9.1.33 **The short link of the A303 between Byways 11 and 12 could accommodate vehicular and pedestrian/equestrian traffic. Instead of turning the existing A303 into a Restricted Byway, it should be turned into a Byway, but with a permanent TRO put on it, limiting use to vehicles with no more than two wheels. This would prevent car drivers using it as a short cut, prevent 4X4 users damaging it and prevent travellers setting up home on it. This has been done to several byways in Hampshire with great success. The DCO should be amended to exclude the extinguishment of the existing line of the A303 to vehicular traffic between Byways 11 and 12. TRF consider that the new link that was originally proposed between Byway 11 and Byway 12 should be included. This would be suitable for light traffic and would not have any significant adverse impacts that could not be readily overcome.**

Highways England response

- 9.1.34 Without details of the examples in Hampshire, the Applicant is unable to comment on the success (or otherwise) of those schemes, or whether they have any relevance to this Scheme.
- 9.1.35 The link to the south of the existing A303 between Byways 12 and 11 (AMES12 and AMES11 respectively) was originally proposed as it had been previously determined that mechanically propelled vehicles should not be allowed to use the public right of way along the de-trunked A303 through the World Heritage Site (WHS). This aligns with the desire to remove the sight and sound of traffic caused by the existing A303 as far as possible. Its removal from the Scheme was one of three changes put forward for supplementary consultation, the feedback from which is summarised in Chapter 6 of the Consultation Report [APP-026].
- 9.1.36 Following analysis of this feedback, and ongoing engagement particularly with heritage bodies and Wiltshire Council, Highways England determined that it would no longer propose a new link between Byways 11 and 12. The removal of this proposed link would avoid having an additional route open to vehicular traffic within the WHS, which would have adversely affected the setting of the Normanton Down barrow group and increased disturbance of nesting Stone Curlew in the Normanton Down RSPB Reserve. The removal of this proposed link would also avoid changes to the tranquillity of the WHS at this location. This change will help achieve Highways England's objective to remove the sight and sound of traffic from much of the WHS landscape, a key aspiration also of the WHS Management Plan.
- 9.1.37 One of the key aims of the 2015 Stonehenge, Avebury and Associated Sites World Heritage Site Management Plan for the period 2015-2021 is to 'Reduce the dominance and negative impacts of roads and traffic and ensure any improvements to the A303 support this.'
- 9.1.38 However, the Applicant notes that Wiltshire Council has suggested in its written representation that provision could be put in place to allow motorcycles to utilise the proposed restricted byway between Byways 11 and 12. Notwithstanding that Highways England does not consider that it is a matter to be brought forward through the DCO, it does indicate that Wiltshire Council could decide to bring such a measure forward in the future if it decided that this were appropriate. If motorcycles are the only vehicles allowed to use the former A303 then a circuit would be produced for motorcyclists which would be likely to increase the use of the byways compared to the present position. This would be contrary to the 2015 WHS Management Plan.

Key Issue

- 9.1.39 **TRF notes that paragraph 123 of the WC RR [RR-2365] identifies that severing the link between Byways 11 and 12 "creates a breach of Wiltshire Council's statutory duty under s.130 Highways Act 1980 to**

prevent, as far as possible, the stopping up of highway rights, with the lack of any mitigation measures”. TRF agrees with WC on this matter.

Highways England response

- 9.1.40 Highways England acknowledges the consideration by Wiltshire Council of its duties under section 130 Highways Act 1980 and notes that Wiltshire Council has in the recent past sought its own powers to close Byways 11 and 12 under an Experimental Traffic Order.
- 9.1.41 In relation to the change in status of the existing A303, the Applicant notes that section 130 states:
1. It is the duty of the highway authority to assert and protect the rights of the public to the use and enjoyment of any highway for which they are the highway authority, including any roadside waste which forms part of it.
 2. Any council may assert and protect the rights of the public to the use and enjoyment of any highway in their area for which they are not the highway authority, including any roadside waste which forms part of it.
 3. Without prejudice to subsections (1) and (2) above, it is the duty of a council who are a highway authority to prevent, as far as possible, the stopping up or obstruction of—
 - i. the highways for which they are the highway authority, and
 - ii. any highway for which they are not the highway authority, if, in their opinion, the stopping up or obstruction of that highway would be prejudicial to the interests of their area.
- 9.1.42 The concern is therefore relevant to the references in paragraphs (2) and (3) to Wiltshire Council's duties with regards to 'highway in the area for which they are not the highway authority', which is currently the case for the existing A303. Here, Wiltshire Council may prevent 'as far as possible' any stopping up or obstruction that 'would be prejudicial to the interests of their area'.
- 9.1.43 Even if it was considered that this section generally applied to the proposals:
- a. as the proposal is being brought forward as part of the DCO proposals, Wiltshire's engagement in the Examination is 'as far as possible' that the Council will be able to meet their duties under section 130; and
 - b. neither Wiltshire Council (nor any other party) has claimed that the proposals would be 'prejudicial to the interests of their area' (particularly in light of Wiltshire Council having previously brought forward the Experimental Traffic Order for Byways 11 and 12 and its stated position in its written representations that it wishes vehicular traffic to be removed from those byways as part of the Scheme).

- 9.1.44 The extinguishment of rights to vehicular users on the line of the existing A303 which is proposed through the DCO therefore does not form a risk to Wiltshire Council's duties under section 130(1) or (3) of the Highways Act 1980. Nor does it oblige Wiltshire to exercise the discretionary powers which section 130(2) provides.

Key Issue

- 9.1.45 **The Applicant has failed to consider the impact (of severing the link) on the safety of motorcycles and vulnerable road users. Motorcycles and vulnerable road users would be forced to use longer routes on busy roads as a result of the current proposals.**

Highways England response

- 9.1.46 The Transport Assessment [APP-297] in section 7, explains how the assessment of road safety was carried out. The methods used involve applying accident rates derived from all road users, including motorcycles. The Transport Assessment also explains (para 6.3.14) that the Scheme would result in reduced traffic volumes along the Packway, which would be the main alternative route available for restricted vehicles, including motorbikes and mopeds with an engine size of 50cc or less. An alternative route between Byways 11 and 12 is available via Middle Woodford and the A360, a detour of about 5 miles.
- 9.1.47 Vulnerable users in mobility scooters are permitted by law (section 20 of the Chronically Sick and Disabled Persons Act 1970) to use the restricted byways (subject to them complying with the conditions and requirements of the Use of Invalid Carriages on Highways Regulations 1988), such as between Byway 11 and Byway 12. Motorcycles travelling between these two byways would need to use the alternative route on public highways.

10 The Historic Buildings and Monuments Commission for England (“Historic England”) (REP2-100, REP2-101 and REP2-189)

10.1 Cultural Heritage

Key Issue

- 10.1.1 **Historic England - are supportive of the aspirations of the proposed Scheme. By putting much of the current surface road into a bored tunnel and reuniting the landscape, the Scheme has the potential to deliver a beneficial outcome for the historic environment.**

Highways England response

- 10.1.2 Highways England acknowledges the support of Historic England for the aspirations of the road scheme proposed in the draft development consent order [REP2-003]. Highways England acknowledges Historic England’s statement that the Scheme offers the potential to deliver a beneficial outcome for the historic environment.

Key Issue

- 10.1.3 **The results of the evaluation should be amalgamated with a comprehensive assessment of previous archaeological work in the WHS, to inform the DAMS, OWSI and SSWSIs.**

Highways England response

- 10.1.4 A comprehensive programme of archaeological field work was undertaken to inform the Environmental Impact Assessment. The archaeological evaluation and survey reports were submitted to the Examination on 12 April, as promised at the Preliminary Meeting (see Examination Library Reference REP1-039 – REP1-056). The conclusions of the Environmental Statement were informed by the results detailed in the evaluation reports as well as the previous archaeological work in the WHS. The results of the confirmatory survey and sampling work were reviewed against the archaeological baseline, approach to mitigation and assessment of effects presented in the ES and they confirm its findings.
- 10.1.5 The Deadline 2 Submission - Draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038, Section 3] provides an overview, section-by-section, of the Scheme proposals and an amalgamated description of the archaeological resource, and the proposed archaeological mitigation works. The DAMS includes the Overarching Written Scheme of Investigation (OWSI) and provision for the preparation of Site Specific Written Scheme(s) of Investigation (SSWIs). These documents have been informed by both previous archaeological work in the WHS and the work reported in the

Environmental Statement, including as detailed and confirmed by the archaeological and survey reports.

Key Issue

- 10.1.6 **Additional drawings and visualisations are needed to show the Scheme and its visual impacts (both positive and negative) on aspects of the historic environment. These must show the reasonable worst case with regards to vertical and lateral deviation limits and should include static and kinetic, as well as day and night time, visualisations.**

Highways England response

- 10.1.7 Highways England considers the application is sufficiently detailed to allow Historic England to understand and comment on the Scheme. In particular photomontages and CGI visualisations have been presented within the LVIA Chapter (Chapter 7 [APP-045]) and Cultural Heritage Chapters (Appendix 6.9 [APP-218]) of the ES. Design and visual representations will be developed through the detailed design process. The further detailed design of the Scheme will be sensitive to its WHS context, following Highways England's guide 'The Road to Good Design', and will be developed in consultation with Historic England.
- 10.1.8 It should be noted that the photomontages are only based on the Environmental Masterplan [APP-052] and therefore will not illustrate the Limits of Deviation, which are set out in Table 2.1 of Chapter 2: The Proposed Scheme [APP-040].
- 10.1.9 With reference to Interim Advice Note 135/10 which forms the basis of the Landscape and Visual Impact Assessment [APP-045], static views are referred to as from a residential property (IAN135/10 paragraph 3.9). The ES photomontages (in both the LVIA and Cultural Heritage chapters) include representative static views from residential properties as well as key views for the historic environment. Kinetic views are also included in the LVIA as representative of people moving through the landscape, i.e. on Public Rights of Way or road networks.
- 10.1.10 All the photomontages are produced for day time scenarios.
- 10.1.11 Night time photomontages are not able to be produced due to technical limitations of photomontages and illustrating conditions in artificial lighting.
- 10.1.12 This is because there are several technological limitations that prevent a night time photomontage illustrating a lighting scenario to any degree of technical accuracy or realistic nature. These are:
- The variability of camera exposure at night means that matching the perceived brightness between the lighting for the camera and the existing levels of light in the landscape cannot be done accurately;

- There is a wide variance in car lighting in particular, with complex interactions between the camera, car-lights and environmental conditions which means that the information cannot be technically verified;
 - The existing lighting in the photograph is inherent within the image and cannot be modelled; and
 - The accurate representation of the existing levels of illumination, which can only be captured by the photograph cannot be processed by rendering software.
- 10.1.13 In addition to the technical difficulties these variables would be added to the approximation that would be required using the illustrative and indicative design information available at this stage of the planning process.
- 10.1.14 Highways England would refer Historic England to several documents within the Environmental Statement. The first, Chapter 2 [APP-040], page 2-13, sets out within the 'Lighting' section that the majority of the Scheme would not be lit. There would be no lighting within the WHS beyond that necessary within the tunnel and beneath the c. 150-metre-wide Green Bridge No. 4 (operating during day time only). There would be no lighting within the open cutting, and tunnel lighting would be designed to minimise light spill outside of the tunnel portals. There would be no roadside lighting at the new Longbarrow junction, and the improved Countess junction would utilise new directional roadside lighting to minimise light spill along with screening provided by acoustic screens on the flyover. The mainline of the road at Longbarrow junction will also be set in deep cutting limiting light spill in to the landscape from car headlights and tail lights.
- 10.1.15 The second document is the Landscape and Visual Impact Assessment [APP-045] which includes a qualitative night time assessment and concludes in paragraph 7.9.129 that there would be a substantial reduction in lighting from vehicles within the WHS as they would be largely contained within the tunnel and in combination with the removal of existing lighting at Longbarrow junction there would be a moderate beneficial (significant) effect to the character of the night sky within the WHS.
- 10.1.16 We consider that the Scheme presents significant improvements over the current lighting and dark sky situation, where both Countess and Longbarrow junctions on the WHS boundary are brightly lit, and head lights and tail lights are visible on the existing A303 surface road, such that there would not be adverse impacts to the dark skies within the vicinity of the WHS boundary.
- 10.1.17 The delivery of the Scheme lighting is provided for in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) (D-CH9 to D-CH12)], and paragraph 4 of Schedule 2 of the draft development consent order [REP2-003] requires the Scheme to be carried out in accordance with the OEMP.

Key Issue

- 10.1.18 **Clarification of mapped detail is needed where works are proposed adjacent to or abutting scheduled monuments.**

Highways England response

- 10.1.19 Highways England acknowledges the limitations of the mapping of scheduled areas in the documentation relating to their scheduling. At detailed design stage, a combination of (existing) geophysical survey and, where relevant, new topographic survey will be used to ensure that the extent of scheduled areas can be accurately detailed in relation to proposed works and appropriate steps taken to protect them.
- 10.1.20 A number of measures are set out in Environmental Statement Appendix 2.1 Outline Environmental Management Plan (OEMP) [a revised version of which is submitted at Deadline 3] to ensure that archaeological assets are protected from haul routes and temporary construction works. Heritage assets outside the construction footprint for the retained cutting in the western approaches would be protected in situ [APP-187, Annex A.2 - Table 2.2 and Figure 1B].
- 10.1.21 The Deadline 2 Submission - 8.11 Draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038; Appendix D Action Areas: Preservation in situ and Figure 11-1 A-F: Archaeological Mitigation Areas] provides further detail on those areas to be preserved in situ.

10.2 Design

Key Issue

- 10.2.1 **Detail needed in relation to key engineering elements of the Scheme, including Longbarrow Junction, tunnel approaches and portals. Should address engineering design, levels in relation to existing topography, approach to materials selection and surface treatments, landscape integration, lighting and signage**

Highways England response

- 10.2.2 Highways England considers that the application has provided sufficient information to allow Historic England to understand, engage with and respond to and comment on the Scheme. Highways England has prepared a signposting document [AS-009] to support or enhance interested parties' understanding of the nature of the Scheme.
- 10.2.3 Further details of junctions, the tunnel approaches and portals (including engineering design, levels in relation to existing topography, approach to materials selection and surface treatments and landscape integration) will be developed through the detailed design process. This will enable the best opportunity to draw on the skill and experience of the contractor to be brought fully into the detailed design and implementation phase and

therefore greatest potential for innovation and latest practice and technology to be fully considered at the stage immediately before implementation. In addition, the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) includes further design commitments, together with design principles to guide the detailed design and information on the aspects of the detailed design of the Scheme on which Highways England will consult Historic England, and other heritage stakeholders, together with a robust process for doing so.

10.2.4 **Longbarrow Junction**

10.2.5 The layout of the proposed Longbarrow junction is shown on sheet 5 of the Works Plans [APP-008], described in Schedule 1 and shown indicatively on Sheet 5 of the General Arrangement Drawings [APP-012]. The junction has been located as close as possible to the point of intersection of the A303 and A360 alignments while at the same time minimising impact on the WHS and other environmental receptors.

10.2.6 **Tunnel Approaches and Portals**

Visualisations of the tunnel approaches and portals can be found in section 6.4 of the Design and Access Statement [APP-295]. Further detail is shown illustratively on sheets 7, 8, 10 and 11 of the Structures Drawings [APP-017].

10.2.7 **Levels in relation to existing Topography**

Proposed road levels in relation to existing ground levels are shown in the Engineering Drawings (Plans and Profile) [APP-010]. These drawings show the difference between existing and proposed levels at 100m intervals. Further information can be seen in the Engineering Drawings (Cross Sections) [APP-011] which show both existing and proposed levels at selected cross sections along the Scheme. Vertical levels of deviation (Article 7 of the draft development consent order [REP2-003]) are more limited in an upwards direction in the WHS than in a typical road scheme, recognising the sensitivity of the site. The Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) also contains new design commitments relating to levels and surrounding topography.

10.2.8 **Approach to Materials selection and surface treatment**

Further details, including width and surface treatment of new rights of way, fence lines and structural finishes, are under discussion with heritage stakeholders and Wiltshire Council. As noted above, the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) includes further design commitments on these matters, design principles and a mechanism for consultation with heritage stakeholders, including Historic England, on the detailed design of aspects of the Scheme within the World Heritage Site.

10.2.9 **Landscape Integration**

A description of the earthwork landscape proposals is included in paragraph 2.3.55 of Chapter 2 of the ES [APP-040] For further detail refer to ES chapter 7 2 Landscape and Visual Effects [APP-045]. The final landscaping for the Scheme is controlled by requirement 8, which requires a landscaping scheme to be approved by the Secretary of State for each part of the Scheme before it is commenced.

10.2.10 **Lighting**

10.2.11 The majority of the Scheme would not be lit. There would be no external road lighting within the WHS outside the tunnel or Green Bridge 4. The existing lighting provision at Countess roundabout will be replaced with a modern system that will reduce light spill. The lighting under Green Bridge No. 4 would only occur during the day time and would be dimmer controlled at dusk and dawn to avoid sudden bursts of light emitting into the landscape at these specific times of the day. This lighting is provided for in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) (D-CH9 to D-CH12), and paragraph 4 of Schedule 2 of the draft development consent order [REP2-003] requires the Scheme to be carried out in accordance with the OEMP.

10.2.12 **Signage**

Within the WHS, the Scheme has committed to no signage above the top of the cutting and no lighting of signs at the western end of the Scheme in order to protect the WHS's OUV [see OEMP, D-CH8], as well as further items included in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). Appropriate signage and infrastructure will also be provided outside the WHS to manage traffic through the corridor.

Key Issue

10.2.13 **Detail in relation to Green Bridge 4 – design detail, landscaping proposals, confirmation of its width at 150m and of its positioning.**

Highways England response

10.2.14 Highways England has committed, via the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) ref D-CH4, to the width of Green Bridge No. 4 being approximately 150 metres. Highways England has prepared an update to the OEMP for submission at deadline 3 which contains additional design commitments, design principles to help guide the development of the detailed design together with a robust stakeholder consultation mechanism to involve heritage stakeholders, including Historic England, in the development of aspects of the detailed design within the World Heritage Site. Compliance with the OEMP is secured via requirement paragraph 4 of Schedule 2 of the draft development consent order [REP2-003].

Key Issue

- 10.2.15 **Detail in relation to tunnel canopies – design detail, confirmation of positioning, landscaping proposals.**

Highways England response

- 10.2.16 Highways England has prepared an update to the OEMP [APP-187] for submission at deadline 3 which contains additional design commitments (including in relation to tunnel canopy), design principles to help guide the development of the detailed design together with a robust stakeholder consultation mechanism to involve heritage stakeholders, including Historic England, in the development of aspects of the detailed design within the World Heritage Site. Compliance with the OEMP is secured via paragraph 4 of Schedule 2 of the draft development consent order [REP2-003] requirement 4 of the draft development consent order [REP2-003].

Key Issue

- 10.2.17 **Precision in relation to actual positioning of the tunnel portals given the sensitivity of the landscape. Historic England considered the limits of LoD westwards (200m for the western portal) to be unjustified at this point.**

Highways England response

- 10.2.18 The Tunnel Limits of Deviation (LOD) are considered necessary to facilitate the safe construction of the TBM bored tunnel by allowing some realignment of the location of the temporary drive and reception portals at the western and eastern end of the tunnel should this be necessary by the contractor.
- 10.2.19 The proposed means of tunnelling is based on the assembly and launch of the tunnel boring machine ("TBM") from the point of commencement of the tunnel, with the first tunnel drive west to east towards Amesbury. At the end of the first drive, the TBM will be received within the temporary portal where it will be turned around and re-launched to drive the second bore east to west. Therefore, the location of the drive and reception portals is a very important consideration as part of overall safe tunnel construction and operation of the TBM and flexibility is sought to facilitate this in tunnelling.
- 10.2.20 TBMs are large and complex machines; the cutting head and segment erector are contained within the shield and constitute the main components at the front of the TBM and are followed by a long train of supporting ancillary trailers supplying all the mechanical and electrical equipment, pre-cast segments and other materials in addition to the means of removing the excavated material. Making an adjustment to either the vertical or horizontal alignment of the tunnel can only be accommodated by a series of small incremental adjustments during the construction of each individual ring within the front shield. Therefore, any change in the alignment for a large diameter

TBM can take between 200-300m to accommodate during tunnelling. This is why the 200m westerly deviation is sought at the western portal.

- 10.2.21 The potential scenario under which such a deviation would be required is as a result of the further detailed design by the contractor as part of their risk management of the whole tunnelling operation. This would include: the identification and preservation of archaeology in the drive area; the development of a preferential approach to geological and hydrogeological conditions to commence tunnelling, and the identification of features in the ground that should be avoided as far as reasonably practicable to reduce risks during tunnelling. These changes to the alignment would be made during detailed design, hence the requirement to provide limits of deviation in the draft development consent order [REP2-003].
- 10.2.22 The extent to which the 200m westwards LoD is used - will be determined during detailed design. The cut and cover tunnel length provides a vertical transition zone which allows adequate ground cover for the Tunnel Boring Machine (TBM) at one end while minimising the depth of the open cut at the other end. Its length will be optimised to suit the vertical alignment of the realigned A303 (which in turn is also restricted by LoD) and will be dependent on the construction method for launching the tunnel boring machine, on peak ground water levels and on heritage and visual impact.
- 10.2.23 It should be noted that the western and eastern portal LoDs mean that they can only move a nominal 1m to the east (at the western portal), or 1m to the west (at the eastern portal) of the position of the "bow-tie" showing the commencement of Work Nos. 1E and 1G respectively on the Works Plans [APP-008] as set out in article 7(7) of the draft development consent order [REP2-003]. For further details on necessity and proportionality of the lateral limit of deviation to the commencement/termination points of these works, please see Written Questions [REP2-030] DCO.1.26.

Key Issue

- 10.2.24 **Detail of management of light levels (both infrastructure and vehicle headlights), in particular, in relation to the tunnels and retaining cuttings.**

Highways England response

- 10.2.25 Highways England considers the application is sufficiently detailed to allow Historic England to understand and comment on the Scheme.
- 10.2.26 Highways England refer Historic England to several documents within the Environmental Statement. The first, Chapter 2 [APP-040], page 2-13, sets out within the 'Lighting' section that the majority of the Scheme would not be lit. There would be no lighting within the WHS beyond that necessary within the tunnel and beneath the c. 150-metre-wide Green Bridge No. 4 (operating during day time only). There would be no lighting within the open cutting, and tunnel lighting would be designed to minimise light spill outside of the tunnel

portals. There would be no roadside lighting at the new Longbarrow junction, and the improved Countess junction would utilise new directional roadside lighting to minimise light spill along with screening provided by acoustic screens on the flyover. The mainline of the road at Longbarrow junction will also be set in deep cutting limiting light spill in to the landscape from car headlights and tail lights.

- 10.2.27 The second document is the Landscape and Visual Impact Assessment [APP-045] which includes a qualitative night time assessment and concludes in paragraph 7.9.129 that there would be a substantial reduction in lighting from vehicles within the WHS as they would be largely contained within the tunnel and in combination with the removal of existing lighting at Longbarrow junction there would be a moderate beneficial (significant) effect to the character of the night sky within the WHS.
- 10.2.28 We consider that the Scheme presents significant improvements over the current lighting and dark sky situation, where both Countess and Longbarrow junctions on the WHS boundary are brightly lit, such that there would not be adverse impacts to the dark skies within the vicinity of the WHS boundary.
- 10.2.29 The delivery of the Scheme lighting in line with the statements set out above and in the ES is provided for in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) (D-CH9 to D-CH12), and paragraph 4 of Schedule 2 of the draft development consent order [REP2-003] requires the Scheme to be carried out in accordance with the OEMP.

Key Issue

- 10.2.30 **Detail in relation to the deposition at Parsonage Down East of the processed chalk arisings from the tunnel.**
- **The preservation of archaeological remains;**
 - **The impacts of temporary works compounds and haul routes; and**
 - **Long-term impacts on the significance of designated heritage assets, where this part of the landscape forms part of their setting.**

Highways England response

- 10.2.31 The Deadline 2 Submission - 8.11 Draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038; paragraphs 4.3.7 – 4.3.12 preservation in situ and Appendix D Action Areas: Preservation in situ – Action Areas 8, 9, 10.1, 10.2, 11 and 25] sets out the archaeological mitigation strategy in relation to the preservation of archaeological remains under fill materials at Parsonage Down including temporary works compounds and haul routes.
- 10.2.32 The DAMS and the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) both require the development of a Scheme-wide Heritage Management Plan (HMP) for the

Main Works phase (detailed in the OEMP [MW-CH1]) which will indicate how the historic environment is to be protected in a consistent and integrated manner including in relation to the effects of construction (including placement of fill). The HMP will be developed in consultation with the Heritage Monitoring and Advisory Group (HMAG).

- 10.2.33 Environmental Statement Chapter 6 Cultural Heritage [APP044, paragraph 6.9.21 and Table 6.10: Summary of significant effects – construction (temporary)] summarizes the temporary construction impacts of the deposition of excavated material and the consequent re-profiling of the area east of Parsonage Down in relation to designated heritage assets. Once construction has been completed and landscaping has established, no significant effects are anticipated on designated heritage assets.

Key Issue

- 10.2.34 **The Applicant must also provide evidence, as well as sufficient analysis of that evidence, in relation to Blick Mead (an important Mesolithic site). To enable an informed assessment of potential impact of the Scheme on the archaeological remains during construction and operation.**
- 10.2.35 **The inclusion of the results from the Blick Mead data collection (AS-015) to the evidence base provided essential information to help assess the conclusions of the ES assessment. The results appear to demonstrate the same patterns of seasonal change as the Scheme wide modelling. However, it would be beneficial for the Blick Mead Hydrogeological Assessment to be updated to make it easier to understand how that data sits within the broader picture across the Scheme.**

Highways England response

- 10.2.36 The Scheme alignment has been optimised past the Blick Mead archaeological site, to avoid land-take and to keep the road at existing grade. Ground water modelling indicates no impact on Blick Mead (Abbey Pond) or the River Avon (see Blick Mead Tiered Assessment presented, ES Appendix 11.4 – Groundwater Risk Assessment, Annex 3 [APP-282]). The ES therefore reports No change and a Neutral Effect on the Blick Mead archaeological site (Appendix 6.8 – Cultural Heritage - Summary of non-significant effects [APP-217, page 5]).
- 10.2.37 However, given the interest in the site, both from members of the public and heritage bodies, hydrological monitoring at Blick Mead is continuing and includes monitoring of water levels and springs at shallow depths.
- 10.2.38 HIA para 8.2.6 notes that "The Scheme design has been developed to reduce the land-take within the WHS [...] Land-take at and around Blick Mead will be avoided, all Scheme elements (including temporary haul roads) avoiding the known extent of this asset". The route alignment has been

optimised past Blick Mead, to avoid land-take and to keep the road at existing grade.

- 10.2.39 Groundwater modelling indicates no adverse significant effects on Blick Mead or the River Avon; this is presented in Environmental Statement Appendix 11.4 - Groundwater Risk Assessment, Annex 3, Blick Mead Tiered Assessment [APP-282].
- 10.2.40 As set out in our response to the Council of British Archaeology, Wessex Region, [REP2-145] CBA para k, details of hydrological monitoring are provided in the report on groundwater monitoring at Blick Mead (Blick Mead monitoring to March 2019 HE51506-AMWEWE-SW_GN_000_ZZ-TN-WR-0015, April 2019) [AS-022]). The monitoring results have been used to confirm the conceptual model set out in the tiered assessment (Annex 1 of [APP-282]). The tiered assessment concluded that the Mesolithic deposits at Blick Mead currently remain wetted by the underlying Chalk / sands and gravel aquifer under normal conditions but water levels can drop below the upper level of the Mesolithic deposits when groundwater levels are seasonally low or there is a natural drought. By confirming the conceptual model, the monitoring also confirms the conclusions of the ES that underlying Chalk / sands and gravel aquifer under normal conditions but water levels can drop below the upper level of the Mesolithic deposits when groundwater levels are seasonally low or there is a natural drought. By confirming the conceptual model, the monitoring also confirms the conclusions of the ES that the Scheme will have a negligible effect on the hydrogeology of Blick Mead. A note on the proposals for additional monitoring (HE51506-AMW-EWESW_GN_000_ZZ-TN-WR-0127) [REP1-007] was submitted for Deadline 1 and summarises how the ES assessed effects at Blick Mead and concluded that they are not significant, the development of the tiered assessment, the installation of the monitoring locations, ongoing monitoring and why additional monitoring installations are not required.

Key Issue

- 10.2.41 **An informed, nuanced, structured and iterative strategy for the programme of archaeological mitigation is required, rooted in a heritage research-led framework.**

Highways England response

- 10.2.42 The Deadline 2 Submission - 8.11 Draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] sets out the structured, iterative detailed archaeological mitigation strategy. The DAMS is being developed in consultation with the Heritage Monitoring Advisory Group (which includes Historic England) and the Scientific Committee. It will be finalised prior to the end of the Examination and is secured by Requirement 5 of Schedule 2 of the draft development consent order [REP2-003]. The DAMS is rooted in a heritage research-led framework [REP2-038; Section 2].

10.3 Draft Development Consent Order

Key Issue

- 10.3.1 **An informed, nuanced, structured and iterative strategy for the programme of archaeological mitigation is required, rooted in a heritage research-led framework.**

Highways England response

- 10.3.2 The draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] sets out the structured, iterative detailed archaeological mitigation strategy. The DAMS is being developed in consultation with the Heritage Monitoring Advisory Group (which includes Historic England) and the Scientific Committee. It will be finalised prior to the end of the Examination and is secured by Requirement 5 of Schedule 2 of the draft development consent order [REP2-003]. The DAMS is rooted in a heritage research-led framework [REP2-038; Section 2].

Key Issue

- 10.3.3 **A robust strategy for the environmental management of both temporary and permanent elements of the Scheme is needed. Historic England advises that this should include terms enabling appropriate consultation with Historic England, and where necessary, approval of the detail of management plans.**

Highways England response

- 10.3.4 The strategy for the environmental management of the scheme is provided within the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). The OEMP requires the contractor(s) to develop Construction Environmental Management Plans (CEMPs) for the Schemes preliminary works and main works, which must be prepared in accordance with the principles of the OEMP. This includes the development of various subplans outlined in items PW-CH1 (Preliminary Works Heritage Management Plan) and PW-NOI3 (Preliminary Works Noise and Vibration Management Plans) and listed within MW-G7 of the revised OEMP submitted at Deadline Three:
- a. Site Waste Management Plan;
 - b. Emergency Preparedness and Response Plan;
 - c. Heritage Management Plan;
 - d. Ground Movement Monitoring Strategy
 - e. Landscape and Ecology Management Plan;
 - f. Arboricultural Mitigation Strategy;
 - g. Noise and Vibration Management Plan;

- h. Noise Insulation and Temporary Rehousing Policy;
 - i. Soils Management Strategy;
 - j. Water Management Plan;
 - k. Groundwater Management Plan;
 - l. Materials Management Plan; and
 - m. Traffic Management Plan.
- 10.3.5 The Applicant can confirm that amendments have been made in the OEMP submitted at Deadline Three (items PW-G1 and MW-G5), to include Historic England in the consultation process for the development of the CEMPs. Historic England will therefore be consulted upon the various sub-plans identified above.
- 10.3.6 The environmental management of the permanent works will be defined within a Handover Environmental Management Plan (HEMP), as described within item MW-G11 of the OEMP. The Applicant can confirm that an amendment has been made to Item MW-G11 of the OEMP submitted at Deadline Three to include Historic England in the consultation process for the development of the HEMP.
- 10.3.7 The OEMP is secured by Requirement 4 of Schedule 2 of the draft development consent order [REP2-003], therefore the consultation provided for in the OEMP, as outlined above, will ensure that the views of Historic England are taken in to account in finalising the documentation, prior to Highways England's approval.

Key Issue

- 10.3.8 **Detail is needed (e.g. vertical LoDs for the tunnel), together with consideration of a parameters framework, to ensure that there is no restriction to potential future archaeological work above or below ground level but above the tunnel crown level identified in the first draft DCO. This would be contrary to Article 4 of the 1972 Convention and the policies of the SAAS WHS Management Plan.**

Highways England response

- 10.3.9 As noted in the Statement of Reasons [APP-023], restrictions are required above the tunnel in order to secure protection of the tunnel from potentially conflicting future development and works that might jeopardise the structural integrity of the tunnel.
- 10.3.10 The proposed Scheme would provide powers to impose restrictions which may affect future archaeological research above the tunnel route, in order to protect the structural integrity of the tunnel. There are no restrictions intended to be placed on future archaeological research elsewhere. It is expected that the restrictions will vary along the length of the tunnel, depending upon the depth of the tunnel below the surface. The detail of the

restriction is under discussion, but as currently drafted would restrict excavations relating to future archaeological research below 0.6m in areas where the tunnel is shallow, and below 1.2m in areas where the tunnel is deeper. The restriction would not prevent excavations from being undertaken below this depth but would require a promoter of future archaeological research to consult with Highways England in such cases in order to determine the extent to which that activity might have the potential to affect the structural integrity of the tunnel.

- 10.3.11 The terms of the restriction are still under discussion with the landowners and heritage partners. The current proposal is that restrictive covenants will be required over land above and adjacent to the tunnel. These activities would include:
- a. Development which would require planning permission, deep foundations, piling or influence existing ground conditions.
 - b. Changes in ground weight loading (either increasing or decreasing) such as:
 - i. Any excavation (including boring and future archaeological research) below a depth of 1.2m in the area shown in light blue and below a depth of 0.6m in the area shown in dark blue in Appendix A of the Response to Written Questions for Cultural Heritage [REP2-025];
 - ii. Any additional loading as a result of building work or storage;
 - iii. Use by any vehicles of greater weight than for standard road use vehicles; or
 - iv. Any new tree planting or removal.
- 10.3.12 Where archaeological research is identified requiring activity restricted by the above proposed terms (such as by requiring excavations deeper than 0.6m or 1.2m, depending on the location), the restrictive covenants would require consultation with Highways England in order to analyse on a case by case basis and determine to what extent the proposed archaeological works may be permitted.
- 10.3.13 In terms of vertical limits of deviation for the bored tunnel comprised in Work No.1F it would, at its shallowest permitted depth, be a minimum of 6.75m below existing ground levels as shown on the Bored Tunnel Limits of Deviation Plan [APP-019] (see Note 3) and article 7(5) of the draft development consent order [REP2-003].

Key Issue

- 10.3.14 **Historic England would expect the first draft DCO terms to secure the delivery of a detailed Scheme, or to include the terms of appropriate parameters to address details if they are not able to be provided by the Applicant at this time.**

Highways England response

10.3.15 Highways England considers the level of detail presented in the Scheme to be appropriate and sufficient for Historic England and other parties to understand and respond to its proposals. The Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) contains additional design commitments, design principles to help guide the development of the detailed design together with a robust stakeholder consultation mechanism to involve heritage stakeholders, including Historic England, in the development of aspects of the detailed design within the World Heritage Site. Compliance with the OEMP is secured via requirement 4 of Schedule 2 of the draft development consent order [REP2-003].

Key Issue

10.3.16 **We would expect the first draft DCO to secure the relevant provisions for the historic environment not only during detailed design of the Scheme, but during its construction, implementation and subsequent operation and use by vehicles and the public.**

Highways England response

10.3.17 The Deadline 2 Submission - 8.11 Draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] sets out the structured, iterative detailed archaeological mitigation strategy with regards to the historic environment during the preliminary works and the main works phases. The DAMS is being developed in consultation with the Heritage Monitoring Advisory Group (which includes Historic England) and the Scientific Committee. It will be finalised prior to the end of the Examination and is secured by Requirement 5 of Schedule 2 of the draft development consent order [REP2-003]. The DAMS is rooted in a heritage research-led framework [REP2-038; Section 2].

10.3.18 Other key design elements that are secured via the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) include:

- D-CH8 – requires no signage or other vertical installations (such as CCTV) above the top of the cutting and no lighting of signs at the western end of the Scheme in order to protect the WHS's OUV;
- D-CH2 and D-CH3 which require the redundant sections of the road surface to the existing A303 and A360 (including the existing Longbarrow Roundabout) to be broken out, save to the extent they are required for public rights of way;
- D-CH4 – requires Green Bridge No. 4 to be approximately 150m wide;
- D-CH5 – which requires the western approach to the tunnel to be in cutting to a minimum 7m depth with vertical retaining walls;

- D-CH6 and D-CH7 – which require cut and cover tunnels extending eastwards and westwards from the bored tunnel;
- D-CH9, D-CH10, D-CH11 and D-CH12 - which taken together limit the use of highway lighting within the WHS and require improved lighting at Countess Roundabout.

The Applicant has added wording to the OEMP [APP-187] submitted at Deadline 3 providing for a mechanism:

- a. obliging the Applicant to consult with heritage stakeholders on detailed design of key aspects of the Scheme;
 - b. setting out design principles according to which the Applicant will require the detailed design of those key aspects of the Scheme to be undertaken; and
 - c. committing to certain additional key aspects of design, additional to the “D Series” design commitments already contained in the OEMP.
- 10.3.19 Potential impacts from construction will be considered as part of the Scheme-wide Heritage Management Plan detailed in the OEMP [PW-CH1, MW-CH1] which will indicate how the historic environment is to be protected in a consistent and integrated manner including from potential impacts of construction. The implementation of the OEMP is secured by paragraph 4 of schedule 2 of the draft development consent order [REP2-003].
- 10.3.20 The location of known heritage assets within areas permanently acquired and specific management requirements, or constraints, will be applied through the preparation of Handover Environmental Management Plans (‘HEMPs’) (see paragraphs 1.1.12, 3.1.3 and ref MW-G11 in Table 3.2b: REAC tables for the main works, in Appendix 2.2 OEMP). Cultural Heritage Asset Management Plans (CHAMPs) (see paragraph 6.8.14 of ES Chapter 6 Cultural Heritage [APP-044]) will be prepared every four years by Highways England (or the operating authority) in accordance with DMRB Vol 10 Section 6 Part 2 HA 117/08 (Highways Agency 2008) and as referred to in the Detailed Archaeological Mitigation Strategy, to ensure that cultural heritage assets are protected during the course of highways operation and maintenance works.

Key Issue

- 10.3.21 **Where there is potential for elements of detail to be approved during the Detailed Design Stage, the first draft DCO must secure an appropriate approach and appropriately worded legal parameters within which these issues can be dealt with, together with sufficient information at this stage to enable the Examining Authority to form a proper view.**

Highways England response

- 10.3.22 Highways England considers the application is sufficiently detailed to allow Historic England to understand and comment on the Scheme.
- 10.3.23 As stated in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) [APP-187 e.g. PW-CH1 and MW-CH1 for HMPs], HMAG (which includes Historic England) will be consulted on a variety of matters before Highways England as 'the Authority' approves the relevant documentation. The consultation provided for in the OEMP will ensure that the views of HMAG are taken in to account in finalising the documentation, prior to Highways England's approval.
- 10.3.24 In addition, Highways England has prepared an update to the OEMP for submission at deadline 3 which contains additional design commitments, design principles to help guide the development of the detailed design together with a robust stakeholder consultation mechanism to involve heritage stakeholders, including Historic England, in the development of aspects of the detailed design within the World Heritage Site. Compliance with the OEMP is secured via requirement 4 of Schedule 2 of the draft development consent order [REP2-003].

Key Issue

- 10.3.25 **We would expect the first draft DCO to secure the relevant provisions for the historic environment not only during detailed design of the Scheme, but during its construction, implementation and subsequent operation and use by vehicles and the public.**

Highways England response

- 10.3.26 The Deadline 2 Submission Draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] sets out the structured, iterative detailed archaeological mitigation strategy with regards to the historic environment during the preliminary works and the main works phases. The DAMS is being developed in consultation with the Heritage Monitoring Advisory Group (which includes Historic England) and the Scientific Committee. It will be finalised prior to the end of the Examination and is secured by Requirement 5 of Schedule 2 of the draft development consent order [REP2-003]. The DAMS is rooted in a heritage research-led framework [REP2-038; Section 2].
- 10.3.27 Other key design elements that are secured via the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) include:
- D-CH8 – requires no signage or other vertical installations (such as CCTV) above the top of the cutting and no lighting of signs at the western end of the Scheme in order to protect the WHS's OUV;
 - D-CH2 and D-CH3 which require the redundant sections of the road surface to the existing A303 and A360 (including the existing Longbarrow

Roundabout) to be broken out, save to the extent they are required for public rights of way;

- D-CH4 – requires Green Bridge No. 4 to be approximately 150m wide;
- D-CH5 – which requires the western approach to the tunnel to be in cutting to a minimum 7m depth with vertical retaining walls;
- D-CH6 and D-CH7 – which require cut and cover tunnels extending eastwards and westwards from the bored tunnel;
- D-CH9, D-CH10, D-CH11 and D-CH12 - which taken together limit the use of highway lighting within the WHS and require improved lighting at Countess roundabout.

10.3.28 The Applicant has added wording to the OEMP [APP-187] submitted at Deadline 3 providing for a mechanism:

- 1 Obliging the Applicant to consult with heritage stakeholders on detailed design of key aspects of the Scheme;
- 2 Setting out design principles according to which the Applicant will require the detailed design of those key aspects of the Scheme to be undertaken; and
- 3 Committing to certain additional key aspects of design, additional to the “D Series” design commitments already contained in the OEMP.

10.3.29 Potential impacts from construction will be considered as part of the Scheme-wide Heritage Management Plan detailed in the OEMP [PW-CH1, MW-CH1] which will indicate how the historic environment is to be protected in a consistent and integrated manner including from potential impacts of construction. The implementation of the OEMP is secured by paragraph 4 of schedule 2 of the draft development consent order [REP2-003].

10.3.30 The location of known heritage assets within areas permanently acquired and specific management requirements, or constraints, will be applied through the preparation of Handover Environmental Management Plans (‘HEMPs’) (see paragraphs 1.1.12, 3.1.3 and ref MW-G11 in Table 3.2b: REAC tables for the main works, in Appendix 2.2 OEMP). Cultural Heritage Asset Management Plans (CHAMPs) (see paragraph 6.8.14 of ES Chapter 6 Cultural Heritage [APP-044] will be prepared every four years by Highways England (or the operating authority) in accordance with DMRB Vol 10 Section 6 Part 2 HA 117/08 (Highways Agency 2008) and as referred to in the Detailed Archaeological Mitigation Strategy, to ensure that cultural heritage assets are protected during the course of highways operation and maintenance works.

10.4 Flood risk, groundwater protection, geology and land contamination

Key Issue

10.5 Traffic and Transport

Key Issue

- 10.5.1 **Detail in relation to treatment and detailing of NMU routes and PROWs – to understand how the provision of wider public access across the WHS can best be achieved, with careful consideration of surfacing materials, as well as the extent and nature of access provided. Both new PROWs and those stopped up as part of the Scheme.**

Highways England response

- 10.5.2 Highways England considers the application is sufficiently detailed to allow Historic England to understand and comment on the Scheme.
- 10.5.3 The existing road surface of the existing A303 and A360 would be reduced to a width of no more than 4m 3m to provide a level surface for non-motorised users including those needing mobility aids, and those vehicles permitted to use the route such as agricultural and maintenance vehicles. It would be treated with a new visually recessive durable surface. The surplus areas of redundant road surface would be replaced by chalk grassland and existing roadside furniture and infrastructure (signage, lighting columns etc.) would be removed (this approach is described in section 2.3.56 (d) of the Environmental Statement (ES) [APP-040]. Other new NMU routes within the WHS (A360 north to the Stonehenge Visitor Centre; A360 South to Druids Lodge) would be of similar form and design and would be constructed at or just above existing ground level and would utilise a no-dig construction solution. There would be no new street furniture adjacent to the new NMU routes and public rights of way.
- 10.5.4 Fencing in the WHS shall be developed in consultation with the National Trust, Historic England, English Heritage and Wiltshire Council, as secured in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) (D-CH14). The main works contractor shall consult with the members of HMAG to determine the type of construction boundary fencing to be used within the WHS or within the setting of the WHS. Within the WHS, all fencing above the top of the cuttings shall be post and wire with stock-proof netting as appropriate, and be consistent with other fencing within the WHS. The type of fencing would be sympathetic to the setting of the WHS. The OEMP is secured under paragraph 4 of Schedule 2 within the draft development consent order [REP2-003].
- 10.5.5 The updated OEMP submitted for Deadline 3 includes further design commitments and , design principles to guide the detailed design of elements of the Scheme on the matters referred to in the written representation together with a robust mechanism for consultation with heritage stakeholders, including Historic England, on the detailed design of elements of the Scheme within the World Heritage Site.

- 10.5.6 The Rights of Way and Access Plans [APP-009] for the Scheme illustrate the new PROWs and those stopped up as part of the Scheme.
- 10.5.7 Highways England wish to ensure that the Scheme is integrated within the existing byway network and, where the opportunity exists, create legacy benefits for non-motorised users in accordance with its Strategic Business Plan and Road Investment Strategy, which are aligned with Government policy to encourage walking, cycling & horse-riding through national and local policies and plans. The new public rights of way measures proposed along the Scheme would not only maintain, but would also considerably enhance the existing PROW network, significantly improving connectivity for non-motorised users, as illustrated on the Rights of Way and Access Plans [APP-009].

11 Stonehenge Alliance -(Introduction to Case) (REP2-129)

11.1 General and cross-topic

Key Issue

- 11.1.1 **We object outright to the proposals insofar as they affect the WHS and its setting and do not agree with any part of them. Our specific objections are identified within our Written Representations.**

Highways England response

- 11.1.2 Noted, Highways England will respond to specific objections in the relevant sections of this report.

12 Stonehenge Alliance (Heritage and Historic Environment) (REP2-136)

12.1 General and cross-topic

Key Issue

- 12.1.1 It is impossible to take [the] conclusions [of the HIA] seriously in view of the scale of the intervention proposed and the international advice given [from the ICOMOS 2018 Advisory Mission].
- 12.1.2 *“would remove the road from the central part of the Stonehenge component of the WHS but the construction of four-lane highways in cuttings at either end of the tunnel would adversely and irreversibly impact on the integrity, authenticity and Outstanding Universal Value (OUV) of the WHS, particularly through disrupting the spatial and visual links between monuments, and as a result of its overall visual impact.”*

Highways England response

- 12.1.3 Heritage has been a key consideration during route selection and consultation, being one of the Scheme's objectives to help conserve and enhance the WHS.
- 12.1.4 In full recognition of its obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972), the Government is making a substantial investment in funding a tunnel past Stonehenge to bring extensive benefits to the WHS. Compliance with UK Legislation and planning policies will be tested through the DCO process. Deciding in favour of the Scheme would not lead the UK to a breach of its international obligations, including the World Heritage Convention. The requirements of the World Heritage Convention and the Scheme's compliance with those requirements are addressed in response to written question G.1.1 [REP2-021].
- 12.1.5 The recommendations of the UNESCO/ICOMOS missions carried out in 2015, 2017 and 2018 and the subsequent decisions of the World Heritage Committee have been considered carefully and integrated into the Scheme's design where practicable. The UNESCO/ICOMOS recommendations and World Heritage Committee decisions have informed the development of the Scheme and its design responds to these including: the route alignment selected as the preferred route avoiding the winter solstice sunset alignment and the bisecting of the Diamond Group; setting the road in deep retained cuttings to minimise landtake; determining the length of the tunnel to avoid the Scheduled Monument known as the Avenue (NHLE 1010140) at its eastern end and a Bowl barrow south of the A303 and north west of Normanton Gorse (NHLE 1010832) at its western end – the tunnel length has been extended to 2 miles (or 3km) in length; the further addition of 200m

of canopy at the western portal and 85m of canopy at the eastern portal to further extend the tunnel (to almost 3.3km) to aid landscape integration; the optimization of the positions of the tunnel portals at the head of dry valleys in the landscape in order to reduce the length of cutting (and minimise the length of the culvert part of the tunnel in the western approaches); the addition of the 150m long land bridge to maintain physical and visual connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group; the removal of the surface A303 into a tunnel and approach cuttings to reduce noise and improve the tranquillity of the WHS. In order to minimise light spill measures have included no lighting of the new Longbarrow junction or the approach cuttings, new directional lighting at Countess junction replacing the existing non-directional lighting, lighting of the portals would be designed to minimise light spill out in to the WHS landscape and lighting under the land bridge will only operate during daylight hours. To minimise the visibility of new infrastructure within the WHS signage and other highways installations will sit completely within the approach cuttings and not extend above them. Further information on the missions, including how Highways England has considered the recommendations of UNESCO/ ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.

- 12.1.6 The locations of the eastern and western portals in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost. Further detailed consideration of a western extension to the tunnel is set out in response to AL.1.29 [REP2-024].

Key Issue

- 12.1.7 **The approach to the WHS for visitors by road from the east or west would give them little or no indication of the significance of the WHS.**

Highways England response

- 12.1.8 The tunnel is a fundamental part of the Scheme, designed to bring substantial benefits to the WHS by the removal of the sight and sound of traffic from the central part of the WHS. This inevitably means losing the view of Stonehenge from the A303, both from the east and west.
- 12.1.9 The Scheme will transform the WHS landscape around Stonehenge and all visitors will have the opportunity to experience and enjoy Stonehenge in an unspoiled setting, gaining a greater appreciation of the prehistoric landscape, and so too the significance of the WHS. They will be able to enjoy improved views from the new restricted byway on the line of the removed A303 rather than from a passing car.

- 12.1.10 In addition, extensive archaeological surveys have been and will continue to be carried out - all finds are being and will be fully recorded, adding to the knowledge of the WHS.

12.2 Alternatives

Key Issue

- 12.2.1 **There has been no development of the A303 since 1986 when the WHS was designated as being of OUV. It is presumably the development of increased traffic on the A303 that has an adverse effect on the enjoyment of the WHS. The A303 is very much a part of the designated WHS landscape and many drivers value views of the WHS from it.**

Highways England response

- 12.2.2 The Stonehenge and Avebury World Heritage Site (WHS) Management Plan includes within its priorities to:
- 12.2.3 *“Reduce the dominance and negative impact of roads and traffic and ensure any improvements to the A303 support this.” (WHS Management Plan, page 11).*
- 12.2.4 The tunnel is a fundamental part of the Scheme, designed to bring substantial benefits to the WHS. This inevitably means losing the view of Stonehenge from the A303, but the experience for visitors to the WHS would be considerably enhanced, and access would be readily and freely available via the new public right of way to be created along the old A303 through the WHS, accessible from Winterbourne Stoke, Amesbury and connecting rights of way, as well as via the Stonehenge visitor centre.

Key Issue

- 12.2.5 **Highways England does not propose removing the A303 from the WHS but only the sight of traffic from part of it, along with introducing a new highway for much of [the A303’s] length, leaving the redundant section clearly visible as a major feature across the landscape. Addressing the problem of traffic does not need to involve construction of a new road.**

Highways England response

- 12.2.6 One of the key aims of the Scheme is to remove the sight and sound of the A303 traffic from much of the Stonehenge, Avebury and Associated Sites World Heritage Site (WHS), which would be achieved by the tunnel and retained cutting sections.
- 12.2.7 The existing A303 within the WHS will be converted to a restricted byway as set out in more detail at paragraph 2.3.56 (d) of Chapter 2: The Scheme [APP-040] and will therefore not leave a "redundant section" of the existing A303. The redundant parts of the road surface of the existing A303 and A360 within the WHS would be removed in accordance with references D-

CH2 and D-CH3 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).

Compliance with the OEMP is secured by paragraph 4 of Schedule 2 to the draft development consent order [REP2-003]. The new restricted byway within the WHS would provide a durable surface for non-motorised users including those needing mobility aids, and those vehicles permitted to use the route such as agricultural and maintenance vehicles.

- 12.2.8 Within the World Heritage Site (WHS), commitments with regard to the surfacing of the decommissioned A303 are set out at items D-CH2, D-CH3 and D-CH14 of the Outline Environmental Management Plan [APP-187] (a revised version of which is submitted at Deadline 3) which provide for, respectively, the breaking up of the redundant A303 and A360 within the WHS, and that provision of surfacing within the WHS shall be developed in consultation with National Trust, Historic England, English Heritage and Wiltshire Council.
- 12.2.9 The priority of reducing the dominance and negative impacts of roads and traffic are set out in the Stonehenge and Avebury World Heritage Site (WHS) Management Plan (Simmonds & Thomas 2015, para. 2.2.23). The construction of a new dual carriageway to create a high quality reliable route between the South East and the South West that meets the future needs of traffic is one of the Scheme objectives. A do-minimum scenario would not meet the objectives of the Scheme for reasons set out in Written Question Tr.1.37 [REP2-036] regarding alternative modes and traffic reduction, and Question AL.1.12 [REP2-024] on modal alternatives.

Key Issue

- 12.2.10 **Informed by an international specialists' report, The World Heritage Committee urged the UK Government in July 2018 to “... continue to explore further design refinement, with a view to avoiding impact on the OUV of the property, including longer tunnel options that do not require an open dual carriageway cutting within the property and to avoid impact due to noise, lighting and visibility; and urges furthermore, the State Party to minimize the length of the culvert part of the tunnel in order to reduce the impact on the cultural landscape and the archaeology; and Requests the State Party to address the findings and implement the recommendations of the March 2018 Advisory mission and encourages the State Party to continue to facilitate progress towards an optimal solution for the widening of the A303 with a view to avoiding adverse impact on the OUV of the property.”**
- 12.2.11 **This urgent advice has not been followed**

Highways England response

- 12.2.12 The recommendations of the UNESCO/ICOMOS missions carried out in 2015, 2017 and 2018 and the subsequent decisions of the World Heritage

Committee have been considered carefully and aspects of the design have been altered to address their recommendations. The World Heritage Committee decision with regards to the Scheme not proceeding in its current form refers to the Scheme as was set out at public consultation in March 2018. The Scheme design has evolved substantially since that date, as put forward in the supplementary consultation and following that, the DCO application.

- 12.2.13 UNESCO/ICOMOS recommendations and World Heritage Committee decisions have informed the development of the Scheme throughout its development and its design responds to these including: the route alignment selected as the preferred route avoiding the winter solstice sunset alignment and the bisecting the Diamond Group; setting the road in deep retained cuttings to minimise landtake; determining the length of the tunnel to avoid the Scheduled Monument known as the Avenue (NHLE 1010140) at its eastern end and a Bowl barrow south of the A303 and north west of Normanton Gorse (NHLE 1010832) at its western end – the tunnel length has been extended to 2 miles (or 3km) in length; the further addition of 200m of canopy at the western portal and 85m of canopy at the eastern portal to further extend the tunnel (to almost 3.3km) to aid landscape integration; the optimization of the positions of the tunnel portals at the head of dry valleys in the landscape in order to reduce the length of cutting (and minimise the length of the culvert part of the tunnel in the western approaches); the addition of the 150m long land bridge to maintain physical and visual connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group; the removal of the surface A303 into a tunnel and approach cuttings to reduce noise and improve the tranquillity of the WHS. In order to minimise light spill measures have included no lighting of the new Longbarrow junction or the approach cuttings, new directional lighting at Countess junction replacing the existing non-directional lighting, lighting of the portals and canopies would be designed to minimise light spill out in to the WHS landscape and lighting under the land bridge will only operate during daylight hours. To minimise the visibility of new infrastructure within the WHS signage and other highways installations will sit completely within the approach cuttings and not extend above them. Further information on the missions, including how Highways England has considered the recommendations of UNESCO/ ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.
- 12.2.14 Highways England acknowledges that the Scheme would have some adverse effects on some of the Attributes of OUV. In arriving at an assessment of the overall effect on the OUV of the WHS as a whole, we have also taken into account the very substantial benefits arising from the provision of the 3.3km tunnel.
- 12.2.15 The locations of the eastern and western portals in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no

evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost. Further detailed consideration of a western extension to the tunnel is set out in response to AL.1.29 [REP2-024].

Key Issue

- 12.2.16 **We find the suggestion in the DDCMS' SoCR that Longbarrow Roundabout could not be moved further west and closer to a bored tunnel emerging west of the WHS unconvincing without more detailed information.**
- 12.2.17 **The current proposals for a massive interchange close to the WHS boundary and a deep cutting with overpass beside Longbarrow would be very damaging indeed to the setting and integrity of the WHS itself, quite apart from the settings of individual barrow groups and nearby scheduled monuments. It needs to be borne in mind that the WHS has no buffer zone and a planned setting study has not yet been undertaken.**

Highways England response

- 12.2.18 Detail of the reasoning behind the decision to reject the option to extend the tunnel in a westerly direction can be found in Highways England's response to Written Question AL.1.29 [REP2-024] which includes the following points regarding the option of a bored tunnel emerging west of the WHS and the consequential impact this would have on Longbarrow junction.
1. *The locations of the eastern and western portals in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost.*
 - ...
 14. *The option to extend the bored tunnel beyond the WHS boundary would position the western portal at the first viable location for commencement of the tunnel. This location can be seen on the longitudinal section on sheet 5 of the Engineering Section Drawings Plan and Profiles [APP-010] where, at chainage 5+600, the existing ground levels begin to come down to meet the proposed A303 road level. This would place the western portal immediately west of the current proposed location of Green Bridge No. 3.*
 15. *This option would have a major impact on the location and layout of Longbarrow junction which would require a total redesign in a location further from the existing A360 and closer to Winterbourne Stoke.*
 16. *This option would result in a total tunnel length of 4.885km.*

...

28. *As described above, the location of the Longbarrow junction would have to be moved further west. There would also be similar operational issues with the maintenance cross-over points, as for the cut and cover extension option above. This relocated Longbarrow junction would need to fit between the western portal and the River Till Viaduct. The combination of these two constraints would require the use of a compact, and consequently lower capacity, junction which would not be compliant with standards for the volumes of traffic which would be using the A303.*
29. *The relocated junction would also lead to complications with connectivity to the existing A360, increasing journey times and likely displacing traffic on to the local road network. The A360 itself would be retained in its current position to avoid traffic rat running via unsuitable local roads through nearby communities. This would remove the benefit to the WHS of removing traffic immediately beside the Winterbourne Stoke Crossroads Barrow Group.*

12.3 Cultural Heritage

Key Issue

- 12.3.1 **The A303 Scheme would neither protect nor conserve the WHS; nor would it meet the Government's obligations under the World Heritage Convention.**

Highways England response

- 12.3.2 The removal of the existing A303 surface road from a large part of the WHS landscape will result in extensive benefits for the WHS, including significant reductions in (a) traffic noise, as set out in ES Chapter 9 [APP-047], Section 9.9, and illustrated in Figure 9.4 [APP-167], and (b) visual intrusion, as set out in ES Chapter 7 [APP-045], Section 7.9, as well as greatly increased NMU route connectivity between and through the currently severed halves of the WHS. The removal of congestion from the A303 will also make it much easier for visitors to travel to and from the WHS. The Heritage Impact Assessment (HIA) (ES Appendix 6.1) [APP-195] concludes that overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the Scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on 3 of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the Scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. The OUV of the WHS would be sustained as set out in Section 12.4 of the HIA. As a result of all the

measures it contains, the Scheme will meet its objective to conserve and enhance the WHS and make it easier to reach and explore.

- 12.3.3 In full recognition of its obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972), the Government is making a substantial investment in funding a tunnel past Stonehenge to bring extensive benefits to the WHS. Compliance with UK Legislation and planning policies will be tested through the DCO process. The UK has taken the steps required by Articles 4 and 5 (in particular Article 5) of the World Heritage Convention by putting in place the UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets – namely, the UK's national policy statements, NPPF, Planning Act 2008 provision, and established approach to assessment of impacts on heritage generally and the balancing of factors in decision making. The protection and conservation of world heritage sites is integrated into the comprehensive planning programme in the UK for nationally significant infrastructure projects (as required by the Article 5(a)), and the appropriate measures taken by the UK in legislation and policy surrounding planning decisions including the NPSNN for the protection, conservation, presentation and rehabilitation of world heritage sites (required by Article 5(d)) place great weight on their harm. It follows that the application of the planning balance envisaged in the NPSNN, by the Secretary of State, would be in accordance with Articles 4 and 5. The NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294] demonstrates that the Scheme complies with the requirements of the NPSNN with respect to the WHS.
- 12.3.4 The Applicant considers that the Scheme does not violate the World Heritage Convention. A more detailed response in this respect is provided in Highways England's answer to Written Question G.1.1 [REP2-021].

Key Issue

- 12.3.5 **The World Heritage Convention makes clear that OUV in relation to WHSs is understood to apply overall to properties meeting criteria of the highest cultural or natural importance to mankind.**

Highways England response

- 12.3.6 The Heritage Impact Assessment (HIA) (see Environmental Statement Appendix 6.1, [APP-195]) was prepared in line with the Guidance on Heritage Impact Assessments for Cultural World Heritage Properties adopted by the International Council on Monuments and Sites (ICOMOS 2011), which aims to deliver relevant assessments. The guidance notes that "It should describe the condition of the whole and of individual attributes and components, physical characteristics, sensitive viewpoints and intangible associations which may relate to attributes. This should focus on areas affected in particular but must include a description of the whole".

- 12.3.7 The elements of the WHS that would be affected by the Scheme have been assessed in the Heritage Impact Assessment [APP-195], and therefore the conclusions with respect to the impact on the WHS as a whole and its OUV are for the entire WHS. See the response to Written Question CH.1.4 [REP2-025] for further detail.
- 12.3.8 The benefits of the Scheme associated with removal of the sight and sound of traffic from a large part of the WHS, the opportunity for reconnection of The Avenue, and the provision of a c.150 metre green bridge, are considered in the context of the whole WHS and the many scheduled monuments within it, not just the Stonehenge monument.
- 12.3.9 The scope and approach of the Heritage Impact Assessment, which is reported in ES Appendix 6.1 [APP-195], was endorsed by UNESCO/ICOMOS in their report from their third advisory mission on the Scheme early in 2018 (<https://whc.unesco.org/en/list/373/documents/>). The Applicant considers that the HIA has been carried out accurately and with a full appreciation and understanding of the importance of the WHS and its OUV. Full details of the engagement with ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.
- 12.3.10 The HIA [APP-195], considers the implications of the Scheme in the context of the OUV and the Authenticity and Integrity of the WHS. Section 12.4, concludes that the Scheme will deliver significant beneficial effects for the setting of many scheduled monuments within the WHS, as well as Stonehenge, whilst sustaining the OUV of the WHS. The removal of the A303 from the WHS has been a long- standing aspiration and commitment for the WHS since its inscription in 1986 and through successive WHS Management Plans, including the latest Management Plan for the WHS published in 2015. The HIA concludes that overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained as set out in Section 12.4 of the HIA.

Key Issue

- 12.3.11 **OUV is an intangible concept. Nothing in a WHS is of OUV apart from the designated WHS property. It has become common practice to regard protection of OUV to be synonymous with protection of the WHS and it would certainly be erroneous to separate the two from each other.**

Highways England response

- 12.3.12 Highways England agrees that both the WHS and its OUV must be considered, according to well established procedure for heritage impact assessment. Highways England is concerned to protect and conserve the WHS and sustain its OUV, and has followed the established method by which to assess the impact on the WHS, by assessing the impact on the tangible heritage assets and intangible aspects that convey Attributes of

OUV, the values that make it a WHS. This then leads to an assessment of impacts on the Attributes making up the OUV and ultimately assesses the overall effect on OUV and therefore on the WHS. The Heritage Impact Assessment (HIA) [APP-195] considers the implications of the Scheme in the context of the OUV and the Authenticity and Integrity of the WHS. In accordance with ICOMOS 2011 Guidance, the assessment of Scheme impacts is clearly and directly tied to the attributes of OUV (ICOMOS 2011, P. 1, para. 4).

- 12.3.13 ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195] considers the implications of the Scheme in the context of the OUV and the Authenticity and Integrity of the WHS. In accordance with ICOMOS 2011 Guidance, the assessment of Scheme impacts is clearly and directly tied to the attributes of OUV (ICOMOS 2011, P. 1, para. 4).
- 12.3.14 The HIA [APP-195, Non Technical Summary, p.3] notes that “Heritage Impact Assessment (HIA) is undertaken to evaluate the impact of potential development upon the Outstanding Universal Value (OUV) of World Heritage properties, to evaluate the potential impacts of the Scheme upon Integrity and Authenticity and to inform the development of Scheme design and mitigation measures. This HIA identifies the heritage assets that could be affected by implementation of the Scheme and assesses the potential impact of the proposals on the OUV of the WHS, its Integrity and Authenticity. The HIA focuses on the impact of the Scheme on the OUV of the Stonehenge part of the Stonehenge, Avebury and Associated Sites World Heritage Site (WHS) and the Attributes that convey OUV”.
- 12.3.15 Attributes are aspects of a property which are associated with or express the Outstanding Universal Value. Attributes convey that value and allow an understanding of it. Attributes can be tangible or intangible.). “In order to define the OUV of the WHS, a number of Attributes expressing the OUV have been identified in the WHS Management Plan, derived from the SoOUV (Simmonds and Thomas 2015, 32). These are expressed by physical elements and tangible or intangible aspects that must meet the conditions of Integrity and Authenticity. Attributes are not themselves individually of OUV but together express the OUV of the site (Simmonds and Thomas 2015, 32) and define the reasons for its OUV (Simmonds and Thomas 2015, 261)” [APP-195, p. 5].
- 12.3.16 ICOMOS Guidance on Heritage Impact Assessments (ICOMOS 2001) notes that “World Heritage sites are thus single heritage assets with an international value that has been clearly articulated. Not everything within them contributes to OUV, but those attributes that do must be appropriately protected. This guidance sets out a methodology to allow HIAs to respond to the needs of World Heritage sites, through considering them as discrete entities and evaluating impact on the attributes of OUV in a systematic and coherent way.” (ICOMOS 2011, purpose). “World Heritage properties need to be seen as single entities that manifest OUV. Their OUV is reflected in a

range of attributes, and in order to sustain OUV it is those attributes that need to be protected. Thus the HIA process needs to consider the impact of any proposed project or change on those attributes, both individually and collectively, rather than on a standard range of receptors.” (ICOMOS 2011, p. 1).

- 12.3.17 This was the approach taken in the HIA. The scope and approach of the HIA was accepted by UNESCO/ICOMOS in their report from their third advisory mission on the scheme in early 2018.

Key Issue

- 12.3.18 **The Convention (Articles 1–4) requires each State Party to ‘identify and delineate’ its properties considered to be of OUV and that it is the property that must be conserved and protected.**

Highways England response

- 12.3.19 Highways England notes that the 1972 World Heritage Convention (Article 3) requires each State Party to ‘identify and delineate’ its properties considered to be of OUV and that it is the property that must be conserved and protected. The consideration and assessment of whether the WHS property will be conserved and protected as a result of the Scheme follows ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (ICOMOS 2011) and is informed and determined by an assessment of the impact on OUV. The guidance notes “In the case of WH properties, their international significance is established at the time of inscription and defined as their Outstanding Universal Value (OUV). States Parties undertake to retain and guard this OUV through protecting and conserving the attributes that convey OUV. The Statement of Outstanding Universal Value (SoOUV) which sets out why a property is deemed to have OUV and what the attributes are that convey OUV will be central to the HIA.” (ICOMOS 2011, 2-1-5). “Where cultural heritage sections of EIAs clearly do not focus on the attributes of OUV, they would not meet desired standards in managing change at WH properties.” (ICOMOS 2011, para. 2-1-7). In accordance with ICOMOS guidance, the ES [APP-044] and the HIA [APP-195] have focussed on the attributes of OUV.

Key Issue

- 12.3.20 **UNESCO’s Operational Guidelines explain that it is attributes of OUV that “convey” the OUV of a World Heritage property. None of the attributes is of OUV in itself; it is only together that they give the WHS its OUV significance... it is not individual features of the WHS that are of OUV but their remarkable ensemble, termed in the Statement of OUV as a “landscape without parallel”. Particular care must therefore be taken to protect its attributes of OUV.**

Highways England response

- 12.3.21 The HIA considers the implications of the Scheme in the context of the OUV and the Authenticity and Integrity of the WHS. In accordance with ICOMOS 2011 Guidance, the assessment of Scheme impacts is clearly and directly tied to the attributes of OUV (ICOMOS 2011).
- 12.3.22 The HIA [APP-195, Glossary] notes that “Attributes are a direct tangible expression of the Outstanding Universal Value of the property. At the Stonehenge, Avebury and Associated Sites World Heritage Site, all these attributes are ultimately derived from the 2008 Statement of Significance and the nomination and evaluation documentation of 1985. Taken together the attributes define the reasons for the Outstanding Universal Value of the Stonehenge and Avebury WHS”.
- 12.3.23 “Attributes [...] are vital to understanding authenticity and integrity, and are the focus of protection, conservation and management.” (UNESCO, ICCROM, ICOMOS and IUCN 2011 Preparing World Heritage Nominations. World Heritage Resource Manual. 2nd ed., 31-32).
- 12.3.24 ICOMOS Guidance on Heritage Impact Assessments (ICOMOS 2001) notes that “World Heritage properties need to be seen as single entities that manifest OUV. Their OUV is reflected in a range of attributes, and in order to sustain OUV it is those attributes that need to be protected. Thus the HIA process needs to consider the impact of any proposed project or change on those attributes, both individually and collectively”.

Key Issue

- 12.3.25 **Designated heritage assets (scheduled monuments) and non-designated heritage assets are among the attributes of OUV of the WHS. The WHS itself is of OUV as well as being a designated asset of the highest significance. Heritage assets that are attributes of OUV are the Stonehenge monument and the visible and hidden (below ground) physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites. All these heritage assets contribute to the OUV of the WHS; all of them in combination represent the OUV of the WHS. It is not only their physical remains that are attributes of OUV but also the siting of the funerary and ceremonial monuments in relation to the landscape, the skies and astronomy; their interrelationships with one another; their disposition, along with related sites and monuments of the period, which together form a “landscape without parallel”; and the evident influence of their remains and landscape settings on individuals of successive generations.**

Highways England response

- 12.3.26 Designated and non-designated heritage assets, along with other physical elements and relational elements and tangible or intangible cultural aspects, are not Attributes in themselves: they convey or express Attributes of OUV.

- 12.3.27 The Heritage Impact Assessment (HIA) (see Environmental Statement Appendix 6.1, [APP-195]) was prepared in line with the Guidance on Heritage Impact Assessments for Cultural World Heritage Properties adopted by the International Council on Monuments and Sites (ICOMOS 2011), which aims to deliver relevant assessments. The guidance notes that "It should describe the condition of the whole and of individual attributes and components, physical characteristics, sensitive viewpoints and intangible associations which may relate to attributes. This should focus on areas affected in particular but must include a description of the whole."
- 12.3.28 The elements of the WHS that would be affected by the Scheme have been assessed in the Heritage Impact Assessment (HIA) [APP-195], and therefore the conclusions with respect to the impact on the WHS as a whole and its OUV are for the entire WHS.
- 12.3.29 The HIA is underpinned by a number of joint documents that address both the Stonehenge and Avebury parts, including the retrospective Statement of Outstanding Universal Value (UNESCO 2013), the 2015 World Heritage Site (WHS) Management Plan (Simmonds & Thomas 2015), and the Research Framework for the Stonehenge, Avebury and Associated Sites WHS (Leivers & Powell 2016).
- 12.3.30 The HIA was carried out in accordance with the methodology set out in the HIA Scoping Report, which was endorsed by the Heritage Monitoring and Advisory Group and UNESCO/ICOMOS [APP-195, section 3.3, paras 3.3.4-3.3.6 and REP1-008, Section 5.6].
- 12.3.31 In accordance with ICOMOS 2011 Guidance, the assessment of Scheme impacts is clearly and directly tied to the attributes of OUV (ICOMOS 2011, p. 1, para. 4). As noted in the HIA, "In order to define the OUV of the WHS, a number of Attributes expressing the OUV have been identified in the WHS Management Plan, derived from the SoOUV (Simmonds and Thomas 2015, 32). These are expressed by physical elements and tangible or intangible aspects that must meet the conditions of Integrity and Authenticity. Attributes are not themselves individually of OUV but together express the OUV of the site (Simmonds and Thomas 2015, 32) and define the reasons for its OUV (Simmonds and Thomas 2015, 261)." The HIA specifically assesses the significance of impacts and effects of the existing A303 and the anticipated significance of effect of the Scheme on the Attributes of OUV, Integrity and Authenticity in Section 9.4, which addresses Scheme impacts on the seven Attributes of OUV for the entirety of the WHS. The Attributes of Outstanding Universal Value of the Stonehenge and Avebury World Heritage Site are defined in the Statement of OUV which was formally adopted by the World Heritage Committee in 2013 (UNESCO 2013, 291–94) and are further explained in the 2015 WHS Management Plan (Simmonds and Thomas 2015).
- 12.3.32 The Attributes of Outstanding Universal Value of the Stonehenge and Avebury World Heritage Site are:

1. Stonehenge itself as a globally famous and iconic monument.
 2. The physical remains of the Neolithic and Bronze Age funerary and ceremonial monuments and associated sites.
 3. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape.
 4. The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy.
 5. The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other.
 6. The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel.
 7. The influence of the remains of Neolithic and Bronze Age funerary and ceremonial monuments and their landscape settings on architects, artists, historians, archaeologists and others.
- 12.3.33 “Attributes are a direct tangible expression of the OUV of the property (UNESCO 2017, 100). At the Stonehenge, Avebury and Associated Sites WHS, all these Attributes are ultimately derived from the 2008 Statement of Significance and the nomination and evaluation documentation of 1985. Taken together the Attributes define the reasons for the OUV of the Stonehenge and Avebury WHS. (Simmonds and Thomas 2015, 261).” [APP-195, para. 5.4.2].
- 12.3.34 The HIA assesses the significance of effect of the existing A303 and the anticipated magnitude of change and significance of effects of the Scheme on Asset Groups and discrete and isolated heritage assets expressing Attributes of OUV and on isolated or discrete heritage assets that convey OUV. These include both designated and non-designated heritage assets. It also considers potential impacts and effects on a wide range of aspects related to OUV, including long barrow groupings, archaeological remains, artificial lighting and ambience, astronomical aspects, biodiversity related to the conservation and character of the WHS, the public visibility of monuments, tourism, the visitor economy, changing patterns of access in the WHS, WHS conservation related to changes to tourism, the Avebury part of the WHS, intangible cultural heritage (spiritual aspects and cultural influences) and public understanding of OUV. HIA Section 11 provides an evaluation of the overall impact and significance of effect of Scheme on the OUV of the WHS as a whole.

Key Issue

- 12.3.35 **Notwithstanding the difficulty in understanding precisely what comprises Highways England’s ‘baseline’, it is clear that strong**

emphasis is placed on the current impact of the A303 on the WHS. The HIA demonstrates that impacts of the scheme on monument groups as attributes of OUV affected by the scheme were assessed against the baseline, particularly in respect of the A303, although we don't know exactly what weight was given to the 'do nothing scenario' in measuring and/or balancing impacts.

Highways England response

- 12.3.36 The HIA [APP-195] notes that “The existing A303 is assessed as currently having an adverse effect on the OUV of the WHS. This effect is highlighted in the nomination documents and all three WHS Management Plans. The Scheme aims to address Management Plan objectives regarding the removal of the existing road. Both positive and negative impacts or changes are reported in this HIA. The removal of a current adverse impact from any Attribute so that it no longer exists is a positive impact that is recorded as such in the HIA.” [APP-195, para. 5.4.4]. There was no balancing or contrasting or measuring of the existing A303 and the Scheme against each other. Both are assessed and the impacts are rated so that the reader can compare the two results independently.
- 12.3.37 In the Environmental Statement (ES) Chapter 6 [APP-044], the existing A303 forms part of the baseline against which the proposed Scheme is assessed. The definition of the future baseline and assessment taking into consideration the future baseline scenario has been undertaken in accordance with PINS Advice Note 17 and is presented within the ES technical discipline chapters [APP-043 to APP-052] and ES Chapter 15 Assessment of Cumulative Effects [APP-053]. As stated within paragraphs 15.2.12-15.2.14 of Chapter 15 of the ES, Assessment of Cumulative Effects [APP-053], Wiltshire Council was consulted during preparation of the list of committed or planned developments and responded on 14 February 2018 following a review of the draft list. To keep the list up to date Wiltshire Council was consulted further and responded again on 16 August 2018 to confirm additional developments for consideration within the assessments. These agreed and confirmed developments (listed within Appendix 15-2 [APP-291] of the ES) have been considered and taken into account as part of the assessment process and reported in the ES. The developments (committed and proposed) agreed and included within the Future Baseline Scenario do not include the WHS Management Plan because the proposed changes contained in the Management Plan do not comprise existing and/or approved projects or allocations within local development plan documents and frameworks. The process for identifying development for consideration in the future baseline and the cumulative scenario is provided within para 15.2.8 to 15.2.11 of ES Chapter 15 [APP-053].

Key Issue

- 12.3.38 **Adverse impact of the A303 on the OUV of the WHS is not mentioned in either the nomination document or the Management Plan**

Highways England response

- 12.3.39 The removal of the A303 from the WHS has been a long- standing aspiration and commitment for the WHS since its inscription in 1986 and through successive WHS Management Plans, including the latest Management Plan for the WHS published in 2015.
- 12.3.40 The Statement of Outstanding Universal Value notes under Protection and Management Requirements, that “The A303 continues to have a negative impact on the setting of Stonehenge, the integrity of the property [i.e. the WHS] and visitor access to some parts of the wider landscape”. The Integrity of the property is one of the foundations of its OUV. In the 2015 Management Plan, section 8, The setting of the WHS and its attributes of Outstanding Universal Value, the Management Plan notes, “Roads undoubtedly affect the setting of the WHS and its attributes of OUV”. In section 11.0, Roads and Traffic, Impact of roads and traffic on integrity and setting, the Management Plan notes that, “The A303 divides the Stonehenge part of the WHS landscape into northern and southern sections diminishing its integrity and severing links between monuments in the two parts. It has significant impacts on the setting of Stonehenge and its Avenue as well as many other monuments that are attributes of OUV including a number of barrow cemeteries. The road and traffic represent visual and aural intrusion and have a major impact on the tranquillity of the WHS. Access to the southern part of the WHS is made both difficult and potentially dangerous by the road.

Key Issue

- 12.3.41 **The Management Plan does not have an objective to remove the existing A303, but reduce its impact (principally in relation to traffic) on the WHS.**

Highways England response

- 12.3.42 Resolving the issues associated with the A303 has been a long- standing aspiration and commitment for the WHS since its inscription in 1986 and through successive WHS Management Plans, including the latest Management Plan for the WHS published in 2015.
- 12.3.43 The 2015 Management Plan notes that “Major adverse impacts of development – the major roads A303, A344, A (4)361 and the A4 – were present in 1986. At that time, the Government gave an undertaking to remove the A344 and this was achieved in 2014. These impacts have not largely changed in form though there is now a greater impact from increased

- traffic. More intensive use of the roads has an impact on the visual enjoyment of the Site.” (Simmonds & Thomas 2015, 2.3.28).
- 12.3.44 “Roads and traffic in particular dominate in a number of areas and are visibly and aurally intrusive. At Stonehenge, although considerable progress has been made by the removal of the A344, the A303 (a former 18th-century toll road) and the A360 run straight across the landscape. The traffic impacts negatively on the setting of multiple attributes of OUV including Stonehenge, the round barrow cemeteries on King Barrow Ridge and Winterbourne Stoke Barrows. In addition the A303 and the A345 sever the Stonehenge Avenue and the henge at Durrington Walls respectively in two.” (Simmonds & Thomas 2015, para. 2.2.23).
- 12.3.45 In describing the ongoing impacts of the A303, the 2015 Management Plan notes: “Although the closure of the A344 marks very substantial progress at Stonehenge, the A303 continues to have a major impact on the integrity of the wider WHS, the setting of its monuments and the ability of visitors to explore the southern part of the Site. The A303 divides the Stonehenge part of the WHS landscape into northern and southern sections diminishing its integrity and severing links between monuments in the two parts. It has significant impacts on the setting of Stonehenge and its Avenue as well as a many other monuments that are attributes of OUV including a number of barrow cemeteries. The road and traffic represent visual and noise intrusion and have a major impact on the tranquillity of the WHS. Access to the southern part of the WHS is made both difficult and potentially dangerous by the road. In addition to its impacts on the WHS, reports indicate that the heavy congestion has a negative impact on the economy in the South West and locally and on the amenity of local residents.” (Simmonds & Thomas 2015, para. 11.1.14).
- 12.3.46 Management Plan Policy 6a –Identifies and implements measures to reduce the negative impacts of roads, traffic and parking on the WHS and to improve road safety and the ease and confidence with which residents and visitors can explore the WHS, which includes the following actions:
- 133 Seek a solution to the negative impact of the A303 on the WHS, its attributes of OUV and its setting in order to sustain its OUV and enhance the Site’s integrity. Work with partners to identify such a solution that also addresses current and predicted traffic problems and assists in delivery of social and economic growth.
 - 134 Review the current access to and within the WHS and associated A303 crossing points for non-motorised users with the aim of improving accessibility.
- 12.3.47 The SoOUV states that ‘The A303 continues to have a negative impact on the setting of Stonehenge, the integrity of the property and visitor access to some parts of the wider landscape. A long-term solution remains to be found.’ (UNESCO 2013).

Key Issue

- 12.3.48 **Adverse and positive impacts on attributes of OUV were balanced by Highways England to reach an “overall” view of the impact of the Scheme on the OUV of the WHS, whereas ICOMOS advises, in relation to any balancing, only that**
- 12.3.49 **“it may be necessary to balance the public benefit of the proposed change against the harm to the place. In the case of WH properties this balance is crucial”**

Highways England response

- 12.3.50 The relevant tests for the Examining Authority and Secretary of State in determining whether to grant consent for the Scheme are set out in section 104 of the Planning Act 2008, and as a result of those provisions, the decision maker must decide the application in accordance with the National Policy Statement for National Networks (NPSNN). That requirement is subject to certain exceptions, including under section 104(7) which requires that the application should be determined in accordance with the NPSNN unless the adverse impact of the proposed development would outweigh its benefits. This requires a balancing exercise to be undertaken of the adverse and beneficial impacts of the Scheme.
- 12.3.51 Another exception makes the requirements of the World Heritage Convention relevant to the decision to grant consent. Other prescribed matters and any other important and relevant matters will also be relevant to the decision, including conformity with local planning policy and the WHS Management Plan.
- 12.3.52 There is no requirement in the NPSNN, the World Heritage Convention, local planning policy, the WHS Management Plan or ICOMOS guidance to avoid all adverse impacts on the OUV of the WHS.
- 12.3.53 With respect to the NPSNN requirements, NPSNN is concerned to avoid substantial harm to heritage assets, and includes requirements in relation to the balancing of less than substantial harm against the public benefit of the development. The Scheme’s compliance with the NPSNN requirements is demonstrated in the NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294].
- 12.3.54 Local planning policy compliance is addressed in Appendix B of the Case for the Scheme and NPS Accordance [APP-294].
- 12.3.55 The requirements of the World Heritage Convention and the Scheme’s compliance with those requirements are addressed in response to written question G.1.1 [REP2-021].
- 12.3.56 In full recognition of its obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972) (the World Heritage Convention) the Government is making a substantial

investment in funding a tunnel past Stonehenge to bring extensive benefits to the WHS. The application has been prepared (and the consultation on it undertaken) with due regard to the obligations under the World Heritage Convention. The protection and conservation of World Heritage Sites, in line with the World Heritage Convention, is integrated into the comprehensive UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets. As a result, great weight is given to harm to World Heritage Sites. The application by the Secretary of State of the planning balance envisaged by this framework and, in particular, the NPSNN is in accordance with the WHC.

- 12.3.57 The removal of the existing A303 surface road from the WHS landscape will result in extensive benefits for the World Heritage Site (WHS) including beneficial effects to many heritage assets within the WHS. The cultural heritage assessment for the Scheme can be found in the ES, Chapter 6 [APP-044]. Detailed consideration of the assessment of the scheme in the context of the OUV of the WHS can be found in ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195]. Table 3 in the HIA shows the effects that the Scheme would have on the WHS in relation to its Attributes of OUV, Integrity and Authenticity. The table also shows how the Scheme would benefit the WHS in comparison with the effects of the existing A303. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained.
- 12.3.58 As noted in ES Chapter 6, Cultural Heritage [APP-044, para. 6.11.6], “The OUV of the WHS would be sustained overall by the construction of the Scheme, which would create opportunities for greater public access, and appreciation and enjoyment of the WHS through increased connectivity of key monuments and monument groups north and south of the existing A303. The Scheme would enable beneficial opportunities for transmission of OUV and for increasing the public's awareness, understanding and perception of the OUV of the WHS in a local, regional, national and international context.”
- 12.3.59 In terms of balancing the harm and benefits to attributes of OUV as a result of the Scheme, in order to arrive at an overall effect on the WHS as a whole, the Heritage Impact Assessment has been prepared following ICOMOS guidelines (https://www.icomos.org/world_heritage/HIA_20110201.pdf). The scope and approach of this assessment, which is reported in ES Appendix 6.1 [APP-195], was endorsed by UNESCO/ICOMOS in their report from their third advisory mission on the scheme early in 2018 (<https://whc.unesco.org/en/list/373/documents/>). The Applicant considers that the HIA has been carried out accurately and with a full appreciation and understanding of the importance of the WHS and its OUV, and it considers the approach to balancing the impacts on attributes of OUV in order to reach an overall conclusion in terms of the impact on the OUV of the WHS is appropriate, and necessary in order to inform the tests required to be undertaken by the Secretary of State as set out above.

Key Issue

- 12.3.60 **The 2018 UNESCO/ICOMOS advisory mission implied that the balancing exercise employed by Highways England is incorrect, saying that**
- 12.3.61 ***“ . . . the appropriate ‘test’ is not whether there is a net benefit to OUV, but rather how adverse impact on OUV can be avoided.”***

Highways England response

- 12.3.62 The relevant tests for the Examining Authority and Secretary of State in determining whether to grant consent for the Scheme are set out in section 104 of the Planning Act 2008, and as a result of those provisions, the decision maker must decide the application in accordance with the National Policy Statement for National Networks (NPSNN). That requirement is subject to certain exceptions, including under section 104(7) which requires that the application should be determined in accordance with the NPSNN unless the adverse impact of the proposed development would outweigh its benefits. This requires a balancing exercise to be undertaken of the adverse and beneficial impacts of the Scheme.
- 12.3.63 Another exception makes the requirements of the World Heritage Convention relevant to the decision to grant consent. Other prescribed matters and any other important and relevant matters will also be relevant to the decision, including conformity with local planning policy and the WHS Management Plan.
- 12.3.64 There is no requirement in the NPSNN, the World Heritage Convention, local planning policy, the WHS Management Plan or ICOMOS guidance to avoid all adverse impacts on the OUV of the WHS.
- 12.3.65 With respect to the NPSNN requirements, NPSNN is concerned to avoid substantial harm to heritage assets, and includes requirements in relation to the balancing of less than substantial harm against the public benefit of the development. The Scheme’s compliance with the NPSNN requirements is demonstrated in the NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294].
- 12.3.66 The requirements of the World Heritage Convention and the Scheme’s compliance with those requirements are addressed in response to Written Question G.1.1 [REP2-021].
- 12.3.67 Local planning policy compliance is addressed in Appendix B of the Case for the Scheme and NPS Accordance [APP-294].
- 12.3.68 The 2015 WHS Management Plan (2015, para. 11.1.9) noted that “The stakeholder reference group set up to inform the A303/A30/A358 corridor feasibility study included, among others, representatives from English Heritage, the National Trust, Wiltshire Council and the Chairman of the WHS Partnership Panel. A Technical Working Group was formed specifically to

consider options for A303 improvements between Amesbury and Berwick Down. The Technical Working Group agreed three key outcomes against which options should be tested: the OUV of the WHS is conserved and enhanced; current and predicted traffic problems are comprehensively resolved; and social and economic growth is delivered for local communities and the wider South West. Improvements to the WHS landscape have the potential to contribute to the last through greater access to the landscape and enhanced sustainable tourism opportunities. (Policy 6a/Action 133)". It goes on to note that "Significant developments within the WHS should be assessed using the Guidance on Heritage Impact Assessments for Cultural World Heritage Properties produced by the International Commission for Monuments and Sites [...]".

- 12.3.69 It provides a framework for assessing impacts on the attributes of OUV and the OUV of the WHS itself. In addition, such a significant scheme would need to be assessed against the full range of economic, social and environmental impact criteria as required by the planning system; and would be likely to undergo the Nationally Significant Infrastructure Project planning process".
- 12.3.70 ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (ICOMOS 2011, para. 6.2, https://www.icomos.org/world_heritage/HIA_20110201.pdf) notes that "Every reasonable effort should be made to avoid, eliminate or minimise adverse impacts on attributes that convey OUV and other significant places. Ultimately, however, it may be necessary to balance the public benefit of the proposed change against the harm to the place. In the case of WH properties this balance is crucial".
- 12.3.71 In terms of balancing the harm and benefits to attributes of OUV as a result of the Scheme, in order to arrive at an overall effect on the WHS as a whole, the Heritage Impact Assessment has been prepared following ICOMOS guidelines (https://www.icomos.org/world_heritage/HIA_20110201.pdf). The scope and approach of this assessment, which is reported in ES Appendix 6.1 [APP-195], was endorsed by UNESCO/ICOMOS in their report from their third advisory mission on the Scheme early in 2018 (<https://whc.unesco.org/en/list/373/documents/>). The Applicant considers that the HIA has been carried out accurately and with a full appreciation and understanding of the importance of the WHS and its OUV, and it considers the approach to balancing the impacts on attributes of OUV in order to reach an overall conclusion in terms of the impact on the OUV of the WHS is appropriate, and necessary in order to inform the tests required to be undertaken by the Secretary of State as set out above.
- 12.3.72 Overall, the Scheme would have a slight beneficial effect on the WHS as a whole and would sustain the Outstanding Universal Value of the WHS as summarised in Section 12.4 of the Heritage Impact Assessment, in ES Appendix 6.1, HIA [APP-195].

Key Issue

- 12.3.73 **No separate examination appears to have been undertaken of the scale and severity of the physical, visual and other impacts of the scheme on the WHS itself and its setting (the “landscape without parallel”).**

Highways England response

- 12.3.74 An evaluation of the overall impact and significance of effect of Scheme on the OUV of the WHS, including physical, visual, noise, setting and other impacts, is presented in the Heritage Impact Assessment (HIA) [APP-195, section 11]. The HIA considers and assesses the impact of the Scheme on Attributes of the OUV of the WHS, including the setting and relationships between the monuments within the visual envelope of the WHS. ES Chapter 6, Cultural Heritage [APP-044], reports impacts on all designated and non-designated heritage assets, including the Stonehenge, Avebury and Associated Sites WHS. These are informed by ES Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218], and draws on data from other technical disciplines including: Air Quality; Biodiversity; Geology and Soils; Landscape and Visual; Noise and Vibration; Road Drainage and the Water Environment; Material Assets and Waste; Traffic; People and Communities; Climate; and the highways and tunnel design (as confirmed at Environmental Statement Chapter 6 - Cultural Heritage, para 6.3.8 [APP-044], as well as at Chapter 15 – Assessment of Cumulative Effects, para 15.2.17 [APP-053]).

The impact of the scheme on the WHS site as a whole has been considered. However, this exercise is not severable from the exercise of assessing the impact of the scheme on the OUV of the WHS. The significance of the WHS is reflected via its OUV. Hence, an assessment of the OUV is essential to understanding the impact on the whole WHS site. As explained in response to written question CH.1.4 [REP2-025], the elements of the WHS (and those outside it) that would be affected by the Scheme have been assessed in the Heritage Impact Assessment [APP-195], and therefore the conclusions with respect to the impact on the WHS as a whole and its OUV are for the entire WHS.

Key Issue

- 12.3.75 **It isn’t certain, in this context [that of Attribute 6], how far ICOMOS’ pertinent advice was followed:**
- 12.3.76 **“In the process of identifying direct impacts care must be taken of the development technique of gaining approvals by just avoiding direct impact - impacts which just “miss” physical resources can be just as negative to a single resource, a pattern, ensemble, setting, spirit of place etc.”**

Highways England response

- 12.3.77 Attribute 6 refers to “The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel”.
- 12.3.78 The Scheme has been carefully designed to avoid direct impact wherever possible. Notwithstanding, the setting of heritage assets and Asset Groups and their inter-connections (physically and visually), including the impacts of the Scheme upon their setting, are all considered as part of the Environmental Statement Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218] and the HIA [APP-195, Sections 6.9 and 6.10] alongside other factors [APP-199; APP-200; APP-201; APP-202; APP-203 and APP-204].
- 12.3.79 The applicant therefore considers that the ICOMOS guidance at paragraph 5-4 of the Guidance on Heritage Impact assessments for Cultural World Heritage Properties has been followed.
- 12.3.80 Paragraphs 9.4.34 – 9.4.37 of the HIA [APP-195] set out the assessment of the impacts of the Scheme on Attribute 6 (The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel) that conveys the OUV of the WHS, concluding that overall, it is anticipated that the Scheme would have a Negligible Positive impact on this Attribute of OUV, resulting in a Slight Beneficial effect.

Key Issue

- 12.3.81 **Highways England does refer to ICOMOS’ advice that “Proposals should be tested against existing policy frameworks and the management plan for the property and surrounding area”**
- 12.3.82 **but fails to follow this advice in relation to protective policies for the WHS, including those in the Management Plan.**

Highways England response

- 12.3.83 The Scheme has been assessed against policies relevant to the WHS including those in the Management Plan.
- 12.3.84 In full recognition of its obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972) (the World Heritage Convention) the Government is making a substantial investment in funding a tunnel past Stonehenge to bring extensive benefits to the WHS.
- 12.3.85 The application has been prepared (and the consultation on it undertaken) with due regard to the obligations under the World Heritage Convention.
- 12.3.86 The protection and conservation of World Heritage Sites, in line with the World Heritage Convention, is integrated into the comprehensive UK legal and policy framework in connection with the assessment and consideration

of harm to heritage assets. As a result, great weight is given to harm to World Heritage Sites. The application by the Secretary of State of the planning balance envisaged by this framework and, in particular, the NPSNN is in accordance with the World Heritage Convention. For further detail, please see the response to Written Question G.1.1 [REP2-021].

- 12.3.87 With respect to the NPSNN requirements, the Scheme's compliance with the NPSNN requirements is demonstrated in the NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294]. Local planning policy compliance is addressed in Appendix B of the Case for the Scheme and NPS Accordance [APP-294].
- 12.3.88 The Heritage Impact Assessment (HIA) [APP-195] (submitted as part of the application) assesses the impact of the proposed Scheme on the Attributes that convey the OUV of the WHS, their Integrity and Authenticity, as well as the alignment of the Scheme with the vision, aims and policies of the 2015 WHS Management Plan and the criteria for the site's inscription as a WHS. The HIA concludes that the overall effect on the OUV of the WHS would be slight beneficial and the OUV will be sustained by the construction of the Scheme.
- 12.3.89 In terms of the WHS Management Plan, Aim 6 within Section 11 of the Plan is to "Reduce significantly the negative impacts of roads and traffic on the WHS and its attributes of OUV and increase sustainable access to the WHS". Section 11 actually anticipates and presumes the construction of a tunnel at least 1.8 miles (2.9km) long, subject to assessment, to achieve this aim, and does not preclude new construction within the WHS to achieve Aim 6. Moreover, the cultural heritage assessment, reported in ES Chapter 6 [APP-044], and the accompanying heritage impact assessment, in ES Appendix 6.1 [APP-195], set out the effects of the Scheme on the WHS and the overall benefits it will deliver.

Key Issue

- 12.3.90 **UNESCO and UK planning guidance and policy on WHSs place emphasis on the protection not only of the Site but also of its setting.**
- 12.3.91 **Unlike WHSs nominated nowadays, the Stonehenge WHS has no buffer zone for which "A clear explanation of how the buffer zone protects the property should also be provided." Nevertheless, Government assures us that**
- 12.3.92 **"England protects its World Heritage Sites and their settings, including any buffer zones or equivalent, through the statutory designation process and through the planning system".**

Highways England response

- 12.3.93 The Scheme design has been developed having regard for the potential impact of the Scheme on the World Heritage Site and its OUV. The preferred

route for the Scheme was selected to sustain OUV, by avoiding the archaeological remains, important sites and monuments that contribute to the OUV of the WHS, and the setting of the WHS. Subsequent careful and sensitive design development, including mitigation measures to limit or avoid impacts, has been informed by ES Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218] and ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195]. Further details of how the Scheme has been developed to avoid and minimise adverse impacts on cultural heritage and to protect or enhance the setting of the WHS are provided in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Embedded Mitigation, and Table 6.9.

- 12.3.94 The Scheme design has been developed having regard for the potential impact of the Scheme on the World Heritage Site and its OUV. The preferred route for the Scheme was selected to sustain OUV, by avoiding the archaeological remains, important sites and monuments that contribute to the OUV of the WHS, and the setting of the WHS. Subsequent careful and sensitive design development, including mitigation measures to limit or avoid impacts, has been informed by ES Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218] and ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195]. Further details of how the Scheme has been developed to avoid and minimise adverse impacts on cultural heritage are provided in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Embedded Mitigation, and Table 6.9.
- 12.3.95 As noted in the HIA, “The statement on Integrity contained within the SoOUV states that the ‘Provision of buffer zones or planning guidance based on a comprehensive setting study should be considered to protect the setting of both individual monuments and the overall setting of the property’. Although these measures have been considered on several occasions (Simmonds and Thomas 2015), no formal setting study or dedicated guidance has yet been prepared, and no buffer zones have been established” [APP-195, p. 293]. The HIA notes, at paragraph 5.10.4, that “A minor boundary review at the Stonehenge part of the WHS began in 2012, but is still in progress and will be reviewed following the preparation of a WHS Setting Assessment. It was agreed that monuments that were not visible from the immediate vicinity of the WHS and distant features should not be included. The review considers, having regard to the advice in the Management Plan, well-preserved Neolithic or Early Bronze Age sites nominated in the original statement of significance (e.g. Robin Hood’s Ball, long barrows) but located beyond the present boundary, and physically related archaeological features that contribute to OUV.” These are considered in the HIA [APP-195, para.6.9.38 sqq.]. The applicant has taken very seriously its duty to identify those Asset Groups that may contribute to the OUV of the WHS that sit either partially outside or wholly outside the existing boundary of the WHS. These were identified at an early stage and confirmed, in consultation with the Heritage Monitoring and Advisory Group (HMAG) and the Stonehenge

and Avebury WHS Coordination Unit, in order to consider the impacts of various options.

- 12.3.96 The protection of OUV and the authenticity and Integrity of the WHS are key considerations in assessing proposals within the site or its setting. The HIA considers and assesses the impact of the Scheme on Attributes of the OUV of the WHS, including the setting and relationships between the monuments within the visual envelope of the WHS (but which sit outside the WHS); attributes of setting are considered throughout the baseline description and assessment of Scheme impacts and effects. The Heritage Impact Assessment (HIA), as set out in ES Appendix 6.1, HIA [APP-195], considers the implications of the Scheme in the context of the OUV and the authenticity and Integrity of the WHS. The HIA concludes that overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained as set out in Section 12.4 of the HIA.

Key Issue

- 12.3.97 **Non-designated archaeological heritage assets affected by the Scheme include the Mesolithic Blick Mead, the setting of which would be adversely affected by the planned Countess flyover. The flyover would be constructed partly alongside the excavated site areas but the full extent of the site is unknown: it might lie along the river bank under the present A303 embankment and into the valley beyond it. If so, the flyover would be constructed right over part of it, potentially impacting on the archaeology.**

Highways England response

- 12.3.98 The Scheme would have no adverse impact on Blick Mead. Where it passes by Blick Mead, the scheme has been kept within the current highway boundary at the level of the existing A303 and would not touch the Blick Mead site. As there is no direct physical impact from the scheme, a full programme of archaeological assessment is not required. In addition, the scheme's potential impacts on groundwater levels and flows (including consideration of surface rainwater run-off to outfalls in the area of Blick Mead) have been assessed and the assessment shows there would not be any adverse effect on spring flows and the overall water regime at Blick Mead. Further information can be found in ES Appendix 6.8, Table 1.2 [APP-217], and ES Appendix 11.4, Annex 3, Blick Mead Tiered Assessment [APP-282].
- 12.3.99 It is not considered that the Scheme would impact upon the setting of the Blick Mead archaeological site. The Setting Assessment found that "There would be an impact on the northern boundary and part of the eastern boundary of Amesbury Abbey RPG as a result of the Scheme. However, that impact would not extend far into the RPG due to screening provided by the dense vegetation that covers the majority of the northern part of the asset.

The settings of the majority of assets [including the Blick Mead archaeological site] within the park would be unchanged as a result of the Scheme" [APP-218, para. 3.4.10]. The Setting Assessment further found that "The Scheme would run from west to east to the north of the northern boundary of the park, taking much the same route as the current A303 apart from the approach to the eastern tunnel portal to the north of Vespasian's Camp in the north-west corner of the park. Here, the new road would run in cutting (Amesbury cutting), climbing gently to the east towards the proposed new grade separated Countess junction in the location of the present Countess Roundabout. The junction would comprise a flyover (Countess Flyover) across the centre of the current roundabout with bridges over the carriageways of Countess Road and ramps (Countess eastern and western diverges) to the east and west. The flyover would be provided with acoustic fencing to both sides. The majority of the park [including the Blick Mead archaeological site] would be screened from the Scheme by the natural landform and the dense vegetation along the northern boundary of the park to the west of the proposed new grade separated Countess junction." [APP-218, pp. 127-128].

- 12.3.100 Land between the Blick Mead site and the Scheme is heavily wooded which provides visual screening of Blick Mead. The road would be at grade as it passes the Blick Mead site to the north, as is the existing A303. Blick Mead's current setting, as it is experienced today, is characterised by the wooded parkland landscape of Amesbury which restricts views in and out. This setting, and its relationship to the existing road, would not change through the construction of the Scheme. The flyover as it crosses over the current Countess Roundabout is located c.470m to the east-north-east and is visually screened from the site by woodland.
- 12.3.101 With reference to the unknown extent of the site, ES Appendix 10.1 Preliminary GI Report [APP-273] notes at paragraph 5.4.2 that, 'Alluvium in the River Avon has, in general, been found to comprise soft peat overlying silty and clayey deposits. The peaty clay or peat layers were only encountered in the 1965 historical ground investigation [...] the larger part of the peaty deposits is likely to have been removed during the construction of the A303 works at and around Countess Roundabout in the late 1960s. This suggestion appears to be supported by the lack of findings of peaty deposits in the post-1960s ground investigations carried out in the same area'. It is likely that such removal will also have removed archaeological remains associated with the peaty material.

Key Issue

- 12.3.102 **In view of the obvious importance of Blick Mead, there might be a case... in the future (following consultation) to be made for extension of the periods covered by the WHS designation to include the Mesolithic.**

Highways England response

- 12.3.103 The 2008 Statement of Significance (Young, Chadburn and Bedu 2009), the 2013 SoOUV (UNESCO 2013), and the 2015 WHS Management Plan (Simmonds & Thomas 2015) do not indicate any proposals to revise the WHS inscription to include the Mesolithic period.
- 12.3.104 The HIA [APP-195, paras. 5.7.17-18] notes that “The 2015 WHS Management Plan notes that ‘In addition to the Outstanding Universal Value, which gives the Site its international significance, there are other national and local values which have to be taken into account in management decisions. These are set out in the two management plans for Stonehenge and Avebury. They include the archaeological and historical significance of other periods from the Mesolithic onwards, continually augmented by new discoveries, social value and local needs, educational resource, ecological value, tourism, agriculture and other economic activities.’” These other values are not pertinent to OUV, and therefore are beyond the remit of the HIA. They are considered within the ES as follows:
- a. Heritage assets of national and local value and other periods are considered in ES Chapter 6, Cultural Heritage.
 - b. Ecological value is considered in ES Chapter 8, Biodiversity.
 - c. Social value and local needs, educational resource, tourism, agriculture and other economic activities are considered in ES Chapter 13, People and Communities and in the Economic Case of the Outline Business Case (OBC).
- 12.3.105 As noted in the HIA [APP-195, para 5.10.29], “The SoOUV clearly sets out that those sites that contribute to OUV relate to monuments built c. 3700 to 1600 BC i.e. the Early Neolithic to the Early Bronze Age (inclusive). The following assets do not convey the Attributes of OUV defined in the SoOUV. For this reason, they have been scoped out of the HIA. They are, however, considered in the ES (Highways England 2018):
- a. Mesolithic sites, including four large early Mesolithic post settings west of Stonehenge on the site of the previous Stonehenge car park (Wiltshire HER MWI12433), lithic and faunal evidence for sustained or repeated Mesolithic activity at the spring line at Blick Mead (MWI74473 and MWI74449) and other Mesolithic finds identified within the WHS, including findspots of worked stone [...]”.

Key Issue

- 12.3.106 **The proposed Countess flyover and widened cutting for new dual carriageways would impact on the immediate setting of a number of designated heritage assets: Grade I Listed Amesbury Abbey, its Grade II* Listed garden structures, and Grade II* Registered park and garden.**

Highways England response

12.3.107 It is not considered that the Scheme would impact upon the setting of the Grade I Listed Amesbury Abbey, its Grade II* Listed garden structures, and Grade II* Registered park and garden. The Setting Assessment (Environmental Statement Appendix 6.9 [APP-218]) found that "There would be an impact on the northern boundary and part of the eastern boundary of Amesbury Abbey RPG as a result of the Scheme. However, that impact would not extend far into the RPG due to screening provided by the dense vegetation that covers the majority of the northern part of the asset. The settings of the majority of assets [including the Blick Mead archaeological site] within the park would be unchanged as a result of the Scheme" [APP-218, para. 3.4.10].

Key Issue

12.3.108 **The setting of Vespasian's Camp in the Grade II* Amesbury Abbey Registered park and garden, an important 18thC garden viewing point and ... scheduled monument (an Iron Age hillfort with remains of earlier barrows), would be further compromised by the visual impact of new (and older) road engineering, including tunnel portals. It can be assumed that there were intended 18thC views southeastward of the garden and parkland, also north and westward to King Barrow Ridge and the "Nile Clumps". These views could be restored should the tree cover be removed at some future time.**

Highways England response

12.3.109 The WHS contains a large number of both archaeological and historic assets, many of which are important in their own right, although not attributes of its OUV. These come from both earlier and later than the period for which the WHS is listed (3700 to 1600 BC). Some are of national importance – such as the Iron Age hillfort of Vespasian's Camp, and Amesbury Abbey Park and Garden.

12.3.110 Until the 18th century the extent of woodland around Stonehenge seems to have been minimal. The clumps of trees on ridgelines which we now associate with this landscape were a product of planting in the 18th and 19th centuries. The park and garden at Amesbury Abbey, which once stretched as far as King Barrow Ridge incorporated the planting on Vespasian's Camp and the 'Nile Clumps' which date to this period.

12.3.111 There is a setting assessment for Vespasian's Camp (AG32) in Appendix 6.9 Cultural Heritage Setting Assessment [APP-218].

12.3.112 The A303 runs immediately to the north of Vespasian's Camp (c. 25m from the edge of the monument's ramparts and the woodland that envelops them). Due to the ubiquitous tree cover, traffic is visible only at the northern fringe of the group – an inaccessible viewpoint in the modern day; it is not visible from the paths which run slightly further inside the woodland, at distances of 50m and greater from the road. Traffic noise is very apparent in

the more northerly parts of the monument, diminishing southwards with distance, the latter retaining a far more tranquil setting.

- 12.3.113 Where it crosses the northern tip of Vespasian's Camp, the Scheme would adopt a nearly identical surface alignment to the present A303. The woodland to the east of the group would preclude any views of the Countess flyover. Traffic volume and noise – and its perception from within Vespasian's Camp – would remain as per the current baseline.
- 12.3.114 Between the eastern tunnel portal and Countess junction, a combination of re-using the existing dual carriageway, moving the new road to the north of the existing alignment, and providing a cut and cover section of tunnel will mitigate potential impacts on the setting of Vespasian's Camp such that there would be no permanent adverse effects. During construction, as a result of the construction of the main carriageway and eastern tunnel portal, there would be a slight adverse, and so non-significant, effect on Vespasian's Camp due to aural impact, as reported in ES Appendix 6.8, Table 1.1 [APP-217].

Key Issue

- 12.3.115 **NPPF Policy 194 similarly applies in the case of the settings of Grade II Listed Countess Farmhouse and barns which would be affected by the proximity of the flyover, the noise of traffic, and vehicle lights at night, creating a wholly incongruous and inharmonious backdrop.**

Highways England response

- 12.3.116 Effects of the Scheme to the Farmhouse and barns are set out on pages 136 and 137 of the Cultural Heritage Setting Assessment [APP-218]. This includes reference to the Noise and Vibration Assessment [APP-047].
- 12.3.117 The Scheme design has sought to reduce impacts from the flyover, by providing a more 'natural setting' to Countess Farm than other options which were considered during the design process, as set out in the response to Written Question AL.1.28. Additionally, acoustic barriers have been located on the flyover, along with new planting at Countess Roundabout and between the flyover and the slip roads.
- 12.3.118 During the construction phase, heritage assets in the vicinity of the Countess roundabout would be afforded protection through measures to control noise, dust, and artificial lighting contained within the Outline Environmental Management Plan (a revised version of which is submitted at Deadline 3) section PW-CH1 relating to the Heritage Management Plan.
- 12.3.119 Whilst the NPPF policies will be a material consideration in the decision whether to grant consent for the Scheme, the application is required to be decided in accordance with the National Policy Statement for National Networks (NPSNN). The NPSNN includes a similar policy to 194 at paragraph 5.131 with respect to substantial harm to or loss of a designated

heritage asset, and that such harm should be exceptional in the case of Grade II listed properties. The Scheme's compliance with the NPSNN requirements is demonstrated in the NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294]. In particular, with respect to paragraph 5.131, Appendix A records that "Section 6.12, Chapter 6 Cultural Heritage of the Environmental Statement [APP-044] concludes the assessment does not identify any instance of 'substantial harm' or total loss of significance to any designated asset."

Key Issue

- 12.3.120 **Section 66 of the Planning (Listed Buildings and Conservation Areas Act) 1990 ought to apply in the decision-making process in relation to the setting of the Listed buildings, also the setting of the Amesbury Conservation Area bordered by the flyover and widened dual carriageway. The expectation in the case of the Conservation Area is that development affecting it will preserve or enhance its character but the Scheme would obviously achieve neither of these aims.**

Highways England response

- 12.3.121 Given the application is to be decided pursuant to the Planning Act 2008, the applicable provision will be Regulation 3 of the Infrastructure Planning (Decisions) Regulations 2010. Regulation 3 puts a duty on the decision maker to have regard to the desirability of preserving the setting of a listed building, to the desirability of preserving or enhancing the character or appearance of a conservation area, and to the desirability of preserving a scheduled monument or its setting.
- 12.3.122 Full details of the cultural heritage assessment in relation to these sites can be found in ES Chapter 6 [APP-044]. The construction of the flyover at Countess will result in a permanent significant adverse effect on the setting of the Grade II-listed buildings at Countess Farm, as set out in paragraph 6.9.26. Impacts will be reduced through planting and provision of noise barriers along the raised section of flyover. There will be permanent non-significant adverse effects arising from changes to the settings of Amesbury Abbey Registered Park and Garden, and Amesbury Conservation Area, paragraph 6.9.19.
- 12.3.123 The duty pursuant to regulation 3 has to be read alongside section 104 of the Planning Act 2008, which requires the decision maker to decide the application in accordance with the National Policy Statement for National Networks (NPSNN), and compliance with the relevant provisions of the NPSNN with respect to these designated heritage assets would satisfy the requirements of Regulation 3. The NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294] demonstrates that the Scheme complies with the requirements of the NPSNN. As set out in paragraph 7.3.3 of the Case for the Scheme and NPS Accordance, with respect to the regulation 3 duty, "Appendix A also notes that there will be: no

instance of ‘substantial harm’ or total loss of significance to a designated asset; some limited instances of less than substantial harm to the significance of heritage assets relating to negative changes to their setting; and beneficial and significant beneficial effects on designated heritage assets and Asset Groups respectively. Appendix A concludes that the beneficial effects on the setting of the WHS, the Conservation Area and designated heritage assets, together with the need for the Scheme and the wide ranging and long term benefits it will deliver, are more than sufficient to outweigh any limited adverse impacts on the setting of a small number of designated assets. The Secretary of State’s obligation to have regard to the desirability of preserving listed buildings, conservation areas and scheduled monuments and their settings, where the development would affect these, is considered to have been addressed in this respect.” Of particular relevance in this respect are paragraphs 5.131 – 5.134 of the NPSNN and the corresponding entries in Appendix A of the Case for the Scheme and NPS Accordance [APP-294] which demonstrate compliance with those requirements.

Key Issue

- 12.3.124 **The Scheduled prehistoric boundary monument SE of the present Longbarrow Roundabout apparently continues (unscheduled) northwestward, beyond the roundabout, through an area where a Bronze Age settlement is already compromised and partially destroyed by road engineering. The Scheme would cut through the (unscheduled) part of the boundary and further compromise the BA settlement.**

Highways England response

- 12.3.125 The Bronze Age settlement was removed during construction of the present roundabout in 1967. The excavation revealed four circular features thought to be Late Bronze Age huts in the area of the roundabout and a number of pits south of the A303 (Heritage Impact Assessment, Environmental Statement Appendix 6.1, p. 451 [APP-195]). Archaeological evaluation on the line of the realigned A360 northwest of the existing Longbarrow roundabout identified Bronze Age features suggesting activity on the periphery of a more densely-occupied area to the east [REP1-042, 043]. The later prehistoric boundary monument would be impacted by the Scheme in two unscheduled locations, immediately east of the existing A360 and on the line of the realigned A360 northwest of the existing Longbarrow roundabout [see REP1-042, 043, 045, 046]. The effects are set out in ES Appendix 6.8 [APP-217, UID 2014.02 and 2076].

Key Issue

- 12.3.126 **The Winterbourne Stoke barrow group extends west of the A360, close to the proposed construction compound and link road.**

Highways England response

- 12.3.127 It is not considered that the Bronze Age enclosure and bowl barrow 100m west of Longbarrow Cross Roads on Winterbourne Stoke Down (scheduled monument 1011048) forms part of Asset Group 12, Winterbourne Stoke Crossroads Barrows. The Winterbourne Stoke Crossroads Barrows asset group is a barrow cemetery focussed on the ridge line. The focal point and origin of the cemetery is a long barrow, its long axis orientated along the ridge on which the cemetery later developed. The majority of the barrows within this group survive as prominent earthworks. The Asset Group is one of several 'conspicuous barrow' cemeteries in the Stonehenge landscape including Normanton Down (AG19) and Old and New King Barrows (AG26) which share inter-visibility between themselves. These monuments appear to have a strong association with other local monuments and are often found in linear cemeteries. The extant earthworks within the group form a striking feature in the landscape.
- 12.3.128 Scheduled monument 1011048 has no surface expression and has partly been destroyed and severed in two by the construction of the current A303. The scheduled area incorporates an enclosure situated to the south-west of the Winterbourne Stoke Crossroads barrow cemetery and an associated Bronze Age settlement which was removed during construction of the present roundabout in 1967. Also within the north-west part of the enclosure is a levelled bowl barrow which survives as a buried feature of 20m overall diameter. The enclosure is visible on aerial photographs and was confirmed by geophysical survey. Its location is inter-visible with Winterbourne Stoke Crossroads Barrows and the Diamond Group, which has relevance in respect of the bowl barrow included within this scheduling. However, while constituting an archaeological setting, these connections do not greatly add to the understanding or appreciation of this asset. Scheduled monument 1011048 is considered in the HIA as a discrete designated heritage asset, topographically isolated from Asset Group 12 as it is not located on the ridge line [APP-195, pp. 451-2].

Key Issue

- 12.3.129 **The OUV of a WHS is inseparable from the WH property.**

Highways England response

- 12.3.130 As indicated in ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (2011), "The concept of OUV underpins the whole World Heritage Convention and all activities associated with properties inscribed on the List. The World Heritage Convention, for the protection of World's Cultural & Natural Heritage, which came into being in 1972, recognises properties of 'Outstanding Universal Value' which are part

of the “world heritage of mankind as a whole” and deserve “protection and transmission to future generations”. Such properties are recognised through inscription on the World Heritage list by the World Heritage Committee, which consists of representatives from 21 States Parties. Their OUV is fixed by the World Heritage Committee at the time of inscription and since 2007 has been encapsulated in a Statement of OUV. OUV thus defines the thinking at the time of inscription and is non-negotiable. The World Heritage Convention is ratified by States Parties, who agree to conserve properties on their territories that are seen to be of OUV, and thus contribute towards protecting the shared heritage of humanity. This means that OUV needs to be sustained over time through the protection of attributes that are seen to convey OUV. World Heritage sites are thus single heritage assets with an international value that has been clearly articulated. Not everything within them contributes to OUV, but those attributes that do must be appropriately protected.”

Key Issue

- 12.3.131 **The A303 Scheme would [involve]... portals exiting into wide and deep cuttings through the “landscape without parallel”, ... [and] massive grade separated junctions at its boundaries. This would result in major reconfiguration of substantial parts of the WHS [with] irreparable damage to ...the present archaeological landscape and its setting ... adding another modern highway scar across the WHS ... compromising enjoyment and understanding of the WHS by future generations. There would be a devastating impact on the exceptional character of the WHS landscape and its setting that the “mitigation” proposed would be absolutely unable to disguise. These permanent impacts would be visible within the WHS, including from key viewpoints such as barrows in the western part of the WHS and (overlooking the great scars of two dual carriageways) the... Avenue and Vespasian’s Camp in the east.**

Highways England response

- 12.3.132 The preferred route was carefully chosen to minimise effects on archaeology, and a comprehensive programme of archaeological evaluation surveys has informed the Scheme being designed in a way that has limited any direct physical impacts as far as practicable. Design development has benefited from extensive mapping and modelling, to inform both the Landscape and Visual Impact Assessment and the Heritage Impact Assessment (ES Chapter 6, Cultural Heritage, Appendix 6.1, paragraph 5.2.10). The interpretation of OUV and the scope and approach of the assessment, which is reported in ES Appendix 6.1, Heritage Impact Assessment [APP-195] (HIA), was endorsed by UNESCO/ICOMOS in their report from their third advisory mission on the scheme in early 2018. Further, the HIA also included extensive site-based walkover surveys to verify and

ground truth the inter-relationships and inter-visibility between monuments and monument groups that contribute to the OUV of the WHS, as set out in 5.3 of the HIA.

- 12.3.133 The approach to integrating the new road into the existing landscape is set out in the Design and Access Statement [APP-295]. As secured by paragraph 8 of Schedule 2 to the draft development consent order [REP2-003], the appointed contractor will be required to develop a landscaping scheme which is based on the landscaping approach set out in the DCO. This approach includes the provision of bunds and false cuttings, with sympathetic regrading of earthworks to match the existing natural rolling landform, along with planting of trees, where appropriate to the landscape character, hedgerow, shrub and extensive chalk grassland areas. The approach is described in the Environmental Statement (ES) Chapter 7, Landscape and Visual [APP-045] section 7.8, Design, Mitigation and Enhancement Measures and is shown indicatively on the Environmental Masterplan in Appendix 2.1 of the ES [APP-059].
- 12.3.134 The Scheme would not compromise the enjoyment and understanding of the WHS for future generations. The Scheme will create opportunities for greater public access, and appreciation and enjoyment of the WHS through increased connectivity of key monuments and monument groups north and south of the existing A303. The Scheme will enable beneficial opportunities for transmission of OUV and for increasing the public's awareness, understanding and perception of the OUV of the WHS in a local, regional, national and international context. The Detailed Archaeological Mitigation Strategy (DAMS) submitted at Deadline 2 [REP2-038] (secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]) requires that a comprehensive publication and dissemination programme be developed in parallel with the strategy for Public Archaeology and Community Engagement, to deliver a lasting legacy from the archaeological investigation and recording works undertaken for the Scheme. The publication and dissemination programme will be developed in consultation with the Heritage Monitoring and Advisory Group (HMAG) and the public archaeology strategy will link to the work of Highways England's A303 Benefits and Legacy Forum and Benefits Steering Group, which will look to work with partner organisations to develop the Scheme legacy and benefits as the Scheme develops, tying in to the priorities set out within the 2015 WHS Management Plan (see section 8.2, Outline Publication and Dissemination Proposals, and Appendix F, Public Archaeology and Community Engagement Strategy of the DAMS).

Key Issue

- 12.3.135 **The Stonehenge WHS [should not be seen or understood] as simply a collection of individual or groups of historic assets or OUV attributes and their settings but a unique landscape that retains a visible and invisible palimpsest of prehistoric (and later) activity within it – but of**

exceptional interest for the remarkable survival of its prehistoric remains.

Highways England response

- 12.3.136 The assessment of the WHS has taken account of its wider context and significance, beyond “simply a collection of individual or groups of historic assets of OUV attributes”.
- 12.3.137 The HIA [APP-195, para. 5.3.18] notes that “In accordance with the advice on Integrity in the Operational Guidelines (UNESCO 2017), the setting assessment considers the ‘Relationships and dynamic functions present in cultural landscapes, historic towns or other living properties essential to their distinctive character should also be maintained.’ (UNESCO 2017, para. 89).” ES Appendix 6.9, Setting Assessment [APP-218] notes that “Landscape integrity is [...] viewed as an original attribute of setting and one whose retention or restoration is desirable and positive.” [APP-218, para. 3.6.4]. The setting assessment follows Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets, 2nd Edition (GPA3; Historic England 2017), and notes that “‘archaeological setting’ is discussed in terms of a persistent presence in the landscape (e.g. palimpsest street patterns or fieldscapes that preserve an older imprint), relationships with the surrounding topography, and between the sites of buried assets” [APP-218, para. 3.6.5].
- 12.3.138 The Attributes of OUV stress the importance of the siting of the sites and monuments in relation to the landscape, in relation to the skies and astronomy, in relationship to each other, and their siting, physical remains and setting that together form a landscape without parallel. For landscape elements not of Early Neolithic to mid-Bronze Age date, the assessment has regard to historic landscape character and the impact of the Scheme upon it in ES Chapter 6, Cultural Heritage Section 6.9 [APP-044], informed by ES Appendix 6.6 Historic Landscape Baseline Report [APP-215].

Key Issue

- 12.3.139 **Although we may never know the full history of man’s intentions for and use of this landscape, its importance is internationally recognised and safeguards have been put in place to protect it and its setting. Large-scale intervention of the kind now proposed would destroy... parts of... and experience of the WHS ... but also potentially significant but yet unknown tangible and intangible elements of the place that had purpose and meaning for those who lived, worked and came to visit here.**

Highways England response

- 12.3.140 The removal of the existing A303 surface road from the WHS landscape will result in extensive benefits for the World Heritage Site (WHS) including

beneficial effects to many heritage assets within the WHS. The cultural heritage assessment for the Scheme can be found in the ES, Chapter 6 [APP-044]. Detailed consideration of the assessment of the scheme in the context of the OUV of the WHS can be found in ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195].

- 12.3.141 Table 3 in the HIA shows the effects that the Scheme would have on the WHS in relation to its Attributes of OUV, Integrity and Authenticity. The table also shows how the Scheme would benefit the WHS in comparison with the effects of the existing A303. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained.
- 12.3.142 The preferred route was carefully chosen to minimise effects on archaeology, and a comprehensive programme of archaeological evaluation surveys has informed the Scheme design to limit direct physical impacts as far as practicable, including limiting impacts on archaeological remains that contribute to the OUV of the WHS. The design has been carefully chosen in order to preserve archaeological remains along the 2 mile section of tunnel, improve the setting of many heritage assets and asset groups in the central part of the WHS including the Avenue, Stonehenge itself and the Winterbourne Stoke barrow group; remove the intrusive sight and sound of traffic from the existing A303 as far as possible within the WHS; and design a scheme that is minimally intrusive in both the western and eastern parts of the WHS, including in key views from assets groups that contribute to the OUV of the WHS. Examples of how the design has been developed to limit impacts on archaeology include, but are not limited to, the choice of a northern bypass of Winterbourne Stoke, the reduced footprint and land take for Rollestone Corner, and the design and placement of the western and eastern tunnel portals and portal approaches in areas that have been shown to have limited archaeological remains within their footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044]. Section 6.8, Table 6.9. The cultural heritage assessment, reported in ES Chapter 6, identifies the effects on known archaeological features whilst recognising the benefits that the tunnel will deliver for the WHS landscape as a whole.
- 12.3.143 The majority of archaeological works are being undertaken in the Preliminary Works phase to mitigate against the risk of unforeseen finds being located within the Main Works. Archaeological remains would be excavated and recorded during the Preliminary Works phase, in advance of construction, to avoid, as far as is practicable, previously unknown archaeological remains being uncovered during construction. In line with paragraph 5.1.10 of the draft DAMS [REP2-038], if unexpected finds (sites, artefacts, environmental remains or ecofacts, monuments or features) were made during the Preliminary Works or Main Works stages a site consultation meeting(s) would be convened between the Archaeological Contractor, HMAG / WCAS and the Technical Partners' Archaeologist to consider the significance of the

finds. Depending on the outcome of the consultation meeting, an addendum to the Site Specific Written Scheme of Investigation or a new Site Specific Written Scheme of Investigation would be prepared by the Archaeological Contractor for approval by the Technical Partners' Archaeologist, in consultation with HMAG / WCAS.

- 12.3.144 A key objective of the Scheme is to provide a positive legacy for communities and improve access both within and to the WHS. The Scheme will create opportunities for greater public access, and appreciation and enjoyment of the WHS landscape through increased connectivity of key monuments and monument groups north and south of the existing A303. The removal of traffic would improve views to and from Stonehenge, relationships between the monument and other monuments in the landscape (e.g. the numerous barrow groups in elevated positions around the monument) and, importantly, the visitor experience at the Stonehenge monument. The constructed Scheme will improve the visitor experience by increasing landscape tranquillity and improving the visual connectivity of the many heritage features within the WHS. The Case for the Scheme notes that "Improving local connections, enhancing the visitor experience at Stonehenge, and encouraging people to dwell longer in the WHS and providing access to the wider WHS landscape from the Amesbury end of the WHS, will provide opportunities to deliver local economic benefits." [APP-294, para. 2.5.10-2.5.11].
- 12.3.145 The Scheme will enable beneficial opportunities for transmission of OUV and for increasing the public's awareness, understanding and perception of the OUV of the WHS in a local, regional, national and international context. The Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] submitted at Deadline 2 (secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]) requires that a comprehensive publication and dissemination programme be developed in parallel with the strategy for Public Archaeology and Community Engagement, to deliver a lasting legacy from the archaeological investigation and recording works undertaken for the Scheme. The publication and dissemination programme will be developed in consultation with the Heritage Monitoring and Advisory Group (HMAG) and the public archaeology strategy will link to the work of Highways England's A303 Benefits and Legacy Forum and Benefits Steering Group, which will look to work with partner organisations to develop the Scheme legacy and benefits as the Scheme develops, tying in to the priorities set out within the 2015 WHS Management Plan (see section 8.2, Outline Publication and dissemination Proposals, and Appendix F, Public Archaeology and Community Engagement Strategy of the DAMS).

Key Issue

12.3.146 **In view of our understanding of the significance and character of the WHS as a cultural landscape that embraces, within its setting, views to and from it, the balancing of assessed impacts on attributes of OUV by Highways England has led to erroneous conclusions.**

12.3.147 **As mentioned earlier, the 2018 Advisory Mission pointed out that**

“ . . . the State Party and its agencies must seek to balance a range of issues and factors. However, the Mission concludes that additional weight should be afforded to avoiding impact on WHS [sic], in view of its Outstanding Universal Value and the obligations of the State Party under the World Heritage Convention. The Mission considers that the appropriate ‘test’ is not whether there is a net benefit to OUV, but rather how adverse impact on OUV can be avoided.”

Highways England response

12.3.148 The relevant tests for the Examining Authority and Secretary of State in determining whether to grant consent for the Scheme are set out in section 104 of the Planning Act 2008, and as a result of those provisions, the decision maker must decide the application in accordance with the National Policy Statement for National Networks (NPSNN). That requirement is subject to certain exceptions, including under section 104(7) which requires that the application should be determined in accordance with the NPSNN unless the adverse impact of the proposed development would outweigh its benefits. This requires a balancing exercise to be undertaken of the adverse and beneficial impacts of the Scheme.

12.3.149 Another exception makes the requirements of the World Heritage Convention relevant to the decision to grant consent. Other prescribed matters and any other important and relevant matters will also be relevant to the decision, including conformity with local planning policy and the WHS Management Plan.

12.3.150 There is no requirement in the NPSNN, the World Heritage Convention, local planning policy, the WHS Management Plan or ICOMOS guidance to avoid all adverse impacts on the OUV of the WHS.

12.3.151 With respect to the National Policy Statement for National Networks (NPSNN) requirements, NPSNN is concerned to avoid substantial harm to heritage assets, and includes requirements in relation to the balancing of less than substantial harm against the public benefit of the development. The assessment has been carried out having regard to the NPSNN requirements and the Scheme’s compliance with the NPSNN requirements is demonstrated in the NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294]. The ES notes NPSNN considerations in respect of WHSs in Table 6.1.

- 12.3.152 The requirements of the World Heritage Convention and the Scheme's compliance with those requirements are addressed in response to Written Question G.1.1 [REP2-021].
- 12.3.153 Local planning policy compliance is addressed in Appendix B of the Case for the Scheme and NPS Accordance [APP-294].
- 12.3.154 The HIA [APP-195] assesses the impact of the proposed Scheme on the Attributes that convey the OUV of the WHS, their Integrity and Authenticity, as well as the alignment of the Scheme with the vision, aims and policies of the 2015 WHS Management Plan and the criteria for the site's inscription as a WHS. The HIA and ES [APP-044] have considered the Stonehenge, Avebury and Associated Sites WHS Management Plan 2015, and the WHS Management plan is specifically considered as a relevant plan [APP-044, para. 6.2.6]. The approach of balancing the impact on attributes of OUV is necessary in order to come to an overall conclusion as to the impact of the scheme on the OUV of the WHS and on the WHS as a whole. Amongst other things, that overall conclusion is needed to inform the decision maker in determining compliance with the various policy and convention requirements set out above.
- 12.3.155 The HIA concludes that the overall effect on the OUV of the WHS would be slight beneficial and the OUV will be sustained by the construction of the Scheme.

Key Issue

- 12.3.156 **Conspicuously missing within the HIA is an account and assessment of the physical impacts of the scheme on the fabric and setting of the WHS itself – a heritage asset of the highest significance, for which the safeguards in policy, planning and legal constraints are both paramount and legion. The aim of the Scheme should have been to ensure no adverse effects on the WHS, its OUV, authenticity, integrity and setting, such that might have been achieved with a much longer tunnel or a WHS bypass as recommended by the 2018 Advisory Mission and WH Committee Decision.**

Highways England response

- 12.3.157 The impacts on the WHS, including the impacts to the heritage assets and Asset Groups that contribute to the OUV of the WHS (the Attributes that convey the OUV of the WHS, its Integrity and Authenticity), are described in the HIA [APP-195]. The conclusions of the HIA are summarised in Environmental Statement Chapter 6 Cultural Heritage [APP-044, Section 6.11]. This has included an assessment of the impact of the scheme on the fabric and setting of the WHS as whole. The response to issue 12.3.5 demonstrates how regard has been had to the WHS status of the entire WHS site in the assessment and the response to issue 12.3.73 has addressed the point in relation to assessment of the setting of the WHS. In

terms of impacts on the fabric of the WHS, Impacts and effects of the Scheme on the Integrity and Authenticity of the WHS are considered in section 9 of the HIA [APP-195]. With regard to integrity, paragraph 9.4.42 states,

- 12.3.158 “Where the road is not in a tunnel, there would be stretches of new dual carriageway, much of which would be in cutting, but limited to 800m in the western approach (when the canopy and Green Bridge No. 4 are taken in to consideration) and 300m in the eastern approach (when the canopy is taken in to consideration). The construction of the cuttings and the portals would have an adverse impact on the OUV of the WHS – although their locations have been designed to avoid impacts on known archaeological remains. The construction and operation of new areas of dual carriageway and portals, particularly in the western approach section, would introduce additional adverse impacts and degrade the Integrity of the WHS by:
- 12.3.159 “a) Partially severing physical relationships between important Asset Groups such as the Winterbourne Stoke Crossroads Barrows (AG16) and the Diamond Group (AG13), including the concentration of long barrows associated with the Wilsford/Normanton dry valley complex.; and
- 12.3.160 “b) Severing the landscape in this area, dividing a dry river valley in the western tunnel approaches east of the current A360.”
- 12.3.161 The protection and conservation of World Heritage Sites is integrated into the comprehensive UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets – namely, the UK's national policy statements, NPPF, Planning Act 2008 provision, and the established approach to assessment of impacts on heritage generally and the balancing of factors in decision making (see the response to Written Question G.1.1 for further detail [REP2-021]). As a result great weight is given to harm to World Heritage Sites. The application by the Secretary of State of the planning balance envisaged by this framework and in particular the NPSNN is in accordance with the World Heritage Convention. There is no requirement in the NPSNN, the World Heritage Convention, local planning policy, the WHS Management Plan or ICOMOS guidance to avoid all adverse impacts on the OUV of the WHS. Detail of the relevant tests for the decision maker (with respect to the impact of a scheme on heritage assets) in deciding whether to grant consent for the scheme is set out in response to issue 12.3.146 above.

Key Issue

- 12.3.162 **[Contrary to the DDCMS’ (February 2019) State of Conservation Report (SoCR)] The changes made to the road scheme would... evidently not “protect and transmit the OUV of the property”; nor do they follow key elements of the 2018 World Heritage Committee Decision.**

Highways England response

- 12.3.163 With respect to the specific impact of the Scheme on the WHS, the Heritage Impact Assessment (HIA) submitted with the application [APP-195] assesses the impact of the proposed scheme on the attributes of the OUV, integrity and authenticity of the WHS. It also considers the alignment of the Scheme with the vision, aims and policies of the 2015 WHS Management Plan and the criteria for the site's inscription as a WHS. The Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the Scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on three of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the Scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained, and it is clear that, in line with the World Heritage Convention, the Scheme – and any decision to grant consent for it - would not put the UK in breach of the duty to protect and conserve the cultural and natural heritage of the WHS.
- 12.3.164 In terms of the requirements of Articles 4 and 5(d) of the World Heritage Convention to present and transmit to future generations the cultural heritage of the WHS, the Scheme will create opportunities for greater public access, and appreciation and enjoyment of the WHS through increased connectivity of key monuments and monument groups north and south of the existing A303. The Scheme will enable beneficial opportunities for transmission of OUV and for increasing the public's awareness, understanding and perception of the OUV of the WHS in a local, regional, national and international context. The Detailed Archaeological Mitigation Strategy (DAMS) submitted at Deadline 2 [REP2-038] (secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]) requires that a comprehensive publication and dissemination programme be developed in parallel with the strategy for Public Archaeology and Community Engagement, to deliver a lasting legacy from the archaeological investigation and recording works undertaken for the Scheme. The publication and dissemination programme will be developed in consultation with the Heritage Monitoring and Advisory Group (HMAG) and the public archaeology strategy will link to the work of Highways England's A303 Benefits and Legacy Forum and Benefits Steering Group, which will look to work with partner organisations to develop the Scheme legacy and benefits as the Scheme develops, tying in to the priorities set out within the 2015 WHS Management Plan (see section 8.2, Outline Publication and Dissemination Proposals, and Appendix F, Public Archaeology and Community Engagement Strategy of the DAMS).
- 12.3.165 In terms of the regard had to the 2018 World Heritage Committee decision, the recommendations of the UNESCO/ICOMOS missions carried out in 2015, 2017 and 2018 and the subsequent decisions of the World Heritage Committee have been considered carefully and aspects of the design have

been altered to address their recommendations. The World Heritage Committee decision with regard to the Scheme not proceeding in its current form refers to the Scheme as was set out at public consultation in March 2018. The Scheme design has evolved substantially since that date, as put forward in the supplementary consultation and following that, the DCO application.

- 12.3.166 UNESCO/ICOMOS recommendations and World Heritage Committee decisions have informed the development of the Scheme throughout its development and its design responds to these including: the route alignment selected as the preferred route avoiding the winter solstice sunset alignment and the bisecting of the Diamond Group; setting the road in deep retained cuttings to minimise landtake; determining the length of the tunnel to avoid the Scheduled Monument known as the Avenue (NHLE 1010140) at its eastern end and a Bowl barrow south of the A303 and north west of Normanton Gorse (NHLE 1010832) at its western end – the tunnel length has been extended to 2 miles (or 3km) in length; the further addition of 200m of canopy at the western portal and 85m of canopy at the eastern portal to further extend the tunnel (to almost 3.3km) to aid landscape integration; the optimization of the positions of the tunnel portals at the head of dry valleys in the landscape in order to reduce the length of cutting (and minimise the length of the culvert part of the tunnel in the western approaches); the addition of the 150m long land bridge to maintain physical and visual connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group; the removal of the surface A303 into a tunnel and approach cuttings to reduce noise and improve the tranquillity of the WHS. In order to minimise light spill, measures have included no lighting of the new Longbarrow junction or the approach cuttings, new directional lighting at Countess junction replacing the existing non-directional lighting, lighting of the portals would be designed to minimise light spill out in to the WHS landscape and lighting under the land bridge will only operate during daylight hour. To minimise the visibility of new infrastructure within the WHS signage and other highways installations will sit completely within the approach cuttings and not extend above them.
- 12.3.167 The World Heritage Committee decision recommended consideration of “further design refinement, with a view to avoiding impact on the OUV of the property, including longer tunnel options”. Longer tunnel designs have been considered and discounted as they would not deliver sufficient additional benefits. Further detail is provided in response to Written Question AL.1.29 [REP2-024].
- 12.3.168 Further information on the missions, including how Highways England has considered the recommendations of UNESCO/ ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.
- 12.3.169 It is expected that The State of Conservation Report (SOCR) prepared by the Department for Digital, Culture, Media & Sport will be considered at the

next meeting of UNESCO's World Heritage Committee, scheduled for summer 2019.

Key Issue

- 12.3.170 **Item 7 of the [WH Committee] Decision was the subject of considerable discussion... and the wording “*minimizes the length of the culvert part of the tunnel*” was carefully chosen and re-confirmed to avoid misunderstanding. Unfortunately, Highways England has taken this advice to mean ‘*minimize the length of opencutting*’ and the DDCMS appears to have done the same. A culvert is generally understood to be a tunnel carrying a stream or open drain under a road or railway, i.e., a covered cutting.**
- 12.3.171 **Cut-and-cover tunnelling within the Stonehenge landscape would involve complete loss of archaeological deposits within the areas of the cuttings; while the WHS cultural landscape, which has intrinsic integrity apart from any specific present-day views, would undergo major damage and modification. The urgent request under the 2018 WH Committee’s Decision, Item 7, was therefore hardly surprising.**
- 12.3.172 **[The addition of the 150m ‘green’ land bridge] ...would not satisfy the advice of the WH Committee under its Decision Item 7, in which the specific request was to**
- “minimize the length of the culvert [i.e. cut-and-cover] part of the tunnel in order to reduce the impact on the cultural landscape and the archaeology”***

Highways England response

- 12.3.173 In response to the World Heritage Committee decision, Highways England did make further amendments to the Scheme, including in order to address item 7. The extension of the canopy at the western portal and the widening of Green Bridge No. 4 both provided further benefits in relation to landscape integration and physical and visual connectivity which the recommendation in item 7 was in part aimed at achieving. Further, lengthening of the tunnel was considered in response to item 7, however, those options have been discounted as they would not deliver sufficient additional benefits.
- 12.3.174 UNESCO /ICOMOS recommendations and World Heritage Committee decisions have informed the development of the Scheme throughout its development and its design responds to these including: the route alignment selected as the preferred route avoiding the winter solstice sunset alignment and the bisecting of the Diamond Group; setting the road in deep retained cuttings to minimise landtake; determining the length of the tunnel to avoid the Scheduled Monument known as the Avenue (NHLE 1010140) at its eastern end and a Bowl barrow south of the A303 and north west of Normanton Gorse (NHLE 1010832) at its western end – the tunnel length has been extended to 2 miles (or 3km) in length; the further addition of 200m

of canopy at the western portal and 85m of canopy at the eastern portal to further extend the tunnel (to almost 3.3km) to aid landscape integration; the optimization of the positions of the tunnel portals at the head of dry valleys in the landscape in order to reduce the length of cutting (and minimise the length of the culvert part of the tunnel in the western approaches); the addition of the 150m long land bridge to maintain physical and visual connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group; the removal of the surface A303 into a tunnel and approach cuttings to reduce noise and improve the tranquillity of the WHS. In order to minimise light spill, measures have included no lighting of the new Longbarrow junction or the approach cuttings, new directional lighting at Countess junction replacing the existing non-directional lighting, lighting of the portals would be designed to minimise light spill out in to the WHS landscape and lighting under the land bridge will only operate during daylight hours. To minimise the visibility of new infrastructure within the WHS, signage and other highways installations will sit completely within the approach cuttings and not extend above them. Further information on the missions, including how Highways England has considered the recommendations of UNESCO/ ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.

- 12.3.175 The Scheme design submitted for development consent has therefore evolved substantially since the last UNESCO/ICOMOS mission was carried out in early 2018 and following submission of the DCO, UNESCO has been notified of the application. It is expected that The State of Conservation Report (SOCR) prepared by the Department for Digital, Culture, Media & Sport will be considered at the next meeting of UNESCO's World Heritage Committee, scheduled for summer 2019.
- 12.3.176 The World Heritage Committee decision recommended consideration of "further design refinement, with a view to avoiding impact on the OUV of the property, including longer tunnel options". Longer tunnel designs have been considered and discounted as they would not deliver sufficient additional benefits. Further detail is provided in response to Written Question AL.1.29 [REP2-024].
- 12.3.177 The location and scale of Green Bridge No. 4 was selected in response to statutory consultation in February to April 2018 and was subsequently included in the supplementary public consultation. At the time of the statutory consultation, the Project Team received feedback from Heritage Partners (including Historic England and the National Trust) that Green Bridge No. 4 was not wide enough or in the right position. Taking on board this feedback, Green Bridge No. 4 was moved eastwards (to the east of the A360 alignment) and widened from 50m to approximately 150m as presented at supplementary consultation and in the current Scheme. Details of supplementary consultation are set out in the Consultation Report [APP-026], Chapter 6: Supplementary Consultation and summarised in the Assessment of Alternatives [APP-041], ES Chapter 3, section 3.3.

- 12.3.178 Green Bridge No.4 was moved eastwards and widened from 50m to approximately 150m in order to provide greater physical and visual connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group and, in particular, the two upstanding long barrows in each group in this western part of the WHS. The retained cutting in the western approaches allows visual connectivity to be maintained between the Winterbourne Stoke Crossroads Barrows, the Diamond Group and the Normanton Down Barrows that contribute to the OUV of the WHS, as agreed with heritage stakeholders. The design of the retained cutting incorporates an upper grassed slope and chalk grassland mitigation to the north and south. This allows the cutting to blend into the surrounding landscape from key views between monument groups.
- 12.3.179 The revised location and width achieved this connectivity to a much greater extent than either of the previous 50m wide bridges considered during the original optioneering. The greater physical and landscape connectivity of Green Bridge No. 4 and its positioning to maximise this was recognised as being more important than maintaining the line of the historic A360 route. The location and scale was agreed with heritage stakeholders.

Key Issue

- 12.3.180 **To suggest that any marginal additional land-take [from the construction of a cut-and cover tunnel in the western approaches] would be “unlikely to make any material difference to the impact of the scheme on archaeological remains considered by the Committee in July 2018” is disingenuous. The results of archaeological evaluation in 2018 underline the critical importance and extreme sensitivity of the archaeology west of the west tunnel portal location.**

Highways England response

- 12.3.181 The statement cited from the 2018 State of Conservation Report considers the land take from adding a cut and cover (in response to the World Heritage Committee’s request) against the land take of the proposed open cutting (i.e. as was proposed by Highways England). The report concludes that the land take for the cut and cover tunnel would be marginally wider than the open cutting, and concludes that “little additional archaeology relevant to the OUV of the WHS would be impacted”. The conclusion cited in the written representation is clearly based on a comparison of the two schemes and is not disingenuous.
- 12.3.182 The area of the western cutting has been surveyed extensively, and the preferred route for the Scheme was selected to avoid known archaeological remains, important sites and monuments. Subsequent design development at the western tunnel approach, including mitigation measures to limit or avoid impacts, has been informed by a comprehensive programme of archaeological evaluation surveys.

- 12.3.183 Recent archaeological evaluation of the western portal and approach cutting has confirmed the results of geophysical survey and previous fieldwork. A limited number of subsurface features were exposed in the trial trenches, including a single isolated crouched burial and several isolated pits which, together with artefactual material in the plough zone indicates activity in the area during the Early Bronze Age period. A small hengiform monument observed in geophysical surveys lies outside of the footprint of the works for the approach cutting and would not be affected by the Scheme. Although some concentrations of worked flint material in the plough zone are apparent within the evaluation area, these do not appear to correlate to surviving features below the surface of the agricultural fields and cutting into the underlying chalk, suggesting that if they did once exist they have since been ploughed out (6.6.31 in ES Chapter 6, Cultural Heritage [APP-044]). The reports detailing the results of the archaeological evaluation trenches in the area of the western cutting were submitted on 12 April [REP1-045 and 046]. Further detail of charcoal and mollusc assemblages from the evaluation here, together with lithic material from the ploughzone as requested by HMAG members are submitted at Deadline 3.
- 12.3.184 The Draft DAMS submitted at Deadline 2 [REP2-038] sets out the structured, iterative detailed archaeological mitigation strategy. The DAMS is rooted in a heritage research-led framework [REP2-038; Section 2] and considers the results and significance of the evaluations and proposes protection of remains in situ where practicable and detailed archaeological excavation and recording where preservation of remains is not possible. The DAMS will be developed further during Examination in consultation with HMAG/WCAS and the final DAMS will be a certified document, implementation of which will be secured as mentioned above by paragraph 5 of Schedule 2 to the draft development consent order [REP2-003].
- 12.3.185 The input of the Scientific Committee will be sought as part of this process.
- 12.3.186 The archaeology in this area is not of such “critical importance and extreme sensitivity” as to conclude that a marginal difference in land take would make a material difference to the impact on archaeological remains.
- 12.3.187 To the extent the written representation advocates for a longer bored tunnel instead of any cut and cover, longer tunnel designs have been considered and discounted as they would not deliver sufficient additional benefits. Further detail is provided in response to written question AL.1.29 [REP2-024].

Key Issue

- 12.3.188 **...it is known that evaluation trenches along the scheme corridor in the area of the western cutting have revealed concentrations of worked flint probably contemporary with the erection of the Stonehenge megaliths. Together with nearby inhumation burials of a similar date, they provide a strong possibility that there may be a crucially important**

Chalcolithic/EBA settlement in this area, respecting and/or re-using earlier sites nearby. Such sites would include the (unique to the UK) group of Neolithic long barrows through which the huge road cutting would be made, the Wilsford Shaft and other potentially similar features, one of which was discovered and partially excavated during the evaluation. This appears to be a highly significant area of the WHS about which there is much to learn in spatial terms as well as by excavation. Excavation ahead of the road scheme would lead to unquantifiable losses to potential knowledge of the WHS and its OUV attributes.

Highways England response

- 12.3.189 Recent archaeological evaluation of the western portal and approach cutting has confirmed the results of geophysical survey and previous fieldwork. The trial trench strategy here built on previous trenching to provide an overall sample totalling 10% by area. A test pit strategy recommended by the scientific committee was also adopted. A limited number of subsurface features were exposed in the trial trenches, including a single isolated crouched burial and several isolated pits which, together with artefactual material in the plough zone indicate occupation in the Early Bronze Age period. Three areas of flint concentrations in the ploughsoil have been identified, some of which may have the potential to be related to occupation. Within the footprint of the retained cutting, the evidence does not suggest extensive long term settlement that can be categorically linked to the construction of Stonehenge. There is also no evidence for any dense burial groups, flat grave cemeteries, burial monuments/ other monuments of Neolithic or Early Bronze Age date within the Scheme construction footprint for the western portal or the approach cutting.
- 12.3.190 The impact of the Scheme in the evaluated area within the DCO boundary is confined to the footprint of the cutting; beyond this, mitigation will comprise chalk grassland reversion, leaving archaeological remains untouched.
- 12.3.191 The burial and a small hengiform monument observed in geophysical surveys lie outside of the footprint of the works for the approach cutting and would not be affected by the Scheme. Also outside of the cutting footprint is a natural sinkhole feature containing material from the Neolithic to modern periods; this has some similarity with the Wilsford Shaft, which lies some 480m to the east. Remains that would be affected include parts of more extensive lithic scatters and isolated pits.
- 12.3.192 The preferred route for the Scheme was selected to avoid known archaeological monuments and to make best use of the landscape to help conceal new infrastructure. The deep cutting has been designed to conceal the sight and sound of traffic in views between the long barrows and round barrow cemeteries in this part of the WHS. The rounded upper slopes of the cutting would be grassed and chalk grassland mitigation beyond the retained

cutting and across Green Bridge No. 4 would soften key views of the cutting from Asset Groups and landscape viewpoints. The chalk grassland mitigation would also visually aid the integration of the new infrastructure within the landscape.

- 12.3.193 The reports detailing the results of the archaeological evaluation trenches in the area of the western cutting were submitted on 12 April [REP1-045 and 046]. Further detail of charcoal and mollusc assemblages from the evaluation here, together with lithic material from the ploughzone as requested by HMAG members are submitted at Deadline 3.
- 12.3.194 The Draft DAMS submitted at Deadline 2 [REP2-038] sets out the structured, iterative detailed archaeological mitigation strategy that will apply to remains affected by the Scheme and generally. The DAMS is rooted in a heritage research-led framework [REP2-038; Section 2] and considers the results and significance of the evaluations and proposes protection of remains in situ where practicable and detailed archaeological excavation and recording where preservation of remains is not possible. The DAMS will be developed further during Examination in consultation with HMAG/WCAS and the final DAMS will be a certified document, implementation of which will be secured as mentioned above by paragraph 5 of Schedule 2 to the draft development consent order [REP2-003]. The input of the Scientific Committee will be sought as part of this process.
- 12.3.195 There are measures in place via the DAMS to ensure features outside of the cutting are appropriately protected. For archaeological remains within the footprint of the cutting, these would be excavated and recorded. This would occur during the Preliminary Works phase, in advance of construction, to avoid, as far as is practicable, previously unknown archaeological remains being uncovered during construction. The comprehensive mitigation strategy is under development to take account of the range of deposits that may be encountered based on the evaluation results. The Applicant does not accept that excavation ahead of the road scheme would lead to unquantifiable losses to potential knowledge of the WHS and its OUV attributes. The Applicant believes that these mitigation measures will make a significant contribution to the investigation of the spatial and chronological development of the WHS and thus, to transmitting understanding of its OUV and furthering the public appreciation of the WHS.
- 12.3.196 To the extent further features have been exposed by the evaluation trenches, these would not be affected by the Scheme. In addition, there are measures in place via the DAMS to ensure anything found is appropriately protected.

Key Issue

- 12.3.197 **At both tunnel portals, the WHS landscape and settings of key archaeological monuments would be severely compromised but we have been given no illustrations of views looking along the**

Expressway, for example, from the... Avenue and from Wilsford barrow G1.

Highways England response

12.3.198 Highways England considers the application is sufficiently detailed to allow the Stonehenge Alliance to understand and comment on the Scheme. In particular, photomontages and CGI visualisations have been presented within the LVIA Chapter (Chapter 7 [APP-045]) and Cultural Heritage Chapters (Appendix 6.9 [APP-218]) of the ES. Design and visual representations will be developed through the detailed design process. The further detailed design of the portal and its associated infrastructure will be sensitive to its WHS context, following Highways England's guide 'The Road to Good Design' (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/672822/Good_road_design_Jan_18.pdf), and will be developed in consultation with heritage partners.

12.3.199 A number of cultural heritage viewpoints in ES Appendix 6.9 Setting Assessment [APP-218] look along the route, namely:

- CH03. Photomontage. Winterbourne Stoke Crossroads Barrows (AG12). View from long barrow NHLE 1011841 [APP-218, Figure 4]
- CH07. 360 degree CGI. Diamond Group (AG13). View from barrow NHLE 1010830 [APP-218, Figure 8]
- CH10. Photomontage. Normanton Down Barrows (AG19). View from long barrow, NHLE 1008953 [APP-218, Figure 11]
- CH16. 360 degree CGI. The Avenue (AG27; NHLE 1010140) [APP-218, Figure 17]
- CH17. Photomontage. Countess Farm Barrows (AG31). View from ploughed-out barrow NHLE 1002143 [APP-218, Figure 18]
- CH19. 360 degree CGI. View from the centre of the A303, immediately north of Vespasian's Camp [APP-218, Figure 20]

12.3.200 However, Highways England have undertaken additional visualisations (submitted at Deadline 3) from locations identified in the Environmental Statement, which are set out in the response to Examination Authority Written Question LV.1.9. The locations for these additional images are from:

- APP-100 (construction and operation images)
- APP-104 (construction image)
- APP-119 (operation image)
- APP-122 (operation image)

12.3.201 Photomontages have also been undertaken (submitted at Deadline 3):

- from the high point (the tumulus) to the south east of Viewpoint 6 [APP-097], looking south east (operation image)
- looking northwards towards the B3083 from a position south of the proposed A303 bypass, taking in Green Bridge No.1 and the B3083 underbridge (operation image)
- from the junction of the tracks to the east of Half Moon Clump, looking southwards (operation image)
- from the tumulus by the radio antennae to the north east of Countess roundabout (operation image)
- as per image CH23 [APP-218], but without the mature vegetation (operation image)
- Photomontage of the worst-case view in winter, associated with the listed buildings, taken from the northern part of Amesbury Conservation Area towards Countess roundabout (operation image).

12.3.202 The photomontages are based on the Environmental Masterplan [APP-052] and therefore will not illustrate the Limits of Deviation, which are set out in Table 2.1 of Chapter 2: The Proposed Scheme [APP-040].

12.3.203 With reference to Interim Advice Note 135/10 which forms the basis of the Landscape and Visual Impact Assessment [APP-045], static views are referred to as from a residential property (IAN135/10 paragraph 3.9). The ES photomontages include representative views from residential properties. Kinetic views are also included as representative of people moving through the landscape, i.e. on Public Rights of Way or road networks. A set of 360 degree CGI images rendered from the Landscape and Visual Impact Assessment photomontage locations [illustrated on APP-088] have also been submitted to the Examination Authority for Deadline 3.

12.4 Landscape and Visual

Key Issue

12.4.1 **The Nile Clumps of Beeches... originally part of the Amesbury Abbey parkland, have importance as local landmarks The clumps would be further compromised by new dual carriageways passing between them to the east tunnel portals.**

Highways England response

12.4.2 With reference to the Environmental Masterplan [APP-059], the Nile Clumps are indicated as retained in the Scheme design, with the alignment passing to the south of them but in closer proximity than the existing A303. The requirements for no direct impact on the Nile Clumps are stated in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) section D-LAN3. The contractor

would be required to adopt the Outline Landscape and Ecology Management Plan (OLEMP) [APP-267] in their detailed design and a final maintenance programme and handover management plan would be required to be approved under requirement 8 of the draft development consent order [REP2-003], (see paragraph 1.1.4 to 1.1.6 of the OLEMP).

Key Issue

- 12.4.3 **To the west of the WHS, in the area of the proposed new Longbarrow Interchange, there would be major intrusions on the WHS from road engineering in its setting, both during construction of the Scheme (including the works compound and haul routes) and operation. No images have been produced of what these ... works would look like.**

Highways England response

- 12.4.4 The Examining Authority requested via Written Question LV.1.9 [REP2-033] a view towards the construction compounds at Longbarrow junction. As provided in the response to this question, the photomontage was not possible as the viewpoint is not a location with public access. Views towards Longbarrow junction in operation are provided in APP-133 and APP-134, and within APP-218, Appendix 6.9, figure 4, viewpoint CH03.

Key Issue

- 12.4.5 **Locations of traffic lights planned at the new interchange are not provided– whether they would be visible from the WHS by day or night – or as different coloured glows along with headlights angled upward on the slip roads in the darkness.**

Highways England response

- 12.4.6 The exact location and design of traffic lights at Longbarrow junction will be determined at the detailed design stage. On the basis that traffic lights at Longbarrow junction are required, as set out in paragraph 2.3.11 of Chapter 2: The Proposed Scheme [APP-040], the Landscape and Visual Impact Assessment [APP-045] included for an assessment of their potential impacts, as well as headlights, as part of the character of the night sky.
- 12.4.7 The visual assessment concluded that the traffic light columns would be visible during the day at year 1 of operation for representative visual receptors at the western edge of the Stonehenge, Avebury and Associated Sites World Heritage Site (WHS) and formed part of the conclusion of the significant adverse effects to these receptors [as set out for receptor 13 in APP-228]. By year 15, due to the establishment of the proposed woodland and hedgerow planting adjacent to the roundabout as illustrated on the Environmental Masterplan [APP-059], the effect is predicted to be not significant.

12.4.8 The 'slip roads' are interpreted by the Applicant as the realigned A360, between the north and south dumbbell roundabouts of Longbarrow junction and the existing A360. With reference to the Engineering Section Drawings [APP-010] the slip roads are predominantly in cutting beneath existing ground levels and with reference to the Environmental Masterplan [APP-045] there is proposed woodland and hedgerow planting adjacent to the slip roads. The combination of the vehicles being in cutting and the planting are considered to reduce glare, as set out in paragraph 7.9.125 of APP-045, including for the angled approach towards the WHS. In relation to the existing sources of lighting from vehicles on the A360 adjacent to the WHS, the existing lighting at Longbarrow roundabout would be removed and the vehicles on the slip road would be further from the WHS than compared to existing vehicles on the A360. Paragraph 7.9.129 of APP 045 therefore concludes that there would be a reduction in glare from vehicle headlights and that there would be a moderate beneficial (significant) effect to the character of the night sky within the WHS.

Key Issue

12.4.9 **It appears that bunding would be employed to mask the bridge over the Expressway, creating an incongruous new earthen 'monument' in the WHS landscape setting.**

Highways England response

12.4.10 With reference to paragraph 6.3.20 of the Design and Access Statement [APP-295], there is proposed bunding adjacent to the carriageway across Green Bridge 3 to aid in screening traffic. This is also indicated on the Environmental Masterplan [APP-059] with 2 metre high bunds. This is in combination with Longbarrow junction being set below existing ground levels to minimise its impact particularly from within the Stonehenge and Avebury World Heritage Site (WHS) and along the proposed A303 as demonstrated by the visualisation on page 6-10 of APP-295 such that it would not form an incongruous new earthen monument.

Key Issue

12.4.11 **Furthermore, there are concerns about the need for ground stabilisers at the tunnel portals: these can be very substantial and visually unattractive structures for which no illustrations have been given. There is also the potential for subsidence and vibration caused by the tunnel boring machine which could damage archaeological deposits and features in situ. No measures have been proposed.**

Highways England response

12.4.12 The approach to dealing with asset protection requires a detailed consideration of the acceptable levels of movement and vibration determined for the heritage assets in addition to the most appropriate method to use

during tunnelling based on an assessment and understanding of the geological and hydrogeological conditions. The Applicant's current proposal assumes the use of a closed-face TBM for the main tunnel construction as this is considered to be the best option for tunnelling under these conditions as it provides greater control on settlement and removes the need for dewatering. It will be the responsibility of the contractor to ensure risks are assessed and mitigated in their safe systems of work during construction.

- 12.4.13 As part of this plan, the contractor will develop contingencies using a suite of tool box items from further investigation, assessment and monitoring during construction to measures to ensure the protection of assets. This could range from simply slowing down the TBM to instigating ground stabilisation measures including grouting. Where the need for ground stabilisation is identified this will be undertaken from inside the main tunnel bore where it is safe and practicable to do so in preference to surface intervention. Where the need for ground stabilisation is identified at the portals, this will also be undertaken from within the portal depth where it is safe and practicable to do so in preference to surface intervention. These methods have been successfully employed on the recent (2013) Crossrail C310 Thames Tunnel project through the chalk aquifer.
- 12.4.14 The Heritage Impact Assessment considers the potential vibration impacts on archaeology during tunnelling (see Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195], paragraphs 9.2.6-9.2.8). The Environmental Statement Chapter 6, Cultural Heritage [APP-044], paragraph 6.8.2 notes that the mitigation embedded within the bored tunnel design (i.e. the use of a bored tunnel rather than a cut and cover tunnel design) minimises the risk of direct physical impacts on archaeology. This is because heritage assets are concentrated at or close to the surface, therefore the use of a bored tunnelling method for the majority of the tunnel, instead of surface based construction methods, minimises the potential for any direct physical impacts.
- 12.4.15 The Outline Environmental Management Plan (OEMP) (a revised version of which is submitted at Deadline 3) sets out general and topic-specific principles and requirements for the control, mitigation and monitoring of potential construction impacts. With regard to vibration, this includes the use of Best Practicable Means (BPM) and the development of the Construction Environmental Management Plan, to which the Noise and Vibration Management Plan will be appended [MW-G7], in consultation with Wiltshire Council [OEMP item: MW-G5]. For the purposes of the tunnelling vibration assessment reported in Chapter 9 of the ES Noise and Vibration [APP-047], the minimum depth, within Tunnel Limits of Deviation Plan [APP-019] has been adopted to ensure a worst case approach (in terms of predicted vibration levels). Furthermore, the vibration from the operation of the Tunnel Boring Machine (TBM) is predicted in accordance with the tunnelling methodologies prescribed in BS 5228:2009 + A1:2014 'Code of Practice for noise and vibration control on construction and open sites' (Ref 9.6 in ES

chapter 9 [APP-047]). With regard to tunnelling, this methodology is conservative as it is derived from worst case source data for tunnelling in rock using a hydraulic hammer. Source data for TBM works and chalk ground conditions indicates lower levels of vibration are likely to be generated, however as a precautionary approach the BS 5228 tunnelling vibration prediction methodology has been used. The monitoring will be used to verify that the predicted calculated vibration levels are worst-case and that actual levels during TBM operation are not in exceedance of those predicted. The OEMP, specifically MW-NOI5, requires the main works contractor to identify sensitive cultural heritage assets and agree actions to control or mitigate impacts (including monitoring).

- 12.4.16 The predicted effects of excavation induced ground settlement have been considered as part of a staged assessment used in tunnelling to determine the zone of influence and potential structures and archaeology affected during construction (see Environmental Statement Appendix 10.6 - Land Instability Risk Assessment [APP-278, Section 6.4]). The installation of monitoring equipment and programme of monitoring to monitor ground movement above the tunnel will be included as part of the Heritage Management Plan required by item PW-CH1 and MW-CH1 of the Outline Environmental Management Plan. The monitoring methodology instigated as part of the Heritage Management Plan will consider acceptable levels and identify the associated action in response as part of a pre-planned contingency plan. The general principle is to control the works such that acceptable levels are not breached and put in place a warning of trends which may approach unacceptable levels.
- 12.4.17 The draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] includes details of the archaeological mitigation and also identifies areas to be protected in situ, including the placement of ground movement and vibration monitoring stations above and perpendicular to the line of the tunnel. The DAMS and OEMP both require the development of a Scheme-wide Heritage Management Plan (HMP) for the Main Works phase (detailed in the OEMP [MW-CH1]) which will indicate how the historic environment is to be protected in a consistent and integrated manner including the effects of construction (including vibration). This will include the monitoring of heritage assets scheduled in the OEMP [MW-CH7] that may be sensitive to vibration and agree actions to control/mitigate impacts to minimise as far as reasonably practicable vibration impacts on archaeological remains. The HMP will be developed in consultation with the Heritage Monitoring and Advisory Group (HMAG). The draft DAMS also sets out a monitoring programme for areas that are being preserved in situ (for example, those heritage assets situated above the tunnel). This will include condition surveys in advance of the works and monitoring at identified sensitive assets during the works.

12.5 Socio-economic effects

Key Issue

- 12.5.1 **The provision of greater access to the WHS for visitors would help to spread the footfall on the monuments and increase choices, as suggested in the Management Plan. If, for example, the National Trust were to consider development of the barns at some future time to provide an additional visitor-access point to the WHS, the flyover would be likely to blight any visitor's experience of the WHS on arrival and departure.**

Highways England response

- 12.5.2 Effects of the Scheme to the Farmhouse and barns are set out on pages 136 and 137 of the Cultural Heritage Setting Assessment [APP-218]. This includes reference to the Noise and Vibration Assessment [APP-047].
- 12.5.3 The Scheme design has sought to reduce impacts from the flyover, by providing a more 'natural setting' to Countess Farm than other options which were considered during the design process, as set out in the response to Written Question AL.1.28 [REP2-024]. Additionally, acoustic barriers have been located on the flyover, along with new planting at Countess roundabout and between the flyover and the slip roads.

12.6 Traffic and Transport

Key Issue

- 12.6.1 **With future modes and volumes of road transport and concerns about climate change, the present and predicted increased impacts of traffic may be considerably reduced within the next century (the approximate lifetime of the tunnel). The present roads and roundabouts would then appear less intrusive and, potentially, could be reduced in size or removed, leaving a far less severe imprint on the landscape than the proposed A303 scheme and the present road system would do. All these features would, of course, remain dominant both visually and physically in the archaeological record for ever.**

Highways England response

- 12.6.2 Traffic forecasts presented in Section 5 of the Transport Assessment [APP-297] have been prepared in accordance with the DfT WebTAG guidance and include in Section 5.4 consideration of forecasting uncertainty.
- 12.6.3 In preparing national road traffic forecasts, the DfT have undertaken research into forecasting uncertainty. Guidance in force for traffic forecasting transport schemes does not reflect this research. The work undertaken by DfT indicates that in the longer term traffic forecasts could be both higher or lower than the range currently assessed.

12.6.4 In accordance with current guidance (WebTAG M4), we have taken a suitable approach to the range of conditions that might arise for the projected project period in accordance with Government guidance and policy, which must be taken into account in the examination and decision making in the Planning Act 2008 consenting process.

13 Stonehenge Alliance (Cultural Heritage Value Report) (REP2-130)

13.1 Socio-economic issues

Key Issue

- 13.1.1 **The heritage value accounts for almost 75% of the Present Value of Benefits (PVB), and without them the road scheme would not be economically viable by a large margin.**

Highways England response

- 13.1.2 Transport Appraisal is based on the HM Treasury Green Book, the core UK Government guidance for policy evaluation. The Green Book stipulates that policies should be appraised in terms of all of the impacts that they create and that this should not be narrowly focused on economic impacts. The Green Book also stipulates that all impacts should be valued in monetary terms to the greatest extent possible. Heritage impacts and values are commonly assessed and incorporated into business cases in the cultural sector. It is not usual for Cultural Heritage Assets to be attributed a monetary value in the appraisal of transport schemes, but irrespective of whether they are ascribed a monetary value, impacts on cultural heritage assets are routinely assessed and incorporated qualitatively into economic appraisals of transport schemes. However, enhancing the cultural heritage of the Stonehenge World Heritage Site, through the delivery of the A303 Amesbury to Berwick Down Road Scheme, is of such significance that it formed an integral part of the Client Scheme Requirements and, therefore, since achieving that enhancement is a fundamental objective of the scheme, it is entirely appropriate to attempt to express these qualitative impacts in a comparable quantitative unit to other elements of the economic appraisal. It is the most appropriate way to capture the value of these important benefits and make sure they are fully accounted for in the economic appraisal process. Put simply, the Government wishes to assess the monetary value of achieving this fundamental objective of the scheme to enable it to assess whether the costs of achieving that objective offers value for money. The assessment shows that it does, hence the continued support of the Government for the Scheme.
- 13.1.3 The Scheme has been designed to addresses the transport issues and recognises the cultural and heritage importance of the area by removing the Road from the WHS in an affordable manner. The UNESCO World Heritage Status is designed to protect the setting of Stonehenge as well as the existence of the stones, and UNESCO have acknowledged that the road has considerable impact on the setting of the WHS in its current location. In this context, it is not surprising that 73% of the value of the proposed tunnel scheme stems from the cultural heritage value.

Key Issue

- 13.1.4 **Of the £955 million, no less than 94.2% of the benefit is attributed to the ‘general population’ group, who by definition are unlikely to have experienced the site as it is and are unlikely to have a stake in how it might appear in future with the scheme in place.**

Highways England response

- 13.1.5 One of the methodological advantages of CV over other non-market valuation approaches is that it can measure values and benefits that would not be revealed under market conditions, such as non-use values. In this case use values stem from those visiting the site, those travelling on the A303 and viewing the site from the road, and those who experience Stonehenge remotely via other media. Non-use values are made up of: altruistic values – welfare increases from knowing that others living will benefit; bequest values – welfare increases from knowing that future generations will benefit; and existence values – welfare changes from knowing that the road layout within the Stonehenge WHS has been changed (even if an individual does not experience the changed road layout now or in the future).
- 13.1.6 It is standard practice in CV studies to elicit separate Willingness to Pay (WTP) estimates from user and non-user groups and non-use values are an important and prominent part of guidelines in this area including the HM Treasury Green Book and the Organisation for Economic Cooperation and Development (OECD) guidelines. Non-use value is a crucial issue in the appraisal of heritage and environmental assets since much of the value of these things derive from their very existence or the benefits for future generations. Valuation of culture and heritage in other policy areas in the UK such as work conducted by the Department for Digital, Culture, Media and Sport has a significant focus on non-use value.
- 13.1.7 The survey of the general population is designed to capture the non-use benefits. Some people who have not visited and will not ever visit Stonehenge, or even engage with it remotely (e.g. through media), will nonetheless value the positive effects of the road layout scenarios if they value the existence of the stones and surrounding environment and if this improves experiences for visitors and others who care about Stonehenge. In the case of Stonehenge, the site is an iconic site of national and international relevance. It is frequently seen on television and in the news, and is well-known for its exceptional age, architectural sophistication, religious and spiritual significance, and influence of asset on national character. This increases confidence that a CV survey of the general population was a valid approach to elicit the non-use values that UK citizens hold for preserving and improving the cultural heritage at Stonehenge WHS.
- 13.1.8 There is strong validating evidence from other studies that the WTP values obtained in the Simerica report are in line with those collected in the 2001

Maddison and Mourato study, which included a general population sample. Whilst the unique iconic character of Stonehenge makes it difficult to draw these comparisons, benchmarking has shown that this value is well within the range of values elicited from comparable studies of the general population. It is also comparable to the £6 per taxpayer per year spent on cultural heritage by the Department for Digital, Culture, Media and Sport, although the scheme delivers a permanent improvement after 3 years, so could equally be considered a small fraction of government expenditure on cultural heritage over the 60 year appraisal period.

Key Issue

- 13.1.9 **Only £55 million of benefit is attributed to visitors or road users, who at least have a direct interest in the potential changes. This would be nowhere near enough additional benefit to produce a positive BCR.**

Highways England response

- 13.1.10 As outlined in the response to issue 13.1.4, looking only at visitors and road users would fail to capture the significant value attached to Stonehenge by people who may never visit, but nonetheless believe the site represents an important part of British cultural heritage, and who would be willing to pay to see it improved.

Key Issue

- 13.1.11 **There are numerous areas of potential bias in the survey, the most significant of which are the bias inevitably introduced by asking questions about the subject; the use of potentially misleading photographs and photomontages, particularly important with the large general population group for whom it is the main information; and the hypothetical bias of asking people what they would be prepared to pay when they know they will never have to pay it.**

Highways England response

- 13.1.12 Contingent Valuation is an accepted approach and standard practice for valuing non-market benefits. For industries that focus on unique cultural, heritage or natural environment assets where there is no market price it is commonplace.
- 13.1.13 It is crucial to note and understand that these types of biases are commonplace in any opinions-based survey or stakeholder engagement exercise and so are not unique to CV. However, what is unique to CV is that through the large body of research dedicated to the method, a set of best-practice approaches have been developed to allow us to administer CV surveys in a robust manner.
- 13.1.14 The study applies best practice stated preference methods (contingent valuation) to elicit the total net benefits associated with the reduction in

noise, increased tranquillity, increased visual amenity and reduced landscape severance associated with the removal of the A303 from part of the Stonehenge WHS for three population groups: Stonehenge visitors, road users, and the UK resident general population (aged 16 and over). Individual level mean WTP and WTA values and zero response rates in the study are in line with comparable results from heritage studies in the UK and international studies of World Heritage sites.

- 13.1.15 Surveys were carefully designed following best practice to reduce known biases in CV surveys.
- 13.1.16 **Clear and consistent definition of change to heritage site:** Care was taken to ensure that responses were focussed on the impact of removing the road from the landscape, rather than other factors such as transport benefits, and considerations of affordability, in order to avoid potential double counting with other parts of the business case assessment.
- 13.1.17 **Sample size and representativeness:** The surveys elicited a relatively large number of respondents – above the initial target according to statistical robustness targets and margins of error. This in itself improves the statistical reliability of the results. The survey was designed to control for any endogenous factors, i.e. instead of correcting for relationships that could affect our results after the fact, the online surveys restricted results from certain groups once the representative sample had been reached. The survey groups were weighted to account for differences in income, gender, age etc. This aimed to reduce the uncertainty surrounding unrepresentative sampling.
- 13.1.18 In accordance with good practice, a range of validity tests were undertaken which demonstrate that the variation in values across different subgroups of respondents are logical and internally consistent.
- 13.1.19 **Strategic bias** refers to the act of when someone wishes to preserve a status quo or to achieve a specific change and purposefully influences the survey results. For online surveys, respondents who completed the survey quickly ('speedsters') were removed. Speedsters are removed on the assumption that they are completing the survey for strategic purposes, or a lack of understanding/ interest encouraging quick completion and are not giving fully considered and truthful answers.
- 13.1.20 **Framing and information bias** refer to the issue of when people react to information in different ways depending on how it is presented and on the level of detail provided in the information. The survey was specifically designed in accordance with best-practice to avoid 'priming' respondents and to ensure they valued the removal of the road, not the WHS itself. These steps are summarised below. The options available to further reduce the risk of these biases would themselves have introduced other sources of bias and reduced the robustness of results overall and that the residual risk of over-

- estimating the true values is no greater than the risk of underestimating them.
- 13.1.21 Firstly, respondents were provided with very clear representations of the status quo and the tunnel alternative (both in map and photo form) at the beginning of the interview showing that the condition of the stones is unchanged. Substantially more information would have led to an excessive cognitive load on respondents.
- 13.1.22 Secondly, respondents were specifically told which impacts were to be considered: visual intrusion; noise experienced on site; landscape severance; and the loss of the view from the road. We carefully selected this list to ensure it was representative of the positive and negative aspects of the intervention and we reminded respondents of these specific impacts at four separate points throughout the interview. Less information on this would have increased the risk of respondents valuing something other than the removal of the road; more information may have introduced the risk of priming respondents.
- 13.1.23 Thirdly, after individuals provided their valuation, they were asked whether they made their response based on any aspects over and above this specific set of impacts – if so, then their response was discarded.
- 13.1.24 **Information bias:** The information provided in the surveys was tested within all three surveys during a pilot stage to ensure it was sufficiently clear to allow respondents to answer the questions (in line with best practice). During the pilot, respondents were asked whether they felt the information was easy to understand and which benefits would arise from the road. This question tested whether they had understood the information at hand and whether they had been able to isolate the heritage effect within the survey (i.e., whether they were stating WTP for heritage effects or for aspects of road use, safety, travel time).
- 13.1.25 **Hypothetical bias** occurs where individuals' stated WTP may be significantly larger than actual WTP due to the hypothetical nature of the survey. There are many potential reasons why hypothetical bias might arise. It is more prevalent when voluntary payment mechanisms are used as respondents have incentives to free-ride; and when valuing distant and unfamiliar goods and services, where people may not have well-defined prior preferences (which may disproportionately affect non-use values for less known policy changes). Given that hypothetical bias is also more likely when contingent scenarios lack realism and consequentiality, the Stonehenge CV study aimed to use a payment vehicle which was as realistic as possible, a national tax over three years. The additional benefit of this payment vehicle is that it is a compulsory payment, reducing the risk of free-riding and increasing incentive compatibility.
- 13.1.26 A range of strategies was utilised to try and correct for hypothetical bias. These include ex-ante strategies such as cheap talk and oath scripts (for

which please see below), designs that enhance the realism and consequentiality of scenarios, incentive compatible elicitation mechanisms, use of compulsory payment methods, including reminders of budget constraints and substitute goods and also giving respondents time to think; and ex-post adjustments such as certainty recoding and data trimming of unrealistic and protest answers.

- 13.1.27 **Visual information and images:** The survey instrument used best available text, tables, and visual information about the projected change to the World Heritage Site associated with removal of the road. Visual photomontages focused on the absence of the road and its associated visual and landscape intrusion. Maps of the projected tunnel portals and road removal were based on the proposed scheme at the time of surveying, which involved a tunnel of 2.9km with portal entrances located within the WHS. The revised Scheme includes a 3.3km tunnel, which includes a 100m extension of the bored tunnel to the west, a 200m canopy at the western portal and an 85m canopy extension at the eastern portal. The extended tunnel would bring enhanced heritage benefits over the information presented in the survey. Therefore, any bias introduced by the photomontages and map visuals would be likely to lead to a minor under-estimate of WTP values (in other words, respondents are likely to have a higher WTP for a tunnel that is located entirely outside of the WHS).
- 13.1.28 In the case of the general population, it is standard to elicit non-use values from the general population for sites which they may not have visited recently. In some cases, these sites may be so unfamiliar as to introduce hypothetical bias into these responses. However, in the case of Stonehenge, the site is an iconic site of national and international relevance. It is frequently seen on television and in the news, and is well-known for its exceptional age, architectural sophistication, religious and spiritual significance, and influence of asset on national character. This increases confidence that a CV survey of the general population was a valid approach to elicit the non-use values that UK citizens hold for preserving and improving the cultural heritage at Stonehenge WHS.
- 13.1.29 **Bias reduction strategies:** The Stonehenge CV study applied both ex-ante and ex-post bias reduction strategies. Best practice ex-ante approaches included *cheap talk entreaties* (i.e. a script that explicitly describes this bias and asks respondents to avoid it) and *oath scripts* (i.e. asking respondents to agree to promise that they will respond to questions honestly).
- 13.1.30 Ex-post analysis of results included testing for differences in WTP between those who indicated that they were “certain” that they would pay (at least 3 on a 5-point scale with 1 being “Not certain at all” and 5 “Very Certain”) and those that were either “uncertain” or “somewhat certain”. This allowed sensitivity analysis to be performed by comparing aggregate values at different certainty levels.

- 13.1.31 The credibility of estimated values from CV studies was assessed by examining their theoretical validity. Testing for theoretical validity is typically done through multivariate regression analysis by estimating a bid function, exploring how WTP responds to respondent characteristics and other variables collected in the survey to test whether the relationship between WTP and other indicators is in accordance with expectations. Validity tests carried out on the survey showed that WTP and WTA are consistent with theoretically consistent drivers of value, notably income levels and prior engagement with Stonehenge and membership of heritage organisations.
- 13.1.32 The survey was designed to account for both positive values from those who would like to see the A303 removed from within the WHS, and negative values from those who would wish to preserve the road in its current location. Those willing to pay something were asked how much they would be willing to pay (in the form of an increase in annual taxes over a three-year period). Whilst those requiring compensation were asked what they would be willing to accept in compensation should the scheme be built.
- 13.1.33 **Peer review:** It is important to note that the survey instruments were subject to peer review by Professor Danny Campbell of Sterling University. Professor Campbell is an applied economist working in the field of economic valuation of environmental and natural resources, food choice analysis and economics of public health. Professor Campbell provided comments on the draft survey questionnaire, and on the final revised questionnaire, stating in respect of the latter that:
- The updated questionnaire focuses only on one road option, namely a tunnel. In effect, this will increase statistical precision of the estimated value.
 - The rewording of the valuation briefing information makes it come across more neutral.
 - The payment card levels appear appropriate. Though piloting would be helpful to confirm if respondents would also find them sensible.
- 13.1.34 In response to Professor Campbell's final comments, a full pilot was run on each of the surveys to test the range of values we provide in the card.

Key Issue

- 13.1.35 **There is a large question mark over whether the general population survey sample is actually representative of the UK population as a whole, since it is reported that almost 25% of the survey sample had used the A303 at Stonehenge in the previous 12 months, which is not only implausible as a proportion of the total UK population but also incompatible with data on traffic volumes on this stretch of road.**

Highways England response

- 13.1.36 In order to capture an accurate valuation three surveys were undertaken:

- a. Visitors to the Stonehenge to capture direct Use value, Non-use value (associated with effects on other cultural heritage within the Stonehenge WHS) and Use and Option value for changes in the view of Stonehenge from the A303 between Amesbury and Berwick Down.
 - b. Road users to capture direct use value, Non-use value (associated with effects on other cultural heritage within the Stonehenge WHS) and Use and option value for changes in the view of Stonehenge from the A303 between Amesbury and Berwick Down.
 - c. General Population to capture Non-use value, Use values for those who have visited the site recently or have photos of it and Option value for changes in the view of Stonehenge from the A303 between Amesbury and Berwick Down.
- 13.1.37 Not all the data from the survey could be used and before an aggregate value could be estimated the data sets had to be 'cleaned'. This process involved removing incomplete or inconsistent surveys. It also involved allocating survey responses to the correct group. For Survey B it was assumed that those living within 50 miles of the scheme would have used the A303, but the sample included some responses from people who had never used the road. These were re-assigned to the general population. Similarly the general population sample (C) included some people who had used the A303 – these were reassigned to sample B.
- 13.1.38 The 467 survey responses that stated they had used the A303 in the last 12 months were **excluded** from the general population sample and placed in the road user sample. Therefore the point made in the Written Representation regarding implausibility does not arise, indeed the methodology specifically cleaned the data to remove any such implausibility.
- 13.1.39 Regarding the plausibility that 23.7% of respondents to the general population survey reported having used the A303 in the past 12 months, and the possible question marks this could place over the reliability of the survey data overall; when we explore the region of origin of those 467 respondents who reported having used the A303 in the past year, we see that 38% of these were based in the south-west or south-east of England. This increases the likelihood that these individuals would have used the A303 at least once in the past year.
- 13.1.40 We acknowledge that there could be some recollection bias in these responses, such that respondents are not providing accurate responses. This recollection bias could operate in two ways. Either (a) the respondent was mistaken in the time period and actually used the A303 over 12 months ago); or (b) the respondent did not actually use the A303 and is recollecting another road entirely.
- 13.1.41 It is our opinion that (b) is unlikely, given the nature of the A303 as it passes the iconic Stonehenge. If recollection bias is operating in the way described in (a) then this would introduce only a slight risk of error, since it would be

safe to assume that even someone having used the A303 more than one year ago would be sufficiently familiar with the road to be included in the road user group. It is worth noting that the 12 month 'user' cut-off period was more strict in this survey than in other surveys of cultural heritage run by the Department for Digital, Culture, Media and Sport, which have included those with experience up to three years as part of the user sample.

- 13.1.42 In terms of the representativeness of the online samples of road users and the general population, the online panel company Toluna has developed a sampling technique that can be used to ensure that respondents are representative of the desired target population. This technique compares the incoming sample to a baseline and allows respondents into the survey as long as they match what is in the baseline sample. Quotas were set on a range of relevant attributes of gender, age, and location to mimic population demographics to make the survey representative on those chosen characteristics. To further ensure representativeness, we applied ex-post population weights formed by the demographic categories of gender, age and income for each region in the United Kingdom for the general population survey based on the Annual Population Survey (APS) of the Office for National Statistics (ONS, 2015).

Key Issue

- 13.1.43 **There is no scenario testing, such as is common in highway scheme assessments, to identify the potential effects of changes in baseline assumptions, and whether the outcome is sensitive or otherwise to small variations in assumptions. Since the general population accounts for such a dominant proportion of claimed heritage value benefits, small changes in the values derived result in large changes in overall PVB for the scheme. It is estimated that only a 1.5% reduction in the mean value of WTP would result in a negative BCR**

Highways England response

- 13.1.44 The most relevant sensitivity analysis has been performed. The CVR was designed to avoid the need to forecast into the future (as explained further below), so scenario testing of the sort used in highways scheme assessments is not relevant.
- 13.1.45 In survey based approaches the risk of error can never be reduced to zero but overall, based on the agreed methodology, the results are acceptable and robust. Initial checks of the results focused on the statistical validity of results; confidence intervals were established around the overall NPV. These results show that with 95% confidence the aggregate net WTP is between £1.2bn and £1.5bn.
- 13.1.46 Sensitivity analysis was undertaken by varying income. The average annual income of Stonehenge visitors is £48,000 according to surveys. This is above the UK average of around £27,000. Since lower income groups have

a lower WTP (as well as WTA to some extent), the WTP/WTA of the two lowest income categories of the surveys was used, which makes the WTP values conservative. Using these WTP/WTA figures results in only a £160m drop in the total NPV to £1.2bn.

- 13.1.47 Scenario testing of the survey results up to larger populations e.g. low/high scenarios surrounding visitor numbers, road users and population growth could present a larger range around the heritage benefit of removing the A303. Such scenario testing is not good practice in Contingent Valuation Surveys and does not generally lead to robust results. The survey was designed to measure the WTP of the current population, who also incorporate others' future utility into their own utility function. Incorporating forecasted users would lead to a classic infinite horizon problem. Because of this, if projections of traffic users were included, it would also lead to double counting. The survey was also designed to elicit the impacts only on the heritage experience and not the aggregate benefit of the tunnel.
- 13.1.48 Respondents to the survey were provided with a description of the impact of the existing A303 on the WHS. They were also provided with information on the expected impacts of the scheme in terms of tranquillity, visual amenity and landscape severance. Based on this information, respondents were asked to consider if they were willing to pay something to realise these impacts, or if they would require to be compensated for these impacts. Care was taken to ensure that responses were focussed on the impact of removing the road from the landscape, rather than other factors such as transport benefits, and considerations of affordability. It would not be possible to design a 'scenario' where only a small change in conditions were identified.
- 13.1.49 Holding all other costs and benefits constant, an 11% fall in the value of cultural heritage benefits (or equivalently, an 8% fall in total benefits) would reduce the benefit cost ratio from 1.15 to 1. In Highways England's view, qualitative impacts not captured in the BCR would lead to a conclusion that this scheme remains Low VfM, even with that reduced BCR. A reduction of 1.5% in the mean WTP would lead to a 1.5% reduction in the value of cultural heritage benefits, and this would not reduce the BCR below 1. A 15% reduction, on the other hand, would indeed reduce the BCR to below 1 (implying costs are greater than benefits). A "negative BCR" implies that the benefits themselves are negative overall, which is not the case for this scheme.

Key Issue

- 13.1.50 **There is a fivefold disparity between the results of this study (discounted to 2010) and those of a similar study carried out in 2001 (uprated to 2010). Simetrica claims that these figures are comparable, but it is difficult to see how they can be**

Highways England response

- 13.1.51 Comparing results of this study to Maddison and Mourato (2001) requires adjustments to be made to inflation, growth and key differences in the proposed schemes and in the surveys: this survey asks about an almost 3km tunnel whereas the 2001 study asked about a 2km tunnel on the A303 and removal of the A344 (which has since been removed). Attempting to correct for all these differences is challenging, and it is not appropriate to simply uprate values into a comparable price base. Nevertheless, where a like-for-like comparison can be made it shows the results are broadly comparable, and there is not a fivefold disparity.
- 13.1.52 A number of factors may account for differences in monetary values obtained for a similar (not identical) policy scenario of removing the road(s) from within the WHS in the intervening years since the Mourato/Maddison 2001 study calculated a net WTP of £149m. Among these, real GDP has grown by 31% since 1998 (Wehtag guidance), inflation over this period was 30% (DfT Wehtag GDP deflator) and the population by about 10%. Adjusting for all these factors the results of the 2001 study reach £1bn. This is just below the confidence interval of £1.146bn to £1.409bn for the 2016 study.
- 13.1.53 We note that a direct comparison is not possible because of key differences. For example, Maddison and Mourato considered the removal of two roads—the A344 (which has since been removed) and the A303 – and assumed a two-year period of payments. New additions to the heritage experience include a £27million Stonehenge visitor centre. The cultural context in which peoples' value for the heritage of the Stonehenge WHS may have changed in the intervening years (with greater attention given to heritage in popular culture). In addition, the present study applies a number of additional elements not present in the 2001 study, including a road-user segment, and a range of additional bias reduction strategies within the survey, such as cheap talk and certainty questions, that were not present in the 2001 study.
- 13.1.54 In addition to the quantified differences used above, it has to be noted that the Mourato and Maddison study conducted a total of 357 interviews, of these 129 on site. The current study has around 3400 respondents, with more than 400 on site, making it more robust with a smaller variance. In addition, attitudes towards heritage will have changed raising the value the population puts in cultural heritage and the proposal has changed from a 2km tunnel to a 2.9km tunnel.

Key Issue

- 13.1.55 **The Simetrica study has not considered options that remove the A303 entirely from the World Heritage Site, so cannot provide any comparative evidence to support the proposed scheme or to reject the alternatives**

Highways England response

- 13.1.56 The appraisal process aims to capture only the change in values as a result of the intervention and not the overall values. In this case the contingent valuation was designed to elicit responses that were focussed on the impact of removing the road from the landscape; to that end it is neutral on the mechanism by which the road is removed – the results are valid for any scheme which delivers the same improvement to landscape, noise and visual amenity within the WHS.
- 13.1.57 As noted in the response to issue 13.1.11, the survey instrument used best available text, tables, and visual information about the projected change to the World Heritage Site associated with removal of the road at the time of going into the field. The proposed tunnel length has subsequently changed, and it is now a longer tunnel with portals outside of the WHS, which would bring enhanced heritage benefits over the information presented in the survey. Therefore, any bias introduced by presenting the tunnel portals and parts of the A303 within the WHS in the survey would be likely to lead to an under-estimate of WTP values as applied to the current improved scheme (in other words, we would anticipate that respondents would have a higher WTP for a tunnel scheme that removed the A303 entirely from the WHS, making the survey results a more conservative estimate).

Key Issue

- 13.1.58 **It is an unbalanced approach, and contrary to good practice, to monetise one single aspect of heritage value to include in the PVB/BCR, but not the intrinsic values that make up the OUV of a World Heritage Site. This unacceptable, especially when as here the scheme is unjustifiable without the massive injection of ‘heritage value’**

Highways England response

- 13.1.59 Caution must be implied when discussing ‘intrinsic value’. Intrinsic value refers to the value of an asset in and of itself regardless of the implications and benefits it has for human beings, animals and the environment now or in the future. The first question is whether such intrinsic value exists for the Stonehenge WHS. The answer to this question is not something that can be demonstrated empirically and is a purely philosophical question. And in any case, regardless of whether intrinsic value exists for this particular issue, there are no accepted methods for valuing intrinsic value. This is because since intrinsic value is separate and unrelated to human experience there is

no capacity for us to value it. Therefore, even if we as a nation were to agree that the Stonehenge WHS has intrinsic value unrelated to any human experience, we would not be able to value it or account for it in an appraisal.

- 13.1.60 The core method of economic appraisal, cost-benefit analysis, has been designed to inform comparison between options for interventions using public money. The appraisal for this scheme recognises that the appraisal needs to go beyond traditional financial analysis, and pick up broader social, environmental and economic effects. The appraisal methods are fully aligned to the Guidance issued by HM Treasury, the Department for Transport and Highways England.
- 13.1.61 Economic appraisal is based on the principles of welfare economics – that is, how the government can improve social welfare or wellbeing, referred to in the Green Book as social value. The HM Treasury Green Book (2018) set outs that the Economic Case should use Social Cost-Benefit Analysis to assess the net value to society (the social value) of a policy intervention. The Green Book emphasises that costs or benefits of options should be valued and monetised where possible in order to provide a common metric. For some costs and benefits there may be no market price, or the market price may not fully reflect societal costs or benefits. In these cases, the Green Book summarises the main techniques that can be used including stated preference techniques which are commonly used to elicit estimates of what individuals are willing to pay or accept for a specific outcome.
- 13.1.62 All the approved techniques in the Green Book take an “anthropocentric” approach to valuation – they focus on how people experience value, and the best ways to measure that. As mentioned above intrinsic value sits outside this framework, and is a concept based not on whether people find something valuable, but whether it is valuable in and of itself. By definition therefore, there is no way for people to systematically judge something’s intrinsic value, and it cannot be taken into account in analysis of value for money.
- 13.1.63 Moreover, it is important to note that the work around the contingent valuation report (CVR) was primarily relevant to the Department for Transport’s (DfT) investment decision in the Scheme, not the planning merits of the Scheme.
- 13.1.64 The approach to the calculation of monetised environmental benefits is based on guidance issued by HM Treasury and the Department for Environment. It has been undertaken in a robust manner and subjected to checks. It is the most appropriate way to capture the value of these important benefits and make sure they are fully accounted for in the appraisal process.
- 13.1.65 The purpose of the CV in the context of the A303 was to monetise the significant benefits resulting from the cultural heritage improvements delivered by the Scheme. Monetising those benefits allowed them to be

incorporated alongside other financial costs and benefits in the assessment of the benefit cost ratio (BCR) for the Scheme, in order to determine whether the scheme offered value for money (VfM) and ultimately inform the Government decision to invest in the Scheme. Enhancing the cultural heritage of the Stonehenge World Heritage Site, through the delivery of the A303 Amesbury to Berwick Down Road Scheme, is of such significance that it formed an integral part of the Client Scheme Requirements and, therefore, it is appropriate to attempt to express these qualitative impacts in a comparable unit to other elements of the appraisal. But it would form an important part of the value for Money Assessment even without monetary valuation. So to say that the CV and/or any other part of the assessment failed to consider the WHS and its OUV is not true – every respondent was well aware of the WHS setting of the Scheme in expressing their WTP.

- 13.1.66 Similarly the WHS and its OUV will be taken account of in investment decision making on the scheme beyond the monetisation in the CV: The Green Book and DfT guidance both make clear that it is important for factors beyond Value for Money to feature in decision-making. The Green Book (page 11, para 3.10) states: “The strategic dimension ensures the strategic fit of new proposals with the existing policies and wider public sector objectives. Practical, ethical, legal and other constraints must be identified at the outset, along with any external dependencies beyond the scope and control of the proposal being considered e.g. supporting infrastructure and services. Constraints and dependencies should be understood, documented and explicitly taken into account”.
- 13.1.67 The Outstanding Universal Value of the World Heritage site is a key part of this strategic dimension.

14 Stonehenge Alliance (Landscape and Visual Aspects of the LVIA) (REP2-137)

14.1 Landscape and Visual

Key Issue

- 14.1.1 There is a lack of consistency between various tables with three levels of classification and others with four. The classification in the geographical value criteria in Table 7.2.1, in ES Appendix 7.2 LVIA Methodology, fails to include internationally valued landscapes, such as obviously the World Heritage Site. This results in a lack of a “very high” classification in the table of landscape value criteria in Table 7.2.2, in ES Appendix 7.2 LVIA Methodology, when it should be there if the international value of the World Heritage Site had been correctly recognised in Table 7.2.1 in the ES. Furthermore, it appears from consideration of the criteria in Box 5.1 of GLVIA3 that aspects of the value of the landscape have not been properly taken into account when these would justify a “very high” classification of landscape value. The condition of the Stonehenge World Heritage Site landscape is improving thanks to the efforts of the National Trust and others. The scenic quality is high as shown by the numerous artists who have depicted it. The rarity of the Stonehenge landscape is internationally recognised. The landscape does contain a particular character and elements that are considered particularly important examples. There are features of archaeological, historical and cultural interest that add to the value of the landscape as well as having value in their own right. The World Heritage Site is valued for recreation where experience of the landscape is important. The landscape of the World Heritage Site is valued for its perceptual qualities. In addition, the Stonehenge landscape is valued because of its association with particular people and events in history that contribute to perceptions of the natural beauty of the area. It has also inspired many artists (see ES Appendix 6.1 Annex 7). It is also important to note that the list in Box 5.1 ‘is not comprehensive and other factors may be considered important to specific area’ (GLVIA3 para. 5.28 first bullet) It would be logical to also include a very high classification of landscape sensitivity in Table 7.2.3 in the ES to recognise the international special geographical value and consequent very high landscape value of the World Heritage Site. Similarly the classification of visual geographic value also fails to recognise that the WHS is essentially an internationally designated landscape. There is a failure to include either a national or international classification in Table 7.2.5 in the ES.

Highways England response

- 14.1.2 We confirm that the various tables within the Landscape and Visual Impact Assessment (LVIA) methodology [APP-222] are consistent. To explain, the different classifications are due to the fact that landscape and visual effects are assessed separately, and therefore it is appropriate to have tables specific to each of the landscape and visual effects. This is necessary as it is important to consider different aspects for the establishment of their baselines. For both the landscape and visual receptors, the value [APP-222 Tables 7.2.2 and 7.2.6 respectively] and susceptibility [APP-222 Tables 7.2.3 and 7.2.7 respectively] criteria are consistent as both report 3 categories (namely high, medium and low). These 3 categories are used to classify the sensitivity of a landscape or visual receptor and are set out in Interim Advice Note 135/10 Landscape and Visual Effects Assessment (IAN135/10).
- 14.1.3 The international context of the Stonehenge and Avebury World Heritage Site (WHS) is fully understood, with the designation acknowledged in paragraph 7.6.73 of the Landscape and Visual Effects ES Chapter [APP-045]. In addition, the WHS Management Plan has been reviewed within the Landscape and Visual Impact Assessment [paragraph 7.6.117 seq. of APP-045] ES chapter and informed the design of the Scheme. The classification of landscape geographical value criteria in the LVIA Methodology [APP-222 Table 7.2.1] does not mention ‘international’ criteria as it was felt that a ‘national rating’ was enough of a starting threshold for a rating of ‘high’ value, given that the assessment covers landscapes also outside of the WHS. This is considered to align with paragraph 5.29 of the Guidelines for Landscape and Visual Impact Assessment (GLVIA 3) which states: “*Areas of landscape whose character is judged to be intact and in good condition, and where...natural or cultural heritage features make a particular contribution to the landscape, or where there are important associations, are likely to be highly valued.*” It is also considered important not to approach the assessment on the basis that the international status of the WHS ‘washes over’ any consideration of other aspects of value. In discussing international and national designations, Paragraph 5.24 of the Guidelines of Landscape and Visual Impact Assessment, Third Edition (GLVIA 3), states: “*at a more local scale of an LVIA study area, it is possible that the landscape value of that specific area may be different from that suggested by the formal designation. Fieldwork should help to establish how the criteria for designation are expressed, or not in that particular area in question.*” This ability to ascertain whether the value of the landscape varies within a WHS is considered necessary to the assessment process. The suggestion that there should be a ‘very high’ sensitivity classification is similarly considered not to have been necessary as the ‘high’ classification is sufficient to undertake the assessment process and address the likely significant effects which may result from the Scheme.
- 14.1.4 The identification of sensitivity is a judgement on value and susceptibility. Paragraph 5.46 of GLVIA3 states: “*An internationally, nationally or locally*

valued landscape does not automatically, or by definition, have high susceptibility to all types of change". Therefore, if the susceptibility of the landscape is not high, it may lead to the sensitivity of the landscape not being high.

- 14.1.5 Additionally, the assessment process set out in Table 7.2 of the Landscape and Visual Effects ES Chapter [APP-045] enables a 'high' sensitivity receptor to experience a 'very large' significance of effect and therefore the highest tier of the significance of effect. The visual geographic value does not fail to recognise the value of views across the WHS; as Table 7.2.6 in the LVIA Methodology [APP-222] includes for national views, considered sufficient for the tier of 'high'. The addition of very high or the creation of a new classification or further refinement of that classification would add nothing to our understanding and assessment that is not already given the highest consideration.

Key Issue

- 14.1.6 **A failure to take the international status of the WHS into account has led to a down- playing of landscape and visual effects because an entire level of classification has been omitted from the process as demonstrated in the tables included in ES Appendix 7.2 LVIA Methodology**

Highways England response

- 14.1.7 As explained above, an entire level of classification has not been omitted from the assessment, because the determination of criteria was based upon a high, medium and low categorisation, which is considered appropriate to address the sensitivity of the landscape and visual receptors within the study area. This is considered to align with paragraph 5.29 of the Guidelines for Landscape and Visual Impact Assessment (GLVIA 3) which states: "*Areas of landscape whose character is judged to be intact and in good condition, and where...natural or cultural heritage features make a particular contribution to the landscape, or where there are important associations, are likely to be highly valued.*"

Key Issue

- 14.1.8 **The method used for assessing impacts has relied too heavily on tables without the necessary supporting detailed narrative descriptions of effects, particularly on landscape elements**

Highways England response

- 14.1.9 It is appropriate for the method to establish a series of tables to guide the assessment of landscape and visual effects. Paragraph 8.10 of The Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA 3), sets out the effectiveness of tables and matrices and Interim

Advice Note 135/10 provides set tables for the assessment of a road scheme.

- 14.1.10 The consideration of the impacts (magnitude) is therefore based on the definitions from Interim Advice Note 135/10 (IAN 135/10) because they are specific to a Highways England road scheme and therefore considered appropriate to address the likely impact of the Scheme. For both landscape and visual magnitude there are more than three categories of magnitude, as set out in Tables 7.2.9 and 7.2.10 of the LVIA Methodology [APP-222]. Impacts are set out within the Schedule of Landscape Effects [APP-227] and Visual Effects [APP-228].
- 14.1.11 The landscape and visual assessment has been based upon a narrative text as set out in the Schedule of Landscape Effects [APP-227] and Visual Effects [APP-228] with tables used to provide summaries where appropriate within the landscape and visual impact assessment chapter [APP-045].

Key Issue

- 14.1.12 **Individual landscape receptors which could be affected have not been identified and discussed in detail. Instead the only aspect of the landscape which appears to have been considered is that this is an open and rolling landscape with few hedges.**

Highways England response

- 14.1.13 The effects to landscape receptors have been set out in full in the Schedule of Landscape Effects [APP-227]. This Schedule itemises each of the landscape receptors, making it clear which landscape receptors have been identified and assessed. The importance of the interrelation between monuments in the Stonehenge and Avebury World Heritage Site (WHS) is also considered within the Schedule of Landscape Effects [APP-227] in terms of landscape connectivity. The assessment for this matter is specifically addressed in the Cultural Heritage Setting Assessment [APP-218]. The landscape characteristics of the WHS are considered from the review of the WHS Management Plan [APP-045 paragraphs 7.6.117 seq.], field work and have informed the identification of local landscape character areas as illustrated in APP-086, described within [APP-225] and assessed within APP-227. As such, the landscape characteristics which have been taken into account are far more than just a landscape which is open and rolling with few hedges', which is not a phrase referenced within the Landscape and Visual Impact Assessment [APP-045].

Key Issue

- 14.1.14 **No consideration has been given to the interrelation between monuments in the WHS**

Highways England response

- 14.1.15 The importance of the interrelation between monuments in the Stonehenge and Avebury World Heritage Site (WHS) is considered within the landscape and visual impact assessment [APP-045] as set out in paragraph 7.8.6 (c). The Schedule of Landscape Effects [APP-227] for local landscape character areas, for example LLCA 14, considers the interrelationship in terms of landscape connectivity. The assessment for this matter is specifically covered by the Cultural Heritage Setting Assessment [APP-218].

Key Issue

- 14.1.16 **The viewpoints considered in the LVIA do not take into account all views, nor those with the potentially greatest effects. The selection of viewpoints has been focussed on public rights of way. There are however areas of the WHS that are currently publicly accessible and opening up access to more areas is planned. This should have been considered and effects on people at these viewpoints from these areas should have been assessed. The A303 currently provides public views of the WHS and the proposed replacement byway would do so in future. This does not seem to have been taken into account in the LVIA.**

Highways England response

- 14.1.17 The purpose of the viewpoints is that they are representative and using 'all' views would not be a 'reasonable and proportionate' approach, as prescribed in paragraph 6.2 of the Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3), nor one which is practical, as set out in GLVIA3 para 6.17.
- 14.1.18 Publicly accessible locations and those chosen for the visual assessment are appropriate as GLVIA 3 paragraph 6.16 states 'public viewpoints, transport routes and places where people work' as groups of people to be identified as 'visual receptors'. GLVIA 3 paragraph 6.20 also states that the selection of final viewpoints should take account of a range of factors including the 'accessibility to the public'.
- 14.1.19 The principal matter outlined in GLVIA 3 paragraphs 6.2 and 6.18 is the agreement of viewpoints with the competent authority, which has been undertaken as set out in Table 7.3 of the Landscape and Visual Impact Assessment [APP-045] and within the Statement of Common Ground with Wiltshire Council.
- 14.1.20 The viewpoints have considered public rights of way and areas of permissive open access land within the Stonehenge and Avebury World Heritage Site, as set out in Appendix 7.6: Visual Baseline [APP-226] these locations are:
- Viewpoint 12: The Stonehenge Visitor Centre;

- Viewpoint 14: View south-east from permissive open access land east of the pedestrian gate access to the Winterbourne Stoke Group within the WHS; and
 - Viewpoint 16: View west from access land close to Normanton Gorse.
- 14.1.21 The impact to drivers on the existing A303 is included within Chapter 13: People and Communities [APP-051].
- 14.1.22 The Landscape and Visual Impact Assessment did not include pedestrian views from the A303 as the ability to walk within the footprint of the road (as proposed by the Scheme reverting the A303 to a Restricted byway) does not currently exist, and the assessment is based upon the existing situation.

Key Issue

- 14.1.23 **The landscape effects of the cuttings and tunnel portals and the very large junction proposed west of Longbarrow Crossroads have been discussed, but then their effects have been apparently discounted because of the supposed benefits of putting part of the A303 in a tunnel. It is not correct methodology to pretend that inconvenient effects do not exist and they should not be ignored in a balance of effects in the way that has been done in the LVIA.**

Highways England response

- 14.1.24 The impacts of the cuttings and portals and Longbarrow junction have not been discounted. They have been assessed as part of the impact to landform during construction [including APP-045 paragraphs 7.7.2 (e); 7.7.4; 7.9.16] and with impacts stated as: *“With reference to the landscape effect tables in Appendix 7.7, the construction impacts to landform, vegetation and tranquillity would result in significant adverse effects to the following LLCA and LTCA”* [APP-045, paragraph 7.9.29].
- 14.1.25 Similarly, the impacts of the cuttings and portals have been considered in operation [APP-045, including paragraphs 7.9.31 and 7.9.44] with conclusions of: *“However, the impact to the landform within the WHS would be adverse; due to the cutting approach to the western portal and between the eastern portal and Countess Roundabout”* [APP-045 paragraph 7.9.45].
- 14.1.26 Adverse effects are not ignored, with residual significant adverse effects for the Upper Till Floodplains and Meadows local landscape character area [APP-045, Table 7.13] and not significant adverse effects to local landscape character areas set out in APP-227.
- 14.1.27 It is appropriate to consider both the adverse and beneficial impacts of the Scheme as set out in APP-045 in reaching a conclusion about the significance of effects, as set out in paragraph 5.35 of the Guidelines for Landscape and Visual Impact Assessment, Third Edition which includes: *“the effects on the landscape should embrace...positive and negative effects*

of the development. They are likely to include: “Combined effects of these changes on overall character”.

Key Issue

- 14.1.28 **The methodology used in the LVIA has failed to consider important landscape and visual effects and has down-played the significance of those that have been considered by a failure to recognise the designation of the Stonehenge WHS as an internationally important historic landscape**

Highways England response

- 14.1.29 The methodology has not failed to consider important landscape and visual effects because it has identified local landscape character areas and a range of visual receptors. The assessment has then considered the aspects of the proposed Scheme in relation to the landscape and visual receptors and assigned a magnitude of impact (change) to this, as set out in Table 7.2.9 and 7.2.10 of APP-222. These tables are from Interim Advice Note 135/10 which is specific to a Highways England scheme. The definitions within Tables 7.2.9 and 7.2.10 of APP-222 enable both adverse and beneficial change to be considered. The methodology, as set out in paragraph 7.3.15 of APP-045 then provides a guide to the relationship between the sensitivity of a receptor and the magnitude of impact, and that the assessor is able to use professional judgement to differ from the matrix provided in APP-045 Table 7.2, subject to provision of reasoned justification.
- 14.1.30 The importance of the designation of the Stonehenge and Avebury World Heritage Site has been considered as it is referenced in APP-045 paragraph 7.6.73.
- 14.1.31 The potential impacts of the Scheme have not been downplayed. The Schedule of Landscape Effects [APP-227] predicts significant adverse effects during the construction phase of the Scheme within the WHS and a range of adverse and beneficial effects within the WHS during the operation phase, some of which are significant beneficial.

Key Issue

- 14.1.32 **Table 7.2.7 in the ES deals with the susceptibility of people as visual receptors and is separate from the site itself**

Highways England response

- 14.1.33 It is appropriate for Table 7.2.7 [APP-222] to address the susceptibility of people as visual receptors because people are visual receptors, as set out in paragraph 2.21 of the Guidelines for Landscape and Visual Impacts, Third Edition (GLVIA3): “assessment of visual effects: assessing effects on specific views and on the general visual amenity experienced by people”. Additionally, GLVIA 3 paragraph 6.30 states: “It is important to remember

from the outset that visual receptors are people”. Visual effects are assessed separately from landscape effects and it is therefore also appropriate that the susceptibility of visual receptors is separate from the site itself, which is considered in and addressed by the landscape assessment”.

Key Issue

- 14.1.34 **There seems to have been only a cursory attempt to describe effects resulting from the proposed major engineering works on landscape receptors. The tables describing landscape effects do not explain in any detail which landscape receptors have been considered. This is however an essential part of the process of carrying out an assessment of the landscape effects of any proposed development. There appears to be no proper recognition of the important interrelation between monuments in the WHS landscape. Indeed, the only landscape characteristic that appears to be taken into account is that this is an open and rolling landscape with few hedges.**

Highways England response

- 14.1.35 The effects to landscape receptors have been set out in full in the Schedule of Landscape Effects [APP-227]. This Schedule itemises each of the landscape receptors, making it clear which landscape receptors have been considered and described. The importance of the interrelation between monuments in the Stonehenge and Avebury World Heritage Site (WHS) is also considered within the Schedule of Landscape Effects in terms of landscape connectivity. The assessment for this matter is specifically covered by the Cultural Heritage Setting Assessment [APP-218]. The landscape characteristics of the WHS are described and considered within the review of published landscape character assessments and related studies [APP-224 paragraph 7.6.117 seq.] and the local landscape character areas [as set out in APP-225], such that the landscape characteristics which have been taken into account are far more than just an ‘open and rolling landscape with few hedges’, which is not a phrase referenced within the Landscape and Visual Impact Assessment [APP-045].

Key Issue

- 14.1.36 **There is more to this landscape than that, which is why it has an international designation recognising its outstanding universal value. For example, the WHSMP identifies some key characteristics of the landscape at 2.2.18: “Typically, much of the WHS is an open landscape in which the sky dominates. The undulating landform, with large fields bounded by fences and long distant views of plantations, clumps of trees, roads and upstanding archaeological features are the most distinctive characteristics of the downland plateau landscapes within the WHS. The general absence of hedgerows and buildings is also a notable feature.”**

Highways England response

- 14.1.37 Paragraphs 7.6.117 to 7.6.122 of the Landscape and Visual Impact Assessment (LVIA) [APP-045] summarise findings from the WHS Management Plan, including descriptions of character as per that summarised by item. 20 of the Written Representation. This demonstrates that the LVIA [APP-045] considered the WHS Management Plan and characteristics of the landscape as part of the identification of local landscape character area based upon the WHS Management Plan and the likely impacts and effects to the landscape character.

Key Issue

- 14.1.38 **More importantly at 8.3.7 the WHSMP says “The main pressures on the landscape continue to include development and changes in land use which can alter or even destroy these often subtle, but important visual and contextual relationships. Such relationships are in themselves attributes of the OUV of the WHS. Improved understanding of these relationships enhances enjoyment of a visit to the WHS as a whole, rather than limiting experience to key monuments such as the Henge at Avebury and the Stones at Stonehenge and a few set-piece viewpoints.” These subtle but important contextual relationships appear to have been completely overlooked in the LVIA.**

Highways England response

- 14.1.39 Contextual relationships such as those referenced have not been overlooked in the Landscape and Visual Impact Assessment (LVIA) [APP-045]. The LVIA has assessed the impact from the change in land use (the existing A303 within tunnel, introduction of the long bridge and portals and the retained cutting of the western approach). The LVIA also considers the improved landscape connectivity within the WHS as a result of the closure of the existing surface route, removal of traffic and reversion of the existing road to a restricted byway and additional access in line with Stonehenge and Avebury World Heritage Site Management Plan objectives.
- 14.1.40 The assessment of the OUV is not within the LVIA as it was considered appropriate for this matter and subsequent assessment to be within the Heritage Impact Assessment [APP-195], with APP-195 stating: *“Heritage Impact Assessment (HIA) is undertaken to evaluate the impact of potential development upon the Outstanding Universal Value (OUV) of World Heritage properties, to evaluate the potential impacts of the Scheme upon Integrity and Authenticity and to inform the development of Scheme design and mitigation measures”.*

Key Issue

- 14.1.41 **Viewpoints appear to have been selected to be relatively representative, but certainly do not take into account all views, or**

those with the largest potential effects. For example, a viewpoint closer to the A303 at the Longbarrow Cross Roads side of the WHS does exist and would show more of the new road.

Highways England response

- 14.1.42 Without the exact location of where the ‘viewpoint closer to the A303 at Longbarrow Cross Roads’ is located and the direction of the view, we are not able to comment as to the suggestion of visibility of the new road, or vehicles on the existing A303.

Key Issue

- 14.1.43 **No viewpoints have been considered along the line of the proposed permissive byway. People could – and I have done so – walk along the A303 to see how the monuments in the landscape relate to one another. Although the numbers of people concerned as visual receptors may be small at present, proximity to the new cuttings and portals will have a very large influence on how people using the new byway in the future experience the WHS and this must be taken into account. There will be views of the new road from green bridge 4, which don’t appear to be acknowledged. The verges of the A303 as it exists at present are publicly accessible viewpoints which should have been taken into account. This is a serious defect in the LVIA.**

Highways England response

- 14.1.44 Views from green bridge 4 have not been included within the Schedule of Visual Effects [APP-228] because they would represent a ‘new’ view which is not currently available to the public, whereas the assessment is based on the existing baseline. The representative visual receptors included in the Schedule of Visual Effects follow assessment guidance on the approach to assessing the Scheme. The absence of a viewpoint from walking on the verge of a major highway is due to such activity not being encouraged on safety grounds. Where possible, locations of visual receptors have been included from within close proximity to the existing road such as viewpoint 21 [APP-112] to provide a safe and representative view.

Key Issue

- 14.1.45 **Similarly, the A303 itself is a publicly accessible viewpoint and there will be visual effects on people travelling along it. It is very well known that many people look forward to seeing Stonehenge as they pass by and that many also appreciate views of the other monuments in the WHS that they can see at present from their vehicles. Such people should be regarded as sensitive visual receptors and the effects upon them must be properly considered.**

Highways England response

- 14.1.46 The effects to these receptors are assessed in Chapter 13, People and Communities of the Environmental Statement [APP-051, paragraphs 13.9.45 seq]. Please also refer to Highways England's response to Written Question LV.1.30 [REP2-033].

Key Issue

- 14.1.47 **Guided tours to the landscape of Stonehenge take people to many of the monuments. Because those people are there to experience and understand the landscape with its interrelated monuments, they are particularly sensitive receptors. The selected viewpoints do not seem to take this into account.**

Highways England response

- 14.1.48 Guided tours and therefore tourists have been taken into account within the visual assessment, with their inclusion as a receptor group within the assessment, e.g. paragraph 7.3.6 and 7.6.128 of the Landscape and Visual Effects ES Chapter [APP-045]. The selected viewpoints within the Stonehenge and Avebury World Heritage Site include monuments and identified views via viewing panels. With reference to Appendix 7.6: Visual Baseline [APP-266] these include:
- a. Viewpoint 13: View south-west from the Stonehenge, Avebury and Associated Sites World Heritage Site interpretation panel viewpoint located at the northern end of the Winterbourne Stoke Group;
 - b. Viewpoint 19: View south-west from a Stonehenge, Avebury and Associated Sites World Heritage Site interpretation panel viewpoint located to the south of the Stones;
 - c. Viewpoint 20: View south-east from the Stonehenge, Avebury and Associated World Heritage Site interpretation panel located on Byway AMES12 adjacent to the Cursus;
 - d. Viewpoint 22: View west from the Stonehenge, Avebury and Associated World Heritage Site interpretation panel viewpoint located at the eastern end of The Cursus;
 - e. Viewpoint 23: View west from the Stonehenge, Avebury and Associated World Heritage Site interpretation panel viewpoint where the Avenue crosses King Barrow Ridge; and
 - f. Viewpoint 28: View south-west from WHS interpretation panel viewpoint located in access land approximately 100m west of Woodhenge monument.

Key Issue

- 14.1.49 **The WHSMP says at Policy 4c – “Encourage access and circulation to key archaeological sites within the wider WHS landscape. Maintain appropriate arrangements for managed open access on foot within the WHS (taking into account archaeological, ecological and community sensitivities) to increase public awareness and enjoyment.”**

Highways England response

- 14.1.50 We consider that the Scheme responds positively to Policy 4c by the proposed provision of a restricted byway along the alignment of the existing A303 and the inclusion within the Scheme of access across the long bridge to link with new access adjacent to the A360 as indicated on the Rights of Way and Access Plan [APP-009].

Key Issue

- 14.1.51 **Clearly more areas could be visited by the public who would be particularly sensitive receptors if they were there to explore and appreciate the WHS landscape. The selection of viewpoints in the LVIA appears to be based on existing public rights of way without taking into account views from other present and future publicly accessible areas.**

Highways England response

- 14.1.52 The Landscape and Visual Impact Assessment has taken into account locations other than just public rights of way within the Stonehenge and Avebury World Heritage Site (WHS). With reference to Appendix 7.6: Visual Baseline [APP-226] these are:
- a. Viewpoint 12: The Stonehenge Visitor Centre;
 - b. Viewpoint 14: View south-east from permissive open access land east of the pedestrian gate access to the Winterbourne Stoke Group within the WHS; and
 - c. Viewpoint 16: View west from access land close to Normanton Gorse.

Key Issue

- 14.1.53 **In future people will be aware of the very large scale of the engineering works for the cuttings at either end of the tunnel and of course the very large scale of the new junction west of the existing Longbarrow Crossroads**

Highways England response

- 14.1.54 The proposed Scheme design has sought to reduce the impact of the cuttings and Longbarrow junction. The cuttings minimise the land take within Stonehenge and Avebury World Heritage Site (WHS) and include chalk grassland.

- 14.1.55 Longbarrow junction is indicated on the Engineering Section Drawings [APP-010] as being below existing ground levels and with reference to the Environmental Masterplan [APP-059] with hedgerow and tree planting. Longbarrow junction is also further from the boundary of the Stonehenge and Avebury World Heritage Site boundary than the existing Longbarrow roundabout and, unlike the existing roundabout, will not be lit.
- 14.1.56 Future awareness of these features is still within the context of the proposed Scheme being located in part of the landscape and WHS which consists of existing infrastructure which with reference to the WHS Management Plan are 'intrusive elements' as set out paragraph 7.6.122 of APP-045.
- 14.1.57 The mitigation included within the Scheme design has therefore lowered the potential impact of the cutting and Longbarrow junction and specific design features such as the retained cutting have been developed via consultation with Stakeholders.

Key Issue

- 14.1.58 **Insufficient weight appears to have been given to the effects of the proposed scheme adjacent to the western edge of the WHS. The WHSMP says at paragraph 8.3.1 that “The setting of the WHS is characterised by a rolling open landscape which is particularly sensitive to development.”³². The LVIA (ES Chapter 7) says at 7.7.3 that “Beneficial change to the landscape and visual receptors during the operational phase would result from: c) removing or downgrading the physical and visual impact of the existing A303 within the WHS, so as to physically and visually reconnect the landscape within the WHS.”**
- 14.1.59 **This is misleading and incorrect and fails to properly acknowledge the adverse effects of the cuttings and tunnel portals. The section of the A303 put out of view in a tunnel does not mitigate the significant adverse landscape effects elsewhere and cannot be regarded as offsetting those adverse effects. They must be fully acknowledged in paragraph 7.7.4 but have not been.**

Highways England response

- 14.1.60 As per paragraph 7.7.3 of the Landscape and Visual Impact Assessment (LVIA) [APP-045] we consider that there would be beneficial change from the removal and downgrading of the existing A303 particularly in relation to the removal of the sight and sound of vehicles. Paragraph 7.7.3 of the LVIA (Section 7.7) sets out consideration of both beneficial and adverse change, including from the construction and operational phases of the Scheme. The adverse impacts of the portal and cutting are included in Paragraph 7.7.4 of APP-045, stating: “Adverse change to the landscape and visual receptors during the operational phase would result from the: a) increase in the extent of the road corridor across the landscape between Berwick Down and the Western Portal, along with the associated highways infrastructure, including

directional signage, variable message signs (and associated glare) and concrete retaining walls; b) vehicles in elevated positions across the landscape, including across the southern part of the area east of Parsonage Down, the River Till Viaduct and Countess Flyover; c) the scale of Longbarrow junction; and d) new structures and massing within the landscape, including Countess Flyover and its reinforced embankments and the River Till Viaduct”.

Key Issue

- 14.1.61 **The cuttings will be new large-scale structures and linear features in a highly valued landscape. Rounding off the top of the banks will not mitigate their landscape effects as new features in a world acclaimed historic landscape. This measure may help reduce visual effects but won't apply to landscape effects.**
- 14.1.62 **There is a confusion between landscape and visual effects in the LVIA in that the landscape effects are on the landscape resource and affect landscape receptors, not people who are visual receptors. The cuttings and other engineered features of the proposed changes to the A303 within the WHS would be a very large and irreversible alteration from the existing situation and would introduce significant features into the landscape which have never existed in it before.**

Highways England response

- 14.1.63 There is no confusion within the Landscape and Visual Impact Assessment (LVIA) [APP-045] as to the assessment of landscape impacts being different from that of visual impacts. They are set out as separate assessments within paragraphs 7.3.5 and 7.3.6 of the LVIA as well as the LVIA methodology [APP-222]. Rounding off the top of the slopes above the retained cutting would reduce the landscape impacts compared to having steeper and more engineered profiles, by better integrating the earthworks into the landform. The LVIA does not suggest that the rounding off of the top of the banks will wholly mitigate the impact of the retained cutting as the cutting itself will retain an adverse impact to the landform within the Stonehenge and Avebury World Heritage Site, as set out in paragraph 7.9.44 and 7.9.45 of APP-045.

Key Issue

- 14.1.64 **There seems to have been only a cursory attempt to describe effects resulting from the proposed major engineering works on landscape receptors. The tables describing landscape effects do not explain in any detail which landscape receptors have been considered. GLVIA3 is quite explicit in paragraph 8.10 that tables should only be used to supplement narrative descriptions**

Highways England response

- 14.1.65 The effects to landscape receptors are set out in full in Schedule of Landscape Effects [APP-227] and in accordance with the Guidelines for Landscape and Visual Impact Assessment (GLVIA 3) APP-227 provides a narrative description for each receptor for the construction and operation phases of the Scheme.

Key Issue

- 14.1.66 **The LVIA at paragraph 7.3.16 says “h) Likely beneficial effects during the operational phase included beneficial change to the existing landscape and visual context as a result of sections of the Scheme being in cutting and in tunnel, balanced with adverse effects from additional highways infrastructure and grade separated junctions.”**
- 14.1.67 **This is NOT the approach described in GLVIA3. Adverse and beneficial effects should be described separately. They do not balance out in the way suggested.**

Highways England response

- 14.1.68 The likely adverse and beneficial impacts of the Scheme have been considered separately as set out throughout the Landscape and Visual Impact Assessment [APP-045].

Key Issue

- 14.1.69 **The new cutting approaches to the tunnel portals would be major new intrusive elements within the WHS. No mitigation has been proposed nor could any be effective in reducing the adverse landscape effects of these massive engineered features.**

Highways England response

- 14.1.70 Mitigation has been proposed as indicated on the Environmental Masterplan [APP-059] and set out within the landscape and visual impact assessment [APP-045] section 7.8 Design. This mitigation is considered able to reduce the adverse impacts of new features within the WHS. This mitigation includes:
- Responding to the vision of Highways England’s ‘the road to good design’ which requires road networks to *“reflect in its design the beauty of the natural, built and historic environment through which it passes, and enhancing it where possible”*;
 - Identify the existing character and integrate the Scheme within the existing landscape;
 - Maximising landscape enhancement opportunities resulting from the removal of vehicles on the existing A303;

- Maximising non-motorised users (NMU) opportunities within the WHS via green bridges, re-use of the existing A303 and connectivity to existing byways;
- Avoiding the creation of new upstanding earthworks which would conflict with the inter-relationship of archaeological monuments/features within a rolling open landscape; and
- The landscape design process was based upon the Design Manual for Roads and Bridges Volume 10 Part 2: Environmental Functions.

Key Issue

- 14.1.71 **The new Longbarrow Junction on the edge to the WHS is of such a scale that it too would have a significant adverse landscape effect and of course it would have an effect on the perception of the area for anyone visiting the WHS via that junction.**
- 14.1.72 **These massive road cuttings do not fit the context described in most of the landscape characterisations as open rolling downland.**

Highways England response

- 14.1.73 The integration of the proposed Scheme within the open rolling downland is achieved by the earthwork design and the rounding off of the upper parts of the embankments as set out in Section 7.8 of APP-045 which outlines the design measures to respond to the landscape context.

Key Issue

- 14.1.74 **The WHS landscape contains significant linear earthworks forming part of the prehistoric landscape. Adding huge new linear earthworks to that landscape does not respect or enhance it and will dilute the impression created by the much more subtle prehistoric earthworks. They may well be at a distance from the cuttings, but since one of the claims made for the road scheme is that it is intended to reunite the WHS landscape and enable people to experience it more fully then an awareness of the cuttings (and tunnel portals) will affect how those seeking to understand the whole WHS landscape perceive it.**
- 14.1.75 **The LVIA (ES Chapter 7) claims at paragraph 7.9.58 that “The Scheme responds positively to the NCA Statements of Environmental Opportunity by: a) enhancing the WHS landscape through the removal of the existing A303, new landscape connectivity and recreational opportunity”.**
- 14.1.76 **However the scheme does NOT remove the A303 from the WHS landscape – only from part of it and the cuttings and portals will be obvious to visitors who seek to explore and understand the relationship between monuments in the WHS landscape.**

- 14.1.77 **The LVIA (ES Chapter 7) also claims at paragraph 7.9.65 that “By year 15, the completed earthworks, in combination with the establishment of chalk grassland and unrestricted agricultural use, would be integrated into the existing landform”.**
- 14.1.78 **This is nonsense. The adverse effects of the cuttings would remain and since no effective mitigation is proposed or could exist the effects would not be diminished. Even if people became accustomed to the new road its adverse landscape effects would persist. Similarly, at paragraph 7.9.68 the LVIA (ES Chapter 7) it says that “The scale of Longbarrow Junction and its traffic lights would be lessened by the establishment of the tree planting bordering the junction, along with the extent of hedgerows adjacent to Longbarrow cutting west.”**
- 14.1.79 **The scale of the junction would of course NOT be diminished by planting. There would be some softening of its impact, but it would still be a very large highway structure imposed on an open rolling downland landscape.**
- 14.1.80 **The LVIA (ES Chapter 7) says at paragraph 7.9.69 that “The establishment of the chalk grassland adjacent to the cutting approach to the western portal would reduce the perception of the cutting and the transition from the wider landscape to the retained cut.”**
- 14.1.81 **Chalk grassland is of course a valuable habitat, but to suggest that what really would be a thin coat of greenwash will reduce the landscape effect of this cutting is laughable. Landscape is about much more than visual perception, as set out at para.8, above, in the quote from Interim Advice Note 135/10.**

Highways England response

- 14.1.82 The design of the retained cutting is set out in the responses to Relevant Representations, including RR-0658, RR-1336, RR-1567, RR-2036, RR-219, RR-2075. These set out that UNESCO/ICOMOS recommendations and World Heritage Committee decisions have informed the development of the Scheme including setting the road in deep retained cuttings to minimise landtake within the Stonehenge and Avebury World Heritage Site (WHS).
- 14.1.83 The existing A303 is already a linear feature within the WHS and with reference to APP-045 paragraph 7.6.122 of APP-045 the presence of vehicles as an intrusive feature is set out within the WHS Management Plan.
- 14.1.84 The completed earthworks would be integrated into the landscape by year 15 because of the establishment of chalk grassland aided by their intended gradients to integrate into the landform; as would the establishment of the planting at Longbarrow junction lessen the perceived scale of Junction within the landscape.
- 14.1.85 The provision of chalk grassland is a valued landcover type being introduced into this part of the Stonehenge and Avebury World Heritage Site (WHS).

With reference to the Environmental Masterplan [APP-059] the chalk grassland is indicated as extending as a continuous swathe from the existing A303 through to Longbarrow junction as well as to the full extent of the proposed Scheme boundary. The establishment of this grassland will reduce the perception of the cutting and aid in the integration of the earthworks above the retaining walls.

Key Issue

- 14.1.86 **In Chapter 1 of the ES at 1.2.2 it says, “The Scheme would resolve traffic problems and, at the same time, protect and enhance the Stonehenge, Avebury and Associated Sites World Heritage Site (“WHS”).”⁵⁵. This paragraph fails to mention aspects of the proposals which are recognised in the ES as having major adverse effects on the WHS. It would not protect the whole WHS, and would only enhance part of it.⁵⁶. This part of Chapter 1 exposes a fundamental flaw in the analysis of both landscape and visual effects – it is not correct to simply dismiss all adverse effects and only mention beneficial effects in order to present a development in the best light.**

Highways England response

- 14.1.87 The Landscape and Visual Impact Assessment (LVIA) [APP-045] has not been based upon Chapter 1 of the Environment Statement [APP-039] which is providing an overview of the Scheme at paragraph 1.2.2, drawing upon all of the assessments undertaken in the Environmental Statement.
- 14.1.88 The LVIA has been undertaken based on the works proposed in the draft development consent order application (described principally in Schedule 1 of the draft development consent order [REP2-003], the works plans [APP-008] and the engineering sections [APP-010]) and the maximum area of land anticipated as likely to be required, taking into account the full extent of the proposed limits of deviation (LoD) for the Scheme (summarised in Table 2.1 of APP-040) and the flexibility of detailed design provided for in the draft development consent order [REP2-003].
- 14.1.89 Adverse effects have not been dismissed. The adverse impacts are summarised in paragraph 7.7.4 of APP-045 and identified and stated throughout the schedule of landscape effects [APP-227] and visual effects [APP-228].

15 Stonehenge Alliance (Noise and Vibration Tranquillity) (REP2-132)

15.1 Landscape and Visual

Key Issue

- 15.1.1 Paragraphs 7.9.51, 7.9.52 and 7.9.53 all describe adverse or beneficial effects on tranquillity in terms of a visual and audible reduction in vehicles. The assessment of tranquillity (both existing and changes resulting from the proposal) appears to have been based simply on a field surveyor's subjective opinion into relative audibility and visibility of vehicles on the road

Highways England response

- 15.1.2 Within APP-045, the assessment on tranquillity includes a baseline review of:
- Published landscape character assessments, which note that the A303 intrudes on tranquillity [APP-045, paragraph 7.6.108].
 - Information from the Campaign to Protect Rural England (CPRE) as stated in APP-045 paragraph 7.7.76 and illustrated on Figure 7.5 [APP-083].
 - The 'noise important areas' within the study area and information [APP-045].
 - The Cranborne Chase tranquillity mapping (within the Cranborne Chase AONB Management Plan) [APP-045, paragraph 7.6.80].
- 15.1.3 In addition to the above, field work has been undertaken across the study area to both observe and listen to levels of existing noise within the landscape and inform the assessment.

Key Issue

- 15.1.4 I cannot comment with any authority on how the visual presence of vehicles might affect tranquillity. However, since there has been no consideration of the presence of natural sounds, man-made sounds or overall sound level and character and no road traffic noise levels have been referred to when assessing tranquillity within this chapter, tranquillity has not been properly assessed in my opinion

Highways England response

- 15.1.5 The definition of tranquillity referred to in APP-045, paragraph 7.6.75 and provided from Interim Advice Note.135/10 paragraph 2.13 which defines tranquillity as:

“the remoteness and sense of isolation, or lack of it, within the landscape, which is often determined by the presence or absence of built development and traffic.”

- 15.1.6 The Guidelines for Landscape and Visual Impact Assessment (GLVIA3) also states in paragraph 4.18 that noise and movement of vehicles are operational aspects of a scheme which may affect perceptions of tranquillity in the landscape.
- 15.1.7 The visual presence of vehicles and views of their movement is therefore part of ascertaining the perception of tranquillity.

Key Issue

- 15.1.8 **Again, I am not qualified to comment in relation to how changes to landform or vegetation might affect Character Areas but since, in my opinion, tranquillity has not been properly assessed I would question whether the conclusions presented in Table 7.7 are reliable.**

Highways England response

- 15.1.9 The landscape and visual impact assessment, including an assessment of tranquility, presented in APP-045 has been undertaken by competent experts as set out in paragraph 7.1.2 of APP-045.
- 15.1.10 The assessment on tranquility has been undertaken from both desk based reviews and field work, as set out in the Applicant’s response to issue 15.1.1. This has also included for using the baseline and assessment data within Chapter 9- Noise and Vibration [APP-047]. The impacts to tranquility have been considered for the construction, year 1 and year 15 phases of the Scheme, as set out within APP-045, and used to inform part of the overall judgements on impacts and effects to landscape character areas in APP-227.
- 15.1.11 The changes to landform and vegetation are part of the consideration of built development and or the change in visibility of vehicle movement, which with reference to AR-016-5f above are included within the Guidelines for Landscape and Visual Impact assessment as an aspect of a scheme which may affect perceptions of tranquillity. The conclusions presented in Table 7.7 are therefore reliable.

15.2 Noise and Vibration Effects

Key Issue

- 15.2.1 **The noise and vibration assessment for the proposed development does not consider noise effects on quiet or tranquil areas within its defined study area.**

Highways England response

- 15.2.2 Specific consideration of the Parsonage Down SSSI and the World Heritage Site (WHS) as potentially sensitive receptors in the Noise and Vibration chapter of the ES [APP-047] is consistent with the methodology prescribed in the Design Manual for Roads and Bridges (DMRB).
- 15.2.3 However, Figure 9.4 [APP-167] and 9.5 [APP-168] of the Environmental Statement (ES) illustrate the short term and long term change in traffic noise levels across the whole of the traffic noise modelling study area, including any areas that could be considered quiet or tranquil.
- 15.2.4 In accordance with the methodology prescribed in DMRB the focus of the noise and vibration chapter is the change in traffic noise levels within the noise study area, as this is the noise receptor which will be affected by the Scheme. As noted in paragraph 2.33 of Volume 11 Section 3 Part 7 of the DMRB, noise is only one characteristic that informs the level of tranquillity and there are interactions with other environmental topics. Therefore, tranquillity is considered within the Landscape and Visual Impact Assessment [APP-045] for the construction and operation phases of the proposed Scheme and utilises the traffic noise modelling across the whole of the traffic noise modelling study area.

Key Issue

- 15.2.5 **Table 9.26 states that the change in noise level at Stonehenge (meaning the henge itself) would result in a significant beneficial effect. This is not supported by the evidence from the baseline survey.**
- 15.2.6 **The baseline noise survey data has been incorrectly interpreted to mean that noise from the A303 is a significant problem at the henge.**

Highways England response

- 15.2.7 We do not agree that noise from the A303 is not a significant issue within the World Heritage Site (WHS).
- 15.2.8 With reference to paragraph 11.1.14 of the Stonehenge and Avebury World Heritage Site Management Plan 2015: *“The road and traffic represent visual and aural intrusion and have a major impact on the tranquillity of the WHS.”*
- 15.2.9 Table 9.26 in the Environmental Statement (ES) [APP-047] states that a major beneficial effect at Stonehenge is anticipated in terms of the reduction in traffic noise from vehicles being within the tunnel and retained cutting. Table 9.26 does not draw any conclusions in relation to a benefit on tranquillity at the Stones or the wider WHS, only the benefit on traffic noise levels, but with reference to paragraph 7.9.53 of APP-045, this is considered to result in beneficial impacts to the tranquillity of the WHS.
- 15.2.10 It is agreed that the baseline noise monitoring at Stonehenge indicates that other sources of noise, notably visitors to the site, are a significant source at

the Stones. However, this does not negate the significant reduction in traffic noise levels at the Stones and the beneficial impacts predicted from the removal of vehicles on the A303, especially in the context of the definition of tranquillity referred to in APP-045 paragraph 7.6.75 and provided from Interim Advice Note 135/10 paragraph 2.13 which defines tranquillity as: *“the remoteness and sense of isolation, or lack of it, within the landscape, which is often determined by the presence or absence of built development and traffic”*.

- 15.2.11 Obviously it is beyond the scope of the Scheme to have an impact on other noise sources at Stonehenge such as visitors.
- 15.2.12 At locations within the World Heritage Site (WHS) away from large concentrations of visitors where road traffic is the existing dominant source, the benefit of the reduction in traffic noise levels due to the tunnelled section of the Scheme would result in a significant reduction in overall noise levels.
- 15.2.13 With regard to tranquillity, Figure 7.5 [APP-083] of the ES illustrates the existing tranquillity across the study area as mapped by the Campaign to Protect Rural England (CPRE). With regard to the baseline situation APP-045 paragraph 7.6.82 states that tranquillity varies across the WHS, increasing further from the Stonehenge Visitor Centre and existing A303, the latter of which is evidently highly visible and audible from close range locations including the Stones, King Barrow Ridge and Byways AMES 11 and AMES 12.
- 15.2.14 With regard to the operation of the Scheme APP-045 paragraph 7.9.53 states that there would be a beneficial impact to the tranquillity within the WHS above the tunnel due to the visual and audible reduction in vehicles and the reversion of the existing A303 to a restricted byway. The beneficial impacts to the Stones in respect of tranquillity are included as one of the factors in the assessment of landscape effects on local landscape character areas across the WHS within the Schedule of Landscape Effects [APP-227], including for local landscape character.

Key Issue

- 15.2.15 **The only noise sensitive receptors considered which are not buildings are the henge at Stonehenge and Parsonage Down SSSI. These sites are considered without the benefit of relevant baseline survey data and the criteria used to assess impact is inadequate for the purpose. Conclusions reached in relation to the impact on tranquillity at these two locations are therefore unreliable, in my opinion.**

Highways England response

- 15.2.16 As detailed above baseline noise monitoring was completed at Stonehenge. It is acknowledged that baseline noise monitoring was not completed at Parsonage Down. However, given the large extent of the SSSI and the fact that the basis of the traffic noise assessment, in accordance with DMRB, is

the comparison of predicted traffic noise levels with and without the Scheme, it is not considered that this affects the conclusions of the traffic noise assessment with regard to the SSSI.

- 15.2.17 The Noise Chapter of the ES [APP-047] considers the impact on the SSSI and WHS in terms of the change in traffic noise levels. In addition, the proportion of each site which falls above/below specific noise levels (Lowest Observable Adverse Effect (LOAEL) and Significant Observable Adverse Effect (SOAEL)) is also provided to give further context. For the WHS paragraph 9.9.53 states that a major reduction in traffic noise level is predicted along the tunnelled section of the Scheme, including at Stonehenge. Outside of the tunnelled section decreases in traffic noise levels occur on the existing A303 alignment and increases on the new alignment. For Parsonage Down SSSI paragraph 9.9.50 states that the magnitude of the change in traffic noise levels in the opening year at the closest approach of the SSSI to the bypass is major or moderate for a very small area, less than 2% of the area of the SSSI which falls within the noise modelling study area, reducing to minor and negligible with increasing distance from the bypass. The majority of the site experiences a negligible change.
- 15.2.18 The Written Representation expresses concern over the values of the LOAEL and SOAEL used. These values are Highways England standard levels applied to all road schemes. However, as detailed above the use of these values is not fundamental to the conclusion of the traffic noise assessment on the impact of the Scheme at the WHS and SSSI, they simply provide additional context. On this basis the conclusions of the traffic noise assessment with regard to the changes in traffic noise levels at the WHS and SSSI are reliable.
- 15.2.19 No conclusions on tranquillity are provided in the Noise and Vibration chapter. As detailed above, the assessment of tranquillity is contained within Chapter 7 Landscape and Visual [APP-045]. The conclusions with regard to tranquillity at the WHS are reported above.
- 15.2.20 With regards to tranquillity at Parsonage Down SSSI APP-045 paragraph 7.9.51 acknowledges that there would be an adverse impact to the tranquillity within the Scheme boundary between the western end of the Scheme and the western part of the WHS. i.e. including Parsonage Down. This is due to the presence of the new dual carriageway bypassing Winterbourne Stoke.

Key Issue

- 15.2.21 **The area over which the assessment has been carried out is not wide enough. There are areas outside of the assessment area which would be exposed by the Scheme to increases in road traffic noise of at least 3-5 dB and these areas have not been considered. It is entirely**

possible that there may be some locations which would be quiet or tranquil and which have not been considered.

Highways England response

- 15.2.22 The Written Representation refers to Figure 9.5 of the Environmental Statement (ES) [APP-168] and states that this shows areas at the eastern and western end of the study area where noise levels will increase by 3-5 dB. This is incorrect, Figure 9.5 illustrates that at the eastern and western ends of the Scheme the long-term traffic noise change falls within the smallest long term increase band of 0 to 2.9 dB, which is defined in the Design Manual for Roads and Bridges (DMRB) as negligible. In addition, as required by the DMRB, Chapter 9 Noise and Vibration of the ES [APP-047] includes an assessment of 'affected routes' outside the maximum 1km traffic noise modelling study area. This indicates that potentially significant increases in traffic noise along the A303 beyond the ends of the Scheme are not anticipated. On this basis it is concluded that there are no sites further along the A303 which are currently considered to be tranquil which would potentially be adversely affected by the Scheme, and therefore the assessment is not incomplete.

Key Issue

- 15.2.23 **If, hypothetically, the British Museum were located where Stonehenge is located, the predicted vibration from tunnelling would 1.6 times the museum's criterion of 0.1mm/s for exhibition/storage areas and similarly if it were located at Stonehenge Cottages which are a similar distance from the tunnel alignment to that of receptors such as the long barrow, the predicted tunnelling vibration would be approaching seven times the Museum's second action level**
- 15.2.24 **Given that archaeological remains must be assumed to be more fragile than buildings of brick and concrete, it has to be said that there is a potentially substantial risk of damage to archaeological remains which has not been properly taken into account as a significant effect**

Highways England response

- 15.2.25 Details of the assessment of potential impacts from vibration during construction are set out in the Environmental Statement (ES) Chapter 9, Noise and Vibration [APP-047]. The prediction methodology for vibration from the Tunnel Boring Machine (TBM) follows the tunnelling vibration methodology prescribed in BS 5228:2009 + A1:2014 'Code of Practice for noise and vibration control on construction and open sites'. This methodology is conservative as it is derived from worst case source data for tunnelling in rock using a hydraulic hammer. Source data for TBM works and chalk ground conditions indicates lower levels of vibration are likely to be generated, however as a precautionary approach the BS 5228 tunnelling vibration prediction methodology has been used. The predicted vibration

levels at Stonehenge are reported in Table 9-15. A level of 0.16 mm/s ppv (peak particle velocity) is predicted at Stonehenge which is over 200m away from the closest approach of the TBM, and 2.0 mm/s at Stonehenge Cottages which is a minimum of approximately 32m from the closest approach of the TBM. Paragraph 9.9.21 reports the impact at Stonehenge as half the Lowest Observable Adverse Effect Level (LOAEL) for annoyance. Paragraph 9.9.20 reports the impact at Stonehenge Cottages as exceeding the Significant Observable Adverse Effect Level (SOAEL) for annoyance. The levels of vibration that may cause building damage are far in excess of those that may cause annoyance. Based on BS 7385-2: 1993 'Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from groundborne vibration', the criteria for the onset of cosmetic building damage from continuous vibration is 6 mm/s. The Noise and Vibration assessment therefore concluded there would be no risk of any impact due to vibration from the TBM at Stonehenge and there would be a risk of annoyance impacts at Stonehenge Cottages.

15.2.26 With regard to archaeological assets Stonehenge Alliance cites a first action level of 0.1mm/s ppv and a second action level of 0.3mm/s ppv for continuous vibration, which are contained within a document produced by the British Museum. These trigger levels are specified in relation to exhibition/storage (Collections) areas, the 0.1mm/s ppv first action level is designed to stop objects 'walking' on shelving. The British Museum document notes that this level is slightly below the criteria for an operating theatre. It is noted that the action levels relate to measurements at either the building floor or wall 'adjacent to the structure supporting the exhibits of relevance' i.e. not at the object itself. As 'Some structures supporting exhibits can amplify vibrations hence the conservative nature of the limits proposed is appropriate for these instances'. In addition, the British Museum document states that the trigger levels include a 'margin of safety' to allow for the range of sensitivities of museum collection materials.

15.2.27 The British Museum trigger levels for museum collections are considered to be very conservative. A number of other studies of construction works affecting museums have used vibration limits for collections which range between 1 and 3 mm/s ppv.

More importantly, the use of such criteria, designed to protect collections in a museum environment, are not considered to be applicable to the nature of the heritage assets along the route of the tunnel. The Heritage Impact Assessment [APP-195, para. 9.2.8] identifies that the tunnel passes directly beneath a long barrow 250m north of Normanton Gorse (NHLE no. 1008953). The long barrow is a small, consolidated earthwork which has settled to its present state over c.5000 years and is unlikely to contain any voids. The scheduling description also notes that the barrow was partially excavated in the 19th century and produced three primary inhumations and two later burials. The 19th century excavation hole has been backfilled and consolidated. It is also noted that this earthwork is in an area that was

previously used for arable agriculture and use by agricultural machinery and the earthwork has been ploughed down / plough eroded. Significant impacts due to construction vibration are not anticipated, however the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) does include obligations in respect of vibration and sensitive cultural assets. Compliance with the OEMP is secured through the requirement contained in paragraph 4 of Schedule 2 to the draft development consent order [REP2-003].

- 15.2.28 On the basis of the above discussion Highways England do not agree that 'there is a substantial risk of damage to archaeological remains which has not been properly taken into account as a significant effect.

Key Issue

- 15.2.29 **it is not known how monitoring will prevent damage until relevant damage thresholds are identified. Once the TBM has been launched the opportunities for mitigation of vibration are almost non-existent, as vibration from tunnel boring is only weakly dependent on controllable parameters such as cutter head rotation speed and thrust force**

Highways England response

- 15.2.30 The Environmental Statement Chapter 6, Cultural Heritage [APP-044], paragraph 6.8.2 notes that the mitigation embedded within the bored tunnel design (i.e. the use of a bored tunnel rather than a cut and cover tunnel design) minimises the risk of direct physical impacts on archaeology. This is because heritage assets are concentrated at or close to the surface, therefore the use of a bored tunnelling method for the majority of the tunnel, instead of surface based construction methods, minimises the potential for any direct physical impacts.
- 15.2.31 The Outline Environmental Management Plan (OEMP - Environmental Statement Appendix 2.2) [APP-187] (a revised version of which is submitted at Deadline 3) requires the contractor to undertake a vibration scoping appraisal of the works to construct the Scheme (MW-NOI5), and vibration monitoring at Stonehenge Cottages (MW-NOI6). Monitoring of heritage assets, including Stonehenge and the long barrow 250m north of Normanton Gorse, would also be carried out (MW-NOI5 and MW-NOI6). Details of the proposed vibration monitoring would be set out in the Noise and Vibration Management Plan (MW-NOI3). Compliance with the OEMP is secured by paragraph 4 in Schedule 2 to the draft development consent order [REP2-003].
- 15.2.32 The draft Detailed Archaeological Mitigation Strategy (DAMS), [REP2-038] submitted at Deadline 2, will be a certified document and its implementation is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. The DAMS includes details of the archaeological mitigation and also identifies areas to be protected in situ above the tunnel

alignment. The DAMS [REP2-038] and OEMP [APP-187] (a revised version of which is submitted at Deadline 3) both require the development of a Scheme-wide Heritage Management Plan (HMP) for the Main Works phase (detailed in the OEMP [APP-187, MW-CH1]) which will indicate how the historic environment is to be protected in a consistent and integrated manner including the effects of construction (including vibration). This will include the monitoring of heritage assets scheduled in the OEMP [APP-187, MW-CH7] that may be sensitive to vibration and agree actions to control/mitigate impacts to minimise as far as reasonably practicable vibration impacts on archaeological remains. The HMP will be developed in consultation with the Heritage Monitoring and Advisory Group (HMAG). The draft DAMS also sets out a monitoring programme for areas that are being preserved in situ (for example, those heritage assets situated above the tunnel). This will include condition surveys in advance of the works and monitoring at identified sensitive assets during the works.

- 15.2.33 It will be the responsibility of the contractor to ensure risks are assessed and mitigated in their safe systems of work during construction. As part of this plan, the contractor will develop contingencies using a suite of tool box items from further investigation, assessment and monitoring during construction to identify measures to ensure the protection of assets (including cultural heritage sensitive assets). This could range from simply slowing down the TBM to instigating ground stabilisation measures including grouting. The Main Works Contractor's approach will be outlined in their Heritage Management Plan, which is a requirement of the OEMP [APP-187, MW-CH1], which is secured by paragraph 4 in Schedule 2 to the draft development consent order [REP2-003].

16 Stonehenge Alliance (Transport Planning and Economic Issues) (REP-129)

16.1 General and cross-topic

Key Issue

16.1.1 Section 6.2 Lack of Strategic Environmental Assessment for corridor

Highways England response

16.1.2 The consenting framework for strategic road improvements is set mainly by the National Networks NPS (NNNPS).

16.1.3 The “South-West corridor” proposal, although it calls itself a programme in some literature, is not a plan or programme within the meaning of the SEA Directive (European Directive 2001/42/EC). In the context of the DCO, the plan or programme which constrains the decision making (and requires an SEA) is the NNNPS. Therefore, Highways England does not consider that a SEA is required for the corridor approach and such an assessment has not been undertaken.

Key Issue

16.1.4 Section 6.3 Lack of cumulative assessment of whole corridor.

Highways England response

16.1.5 It is assumed that, by “corridor”, the representation is referring to the A303/A358 corridor and the works included within Road Investment Strategy (RIS) 1. The cumulative impacts arising from other schemes to enhance the A303/A358 corridor committed to within RIS1 have been fully considered. In relation to cumulative traffic effects, further traffic details can be found in the Transport Assessment [APP-297] section 5.3. Regarding cumulative emissions effects, the traffic data utilised in the assessment of air quality effects assumes that the Road Investment Programme (RIP) schemes in the Road Investment Strategy (RIS1) to the west of Stonehenge: the A303 Sparkford to Ilchester improvement; and the A358 Taunton to Southfields scheme are constructed and operational, as set out in ES Chapter 5, Air Quality [APP-043], Section 5.4. As such, the full impacts of these schemes are fully understood in the context of emissions.

16.2 Alternatives

Key Issue

16.2.1 Section 4.1 Inadequacy of the assessment of alternatives from a transportation planning perspective.

- 16.2.2 **Consider that the option identification and assessment process has been fundamentally flawed because it is wholly focussed on delivering a specific outcome – a fully grade separated dual carriageway Expressway – without any examination of alternatives.**

Highways England response

- 16.2.3 The Applicant disagrees with the assertion that the assessment of alternatives has been inadequate and has set out below a summary of the full and comprehensive assessment of alternative options which was carried out for the Scheme indicating how this is aligned with NPSNN, WebTAG and Highways England Project Control Framework (PCF).
- 16.2.4 An overview of the assessment of alternatives can be found within the Environmental Statement Chapter 3 – Assessment of alternatives [APP-041].
- 16.2.5 Paragraph 4.27 of the NPSNN states that, ‘All projects should be subject to an options appraisal. The appraisal should consider viable modal alternatives and may also consider other options (in light of the paragraphs 3.23 to 3.27 of this NPS). Where projects have been subject to full options appraisal in achieving their status within Road or Rail Investment Strategies or other appropriate policies or investment plans, option testing need not be considered by the examining authority or the decision maker. For national road and rail schemes, proportionate option consideration of alternatives is undertaken as part of the investment decision making process. The Examining Authority and the decision maker should be satisfied that this assessment has been undertaken.
- 16.2.6 Consideration was given to alternative options to a road scheme during Project Control Framework Stages 0, 1 and 2. The outcome of the stage 2 assessment is contained in Appendix 8.5 of the Transport Assessment [APP-297] and provides greater detail on why rail improvement cannot entirely solve the identified problems in the Scheme location.
- 16.2.7 The Scheme Assessment Report (SAR), [REP1-023] and Technical Appraisal Report (TAR), [REP1-031] were compiled by the Applicant to describe and explain the process of options appraisal which led to the identification of the preferred route. This process followed Highways England’s Project Control Framework (PCF) which is an established staged process starting with problem and opportunities identification (Stage 0), options identification (Stage 1) (see Chapter 5, Page 72, TAR [REP1-031]), and options appraisal (Stage 2) (see Chapter 6, page 98, SAR [REP1-023]). The TAR and SAR include the results of the WebTAG (Web based Transport Appraisal Guidance) process, which is a Department for Transport process used to inform Government funding decisions.
- 16.2.8 The process used during PCF Stage 1 had a number of stages (referred to as ‘Design Fixes’, see paragraph 5.1.1 of TAR [REP1-031]) in order to sift the large number of corridor and route options identified (see Section 1.3,

page 19, TAR [REP1-031]). This process was used due to the large and complex nature of the project to ensure that all possible options were considered in a proportionate way. These stages of appraisal are described in the remainder of the TAR (Chapter 5 onwards).

- 16.2.9 The SAR, prepared at PCF Stage 2, then summarises the work undertaken in Stages 0 and 1, and describes the further work carried out in Stage 2 to select a preferred route, following further detailed appraisal. This is described in Chapter 6 (page 98) onwards [REP1-023].
- 16.2.10 During Scheme development, the options were subject to public consultation as set out in Figure 2.1 of the Consultation Report [APP-026] and described in Chapter 2 of that report. This included information events in February 2016 and non-statutory consultation between January and March 2017. Statutory consultation was then undertaken between February and April 2018 and non-statutory supplementary consultation undertaken between July and August 2018.
- 16.2.11 Table 6.1 of the Transport Assessment [APP-297] shows that one lane in each direction is not sufficient, with Volume over Capacity ratios without the Scheme at 100% or over in all peaks. As lanes are added to a highway link, the capacity increases in increments linked to the number of lanes, depending on if either one or two lanes are provided, so it is not possible to increase link capacities by small percentage increases. A single lane option, which could potentially cost less, is shown to not provide the required capacity.
- 16.2.12 The need for a second lane is highlighted in the hourly flows outlined in Appendix J (Hourly flow diagrams – Core scenario) of the Combined Modelling and Appraisal Report – Appendix C [APP-301]. This shows that the '2041 with scheme' link flows past Stonehenge (Figures J.17 to J.20) are in excess of 1,600 vehicles per hour in the AM, PM and Busy period, which is the accepted theoretical capacity of a 2 into 1 lane merge and would therefore cause queuing.
- 16.2.13 The Applicant considers that the options appraisal undertaken is a full options appraisal and consideration of alternatives, not only following the WebTAG and PCF processes normally used to assess road schemes, but going further during PCF Stage 1 by introducing additional stages in order to take account of the number of options requiring consideration. The Applicant notes that paragraph 4.27 of the NPSNN states that it is not necessary for the Examining Authority and the decision maker to reconsider this process. However, as evidenced above and in the SAR and TAR, the Examining Authority and decision maker can be satisfied that the assessment was undertaken.

Key Issue

- 16.2.14 **Section 4.2 Public Transport Alternatives**

Highways England response

- 16.2.15 Paragraph 4.2.2 of the Written Representation states that ‘In relation to the London to Exeter corridor the SWARMMS report did support dualling of the A303’ but then goes on to state that the SWARMMS report also proposed a range of public transport measures to complement the scheme. Rail use was the only viable alternative to the A303 Scheme, but assessment undertaken in Appendix 8.5 of the Transport Assessment: Assessment of Alternative Modes [APP-297] (the Technical Note) explains why it cannot replace the A303 road improvements.
- 16.2.16 Consideration was given to alternative options to the A303 road scheme during Project Control Framework (PCF) Stages 0, 1 and 2. The outcome of the assessment undertaken is contained in the Technical Note. The assessment provides greater detail on why rail improvement alone cannot entirely solve the identified problems in the Scheme location.
- 16.2.17 The purpose of the Technical Note was to ‘provide an assessment of alternative modal options for the A303 Stonehenge (Amesbury to Berwick Down) scheme, based on the requirement that scheme promoters should assess other modes and sustainable transport options, as a possible alternative to the given road scheme.’
- 16.2.18 The Technical Note considers the feasible alternative modes and follows the guidelines set out in Highways England’s Traffic Appraisal Modelling and Economics (TAME) Advice Note 2 v1.0 published in July 2015. The advice note describes the requirement in terms of the questions that must be answered to satisfy Highways England that all alternative modes have been examined and the proposed highway solution is the correct option.
- 16.2.19 The assessment originally undertaken during the Stage 0 Feasibility Study was based on a previous version of the guidance. This assessment has, therefore, been updated against the amended guidance, as reflected in the Technical Note. It should also be noted that it is not uncommon, particularly in fast moving projects such as this one, for reporting to be finalised at a later date than the original assessment. The updated reporting is consistent with other Stage 2 (option selection stage) reports. The assertion in the Written Representation that because the Technical Note “post-dates” the decision to proceed with an Expressway option, “it cannot be considered to be an open-minded consideration of alternatives” is not correct.
- 16.2.20 In relation to paragraph 4.2.7 of the Written Representation, the section of the Technical Note referred to describes the modal shift that would be required to achieve the same congestion reference flow outcome as was forecast for the scheme. The Technical Note does not state that such modal shift would be a requirement, as stated in the written representation. Highways England provided a response in respect of alternatives modes in response to the Examining Authority’s Written Question TR.1.37 [REP2-036]. This response discusses rail as an alternative option and explains why

the scale of modal transfer from road to rail that might conceivably be delivered by a step change to rail would be insufficient to address the scheme objectives, including addressing the congestion and associated problems currently observed.

Key Issue

- 16.2.21 **Consider longer tunnel options were rejected too easily during second stage of option sifting**

Highways England response

- 16.2.22 This point is addressed by Paragraph 7.4.1 in the Technical Appraisal Report (TAR) [REP1-031] which states that three of the Corridor D route options utilised a 4.5km long tunnel under the WHS. At the time, those options were assessed to generate capital costs in the region of £2 billion which were unaffordable and in excess of budget. On that basis, the options were rejected at that stage as unreasonable alternatives in favour of shorter tunnel route options which it was known (as set out below) had the potential to deliver acceptable heritage and environmental effects. Had those shorter tunnel options been unable to produce a scheme with acceptable heritage and environmental effects, the other aspects of those longer tunnel options would have been considered further. However, the shorter options were able to achieve this and so it was not necessary to revisit the longer tunnel options. The answers to AL1.29 – 32 [REP2-024] inclusive explain the longer tunnel options that were considered in response to subsequent UNESCO/ICOMOS comments and explain why they were determined to be less preferable than the Scheme option by reference to a full appraisal on a range of grounds.

Key Issue

- 16.2.23 **Dispute need to retain existing A303 with option F010**

Highways England response

- 16.2.24 At the time the tunnel options D061 and D062 were selected in preference to option F010, it was assumed that all the options included the removal of motorised vehicles from the route of the existing A303 through the WHS.
- 16.2.25 It was considered that the longer F10 diversion route, and the associated increased local journey times and impacts on affected communities, may lead to pressure from local communities and stakeholders for the old A303 to be retained for local access. However, this was not a determining factor in the selection of the tunnelled options as the preferred options for consultation at that time. All routes were considered to permit the proposed removal of motorised vehicles and the comparison of route options was conducted on this basis.

Key Issue

- 16.2.26 **Question why both options which completely avoid the World Heritage Site were rejected, although one was cheaper than the partial tunnel options.**

Highways England response

- 16.2.27 The Scheme has been developed from an extensive process of options appraisal, including the consideration of options which avoided the World Heritage Site altogether (ranging from longer tunnel options to surface routes north and south of the WHS), to identify the optimum solution, representing a significant investment by the Government aimed at addressing the congestion problems on the A303 and delivering benefits for the WHS. Further details on the options and the route selection, including reasons why options avoiding the WHS were discounted, can be found in the Technical Appraisal Report [REP1-031] and the Scheme Assessment Report [REP1-023]. The Applicant's responses to Written Questions AL.1.6-13, AL.1.15 and AL.1.29-32 [REP2-024] also provide further relevant information. The responses to AL.1.11-13 [REP2-024] in particular provide detail on why the cheaper F010 surface alternative was discounted.

Key Issue

- 16.2.28 **Over 70% of the benefits presented in the economic appraisal relate to the partial removal of the road from the World Heritage Site. If these are valid – and we raise concerns about them below – the benefits of total removal of the road should logically be greater**

Highways England response

- 16.2.29 As detailed in the Technical Appraisal Report [REP1-031], options avoiding the WHS were discounted notwithstanding the assessments recognising that they would bring greater benefits to the WHS. They were discounted because they would have greater adverse impacts overall and would be less successful in delivering the Scheme objectives. For instance, the F010 route would not interact effectively with the local road network, would result in higher levels of rat-running traffic, adversely affecting the quality of life in local communities, would pass through and cause significant effects to a largely unspoilt, high quality tranquil landscape and would have a much larger footprint and a greater overall impact, despite having greater benefits for the WHS. Further information in relation to F010 is contained in the Applicant's responses to Written Questions AL.1.11-13 [REP2-024].

16.3 Noise and Vibration Effects

Key Issue

- 16.3.1 **It is clearly inappropriate to be implementing projects which are forecast to increase emissions**

Highways England response

- 16.3.2 The regional air quality assessment outlined in ES Chapter 5 [APP-043] predicted increases in carbon dioxide (CO₂), oxides of nitrogen (NO_x) and particulates (PM₁₀) emissions with the Scheme operational in the opening year (2026) and future design year (2041). The reason for this is due to the increase in traffic flows with the Scheme operational, combined with the increase in vehicle kilometers travelled across the Scheme route and the wider area.
- 16.3.3 As stated in paragraph 5.9.68 of Chapter 5 of the ES [APP-043], '*in comparison to national CO₂ emission targets, increases in CO₂ from the whole of the strategic road building scheme, as noted in the NPSNN, anticipated over the next 10 – 15 years are considered to be small and the increases associated with the scheme are part of that small increase*'. These small changes in CO₂ emissions therefore comply with the NPSNN.
- 16.3.4 In terms of NO_x/NO₂ and PM₁₀, these changes are considered to potentially have human health effects at a local level, rather than a regional level. The significance of these changes have therefore been focused on in the local air quality assessment.
- 16.3.5 The local air quality assessment determined that there are no sensitive receptors (i.e. residential locations) with adverse changes in air quality above relevant air quality objectives. Additionally, there are no compliance risks or European (e.g. Special Areas of Conservation) and nationally designated habitat sites (Sites of Special Scientific Interest) with significant air quality effects. On this basis an overall evaluation of 'not significant' has been assigned to the Scheme for traffic emissions as described in Chapter 5, Air Quality, Table 5.14 [APP-043]. The Scheme therefore complies with the air quality policies outlined in the NPSNN.

16.4 Traffic and Transport

Key Issue

16.4.1 Section 3.1 Summary of Highways England's Case

Highways England response

- 16.4.2 After summarising the transport problems set out in section 2 of the Case for the Scheme [APP-294], Paragraph 3.1.3 of Stonehenge Alliances response correctly quotes that there is no automatic presumption that all trunk roads should be upgraded to Expressway standard. The Scheme is part of the Government's programme of improvements along the A303/A358 corridor designed to upgrade the route to a high-quality dual carriageway, in recognition of the problems along the corridor and the need to improve connectivity to the South West.

- 16.4.3 Setting this in context, the Road Investment Strategy for 2015 to 2020 (Road Investment Strategy for 2015 to 2020 road period [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/408514/ris-for-2015-16-road-period-web-version.pdf]) explains the basis of the Department for Transport forecasting and uncertainties concluding that (page 43) ‘it is reasonable to plan for growing levels of traffic ... on the SRN, we forecast that traffic ... will be between 27% and 57% higher in 2040 than it was in 2013’. Chapter 6 then sets out the DfT’s vision for the Strategic Road Network (SRN) ‘by 2040, we want to have transformed the busiest sections of the SRN to deliver safer, more stress free journeys’. On page 47 the document states ‘Our A-roads, too, must be upgraded to ensure the necessary improvement in performance across our network’. Part 2 of the document ‘The Investment Plan’ explains from page 17 of the document, the plans to improve the A303/A358 /A30 corridor, together with the Amesbury to Berwick Down Scheme.
- 16.4.4 The draft development consent order [REP2-003] application sets out compelling evidence that justifies the Amesbury to Berwick Down Scheme on its own merits and this is summarised in the Case for the Scheme [APP-294]. The Applicant considers that it has provided more than adequate justification for the Scheme.

Key Issue

- 16.4.5 **Section 3.2 Volume and Capacity, use of Congestion Reference Flow**

Highways England response

- 16.4.6 The Congestion Reference Flow (CRF) provides an indication of traffic volumes above which congestion would be expected to occur. As explained further in Annex D of the Design Manual for Roads and Bridges (DMRB) (Design Manual for Roads and Bridges, Volume 5 Assessment and Preparation of Road Schemes, Section 1 Preparation of Road Schemes, Part 3 TA46/97 Traffic Flow Ranges for Use in the Assessment of New Rural Roads, Annex D) ‘congestion’ is defined as ‘the situation when the hourly traffic demand exceeds the maximum sustainable hourly throughput of the link.’ The CRF referred to in the Case for the Scheme [APP-294], of 22,000 vehicles (Average Annual Daily Total - AADT) was calculated, in accordance with guidance, from local data and is one of the indicators and evidence presented that the road is congested.
- 16.4.7 As set out in the response to Tr.1.11 [REP2-036], congestion is experienced throughout the year, with median daily journey times increasing by over 1 minute and 9 seconds on more than 251 days of the year and by 4 minutes and 45 seconds on more than 101 days of the year. Tr.1.8 explains that these delays do not just occur on summer weekends. Analysis of bespoke surveys, summarised in the case for the Scheme [APP-294] paragraph 2.2.6, explain the substantial delays that occur on busy days.

- 16.4.8 Section 2.5.7-9 [APP-294] summarises analysis of survey data that shows the consequences of traffic diverting from the A303 and rat-running through local communities adjacent to the Scheme.
- 16.4.9 The evidence demonstrates congestion arises due to A303 capacity constraints.

Key Issue

- 16.4.10 **Section 3.3 Traffic Trends. Longstanding assumption of a close relationship between traffic growth and economic growth has not been valid since 2000.**

Highways England response

- 16.4.11 Section 3.3.1-3 of the Written Representation summarises historic traffic flows recorded on the A303, information also presented in section 2.3.7 the Combined Modelling and appraisal report [APP-298]. Both documents recognise the limitations of the DfT count data. The implications of the capacity constraints on this section of the A303 for interpreting growth trends are, however, not considered in the Written Representation.
- 16.4.12 Figure 2 of the Written Representation references Table TSGB0101 of the Department for Transport's Road Traffic Statistics, as well as GDP data provided by the Office for National Statistics. It is noted that Table TSGB0101 is used to evidence passenger travel trends since the year 2000. This dataset relates to car, van and taxi trips in Great Britain on all types of road in all regions. This dataset therefore includes major cities where traffic growth has in general slowed and excludes growth in Heavy Goods Vehicle (HGV) kilometres.
- 16.4.13 Table TRA02020 (Department for Transport, "Passenger Statistics Great Britain", December 2018, Table TRA0202, <https://www.gov.uk/government/statistical-data-sets/road-traffic-statistics-tra>) of the Road Traffic Statistics (TRA) produced by the Department for Transport details motor vehicle traffic (in kilometres) by road class in Great Britain for all motor vehicles including HGVs. This table shows that in 2017 all major A-roads have seen a growth in vehicle kilometres in the order of 11% since the year 2000 and that in 2017 major rural A-roads (such as the A303) have seen a growth in vehicle kilometres of 22% since the year 2000.
- 16.4.14 The traffic forecasting methods set out in WebTAG differentiate factors that result in different patterns of growth on different parts of the UK road network.
- 16.4.15 Paragraphs 3.3.7 & 3.3.8 of the Written Representation discuss general trends in travel demand and note that in general trip rates are falling with reference to a report by the Commission on Travel Demand (2018). The observed changes were reflected in work undertaken by the DfT in updating trip rates used in TEMPRO.

16.4.16 As discussed above, there is little evidence that the reduction in person trip rates result in a reduction in kilometres travelled on A-roads such as the A303. The consistency of historic trends with the traffic forecasts is discussed further in our response to section 5.7 of the Written Representation below.

Key Issue

16.4.17 **Section 3.4 Journey Times. Congestion problems mainly occur at summer weekends and especially on summer Fridays. Summer weekend congestion is a problem on all routes to the West Country (and other holiday destinations). It is highly questionable whether it would be good value to try to resolve it and – if so – whether providing extra highway capacity is the right solution**

Highways England response

16.4.18 As explained in responses [REP2-036] to Written Questions Tr.1.8 and Tr.1.11, congestion on the A303 between Amesbury and Berwick Down is not limited to summer weekends. The journey time evidence demonstrates a distribution of delays and demonstrates that particularly severe congestion is experienced with extended delays to travellers. Rat-running of through traffic onto local roads is demonstrated to have impacts for the local communities [APP-294, Section 2.5].

16.4.19 Journey time reliability on the A303/A30/A358 corridor is presented in sections 2.2.9 - 2.2.12 of the Case for the Scheme and NPS Accordance [APP-294]. A 2013 study assessed the percentage of journeys completed within a set reference time and found the westbound section of the A303 between the A360 and the A344 to be the worst performing section of the route, with reliability as low as 55%. The majority of sections on the route operated at between 70% and 80%. The unpredictability of journey times, over and above the general expectation that journeys will be slow and subject to delay, adds to driver frustration and reduces efficiency and increases costs for business journeys and freight transport.

16.4.20 In relation to the comment made that the journey time data is inconsistent with the statement about reliability, it is important to note that the 2017 journey time data referred to has been collected from an ANPR survey carried out over three days in the summer period and three days during the autumn period (as reported in the Transport Data Package [APP-299]). The journey time reliability study looked at journey time data from a whole year. It is not the case that average journey time data collected over two three-day periods would be expected to reflect the journey time unreliability over a year. The 2017 journey time data is therefore not inconsistent with the journey time reliability study.

Key Issue

16.4.21 Section 3.5 Accidents.

Highways England response

- 16.4.22 In relation to the inconsistency between average accident levels discussed in section 3.5.1 of this representation the Applicant can confirm that the correct value is an average of 17 accidents per year over the period from 2014 to 2017.
- 16.4.23 In relation to the suggestion made in section 3.5.2 that there would be more cost effective ways of improving road safety, such as speed cameras, it is important to remember that the case for the Scheme in terms of transport relates to creating a reliable route between the South East and South West, rather than focusing solely on safety benefits. While existing accident data does not indicate that this section of the A303 is a particular accident blackspot relative to other A roads of a similar standard, the new dual carriageway would provide a safer standard than the existing single carriageway and would reduce accidents, reflecting Highways England's aim of reducing accidents across the strategic road network.

Key Issue

- 16.4.24 **Section 3.6 The lack of network resilience is highlighted in Case for the Scheme and NPS Accordance. Superficially, this might appear to be an attractive argument. But it has some significant weaknesses. Firstly, an accident reduction scheme could significantly reduce accidents. Secondly, the deployment of Traffic Officers on the route would assist in clearing the road more quickly. Thirdly, improved driver information systems – would assist drivers to avoid any blockages. Improved information systems would also give drivers greater certainty and might assist in reducing rat-running.**

Highways England response

- 16.4.25 The Scheme is part of the Government's programme of improvements along the A303/A358 corridor designed to upgrade the route to a high-quality dual carriageway, in recognition of the problems along the corridor and the need to improve connectivity to the South West.
- 16.4.26 Chapter 2 of the NPSNN sets out the need for development of national networks and sets out the Government's policies to deliver nationally significant infrastructure projects on the national road and rail networks in England. Paragraph 2.2 states that 'there is a critical need to improve the national networks to address road congestion...; and to provide a transport network that is capable of stimulating and supporting economic growth.' Paragraph 2.10 states that 'the government has therefore concluded that at a strategic level there is a compelling need for the development of the national networks'. Paragraph 2.23 goes further to note that enhancement to the existing national road network will include 'improvements to trunk roads,

in particular dualling of single carriageway strategic trunk roads... to increase capacity and to improve performance and resilience'. It is therefore Government policy to enhance network resilience, through implementation of schemes such as Amesbury to Berwick Down.

- 16.4.27 Existing accident data does not indicate that this section of the A303 is a particular accident blackspot, therefore any accident reduction scheme is unlikely to significantly reduce accidents or contribute significantly to fulfilling the scheme objectives. What is evident is that there are parallel local roads which provide an alternative to the A303 through local communities which suffer from rat-running when congestion occurs on the A303. Whilst the suggested deployment of Traffic Officers on the route may assist in clearing the A303 more quickly following incidents, traffic would continue to rat-run through these local communities.
- 16.4.28 The Written Representation suggests that improved driver information systems- would assist drivers to avoid any blockages. This by definition means that drivers would need to find an alternative route and would be 'rat-running' along less appropriate routes, such as Packway through Larkhill or A360 through Shrewton.
- 16.4.29 There are other parts of the trunk route network where there are similarly limited route options. This is not however relevant to developing plans to alleviate problems on the Amesbury to Berwick Down section of the A303.

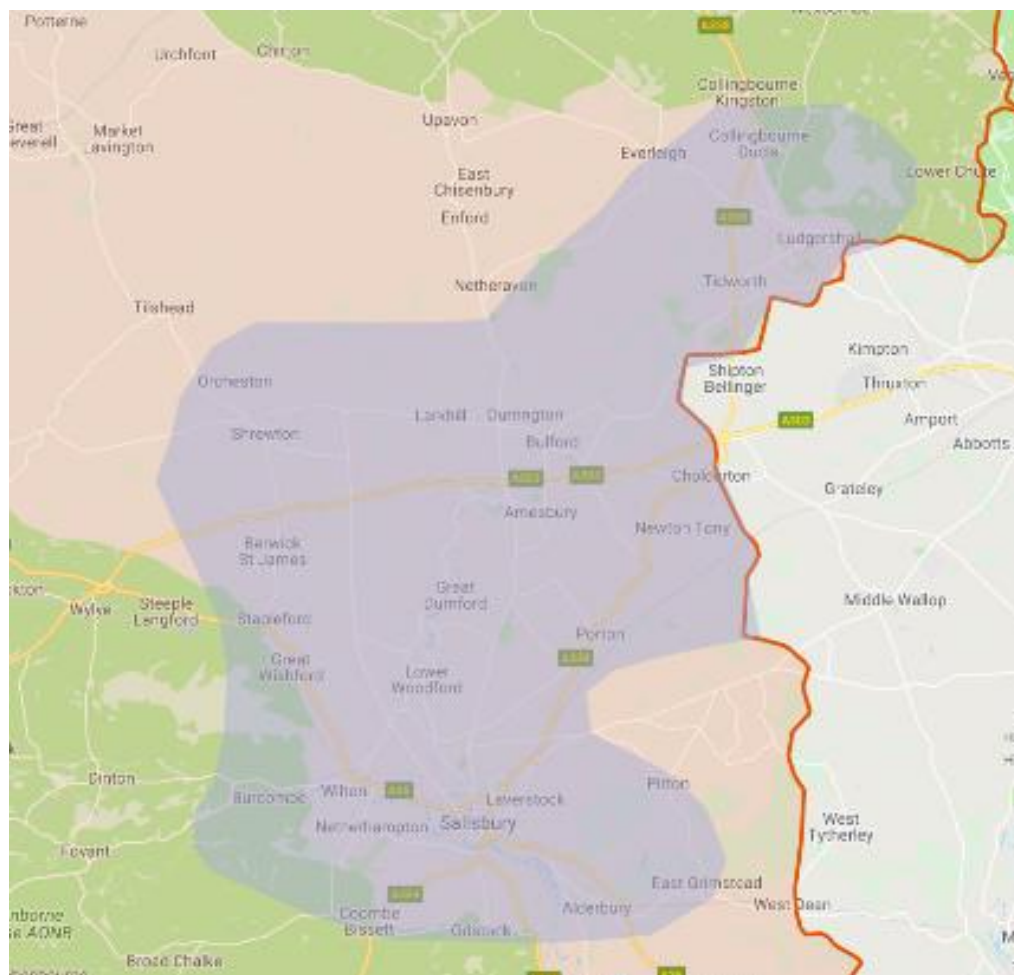
Key Issue

- 16.4.30 **Section 3.7 Wider Economic Impacts. We do not consider that the evidence supports the contention that congestion is sufficient to have a significant impact on economic growth.**

Highways England response

- 16.4.31 The local authorities along the A303 and near the scheme have concerns about how transport problems along the A303 affect the local economy. They have undertaken a number of surveys of businesses as summarised in the written response.
- 16.4.32 The surveys consistently demonstrate that the respondents have concerns that the congestion and reliability of the A303 had negative impacts on their businesses [Case for the Scheme APP-294, Section 2.3.4pp]. There are uncertainties and potential for bias in surveys of this type, which can both understate or overstate. This is however a moot point as the evidence presented clearly demonstrates that the A303 congestion and reliability is having an effect on the economy. Furthermore, no quantified outputs from the survey were used in assessing the merits to of the Scheme. Section 3.7.4 of this representation states that that the evidence from the 'Salisbury A303 Growth Zone' only represents communities orientated to the east of the scheme. This is not true. The figure below shows the SWLEP Salisbury A303 Zone area (shaded purple area) as defined on the SWLEP website

(<https://swlep.co.uk/our-advantage/growth-zones>). It is clear that settlements to the west of the project are also included, for example Berwick St James and Shrewton. Furthermore, the respondents will have considered the relevance to their businesses in responding whether or not they are affected by congestion on the A303.



- 16.4.33 Section 6.15 of the Combined Modelling and Appraisal Report – Appendix D: Economic Appraisal Package [APP-302] outlines the assessment of wider economic impacts undertaken using the DfT's Wider Impacts in Transport Appraisal (WITA) tool. This identified £35m in benefits associated with the agglomeration, labour supply and increased economic output in imperfect market benefits delivered by the Scheme, similarly evidencing some of the benefits of the Scheme to the local and South West economy.

Key Issue

- 16.4.34 **Almost two-thirds of the predicted increase in traffic on the A303 is either diverted from other main roads or is induced by the project**

Highways England response

- 16.4.35 Table 5-16 of the Combined Modelling and Appraisal Report – Appendix C [APP-301] indicates the change in traffic flows across a screenline through

the Scheme. This indicates that of the 7,800 additional trips on the A303, 3,000 trips are induced and 1,000 divert from major roads (the M4 and A31). This represents 57% of the predicted increase in traffic on the A303. The forecast decrease in traffic on local roads, as set out in section 6.3.11pp of the Transport Assessment [APP-297], would deliver benefits to the local communities as explained in in the communities impact assessment [APP-051].

Key Issue

- 16.4.36 **Concern that model does not adequately assess congestion on M3 and as a consequence, the model may over- estimate future demand on the project route section.**

Highways England response

- 16.4.37 Section 5.6.2 of the Stonehenge Alliance's Written Representation states that the South West Region Traffic Model (SWRTM) may over-estimate future demand on the route section as a result of not adequately assessing congestion on the M3 and other SRN routes in the South East.
- 16.4.38 Figure 4-3 of the of the Transport Model Package (Appendix B of the Combined Modelling and Appraisal Report [APP-300]) shows that part of the M3 (from Southampton to Basingstoke) lies in an area of full simulation and as such speed-flow relationships are modelled in detail. Paragraph 4.9.4 of the Transport Model Package states that speed flow curves have been applied in line with Regional Transport Model (RTM) coding guidance.
- 16.4.39 Paragraph 4.9.5 of the Transport Model Package states that fixed speeds are coded in the buffer network (areas of sparse network coding with limited simulation of speed-flow relationships away from the area of detailed modelling) of the base year model as per the regional traffic coding guidance. Base year fixed speeds on those links have been derived from Trafficmaster data (see APP-299 Section 6 for details of this data source) ensuring that the model suitably represents levels of congestion and network performance on the M3 and other SRN routes in the South East.
- 16.4.40 Section 4.10 of the Traffic Forecasting Package (Appendix C of the Combined Modelling and Appraisal Report [APP-301]) details the coding of capacity restraints in the forecast year models. Paragraphs 4.10.14 – 4.10.15 detail how fixed speeds were applied in the buffer network. On the external network, adjustments were made to reflect the change in speeds predicted by the National Transport Model (NTM) Road Traffic Forecasts 2015 Scenario 1. This is consistent with the regional traffic model forecasting guidance developed by Highways England appropriately to represent the impacts of congestion on the adjacent external road network.
- 16.4.41 Appropriate evidence therefore is used to estimate journey times outside the fully modelled area; the assertion that the forecasts may over-estimate future demand and benefits is not justified.

Key Issue

16.4.42 **Concern that trip frequency mechanism not included in Demand Model**

Highways England response

- 16.4.43 Chapter 12 of the Combined Modelling and Appraisal (ComMA) report Appendix B ‘the Transport Model Package’ [APP-300] outlines the approach used to ascertain the suitability of the Variable Demand Model (VDM). The VDM makes use of the Department for Transport’s (DfT) standard Dynamic Integrated Assignment and Demand Modelling (DIADEM) software which is consistent with the suggested model form as set out in guidance given in DfT’s WebTAG Unit M2.
- 16.4.44 As section 12.2 of the ComMA states, the VDM was validated according to the Realism Tests defined in WebTAG unit M2 to ensure that overall performance was not materially altered by the refinements to the Highway Assignment Model. Overall, the refinement of the highway assignment model has been demonstrated to have made no material change to the satisfactory sensitivity of the VDM which was also demonstrated for the Regional Transport Models, with realism testing providing similar elasticities and convergence being within the desired criteria. The evidence provided by this verification demonstrates that the sensitivity of the modelled demand to cost changes is appropriate. The modelling is therefore in accordance with the ‘national methodology’ as expected by paragraphs 4.6 and 4.7 of the National Policy Statement for National Networks (NPSNN).

Key Issue

16.4.45 **Section 5.5 Cultural Heritage Benefits and Contingent Valuation.**

Highways England response

- 16.4.46 It is not usual for Cultural Heritage Assets to be attributed a monetary value in the appraisal of transport schemes, but irrespective of whether they are ascribed a monetary value, impacts on cultural heritage assets are routinely assessed and incorporated qualitatively into appraisal of transport schemes. However, enhancing the cultural heritage of the Stonehenge World Heritage Site, through the delivery of the A303 Amesbury to Berwick Down Road Scheme, is of such significance that it formed an integral part of the Scheme objectives and, therefore, it is appropriate to attempt to express these qualitative impacts in a comparable unit to other elements of the appraisal. It is the most appropriate way to capture the value of these important benefits and make sure they are fully accounted for in the appraisal process.
- 16.4.47 The Scheme has been designed to address the transport issues and recognises the cultural and heritage importance of the area by removing the A303 from the WHS in an affordable manner. The consultancy firm Simetrica were appointed to design and conduct the ‘Willingness to Pay’ (WTP) surveys to elicit the value that three groups of individuals place on the

- benefits. They are a highly competent firm with extensive experience in this field.
- 16.4.48 Those willing to pay something were asked how much they would be willing to pay (in the form of an increase in annual taxes over a three-year period). Whilst those requiring compensation were asked what they would be willing to accept in compensation should the Scheme be built. Care was taken to ensure that responses were focused on the impact of removing the road from much of the landscape, rather than other factors such as transport benefits, and considerations of affordability. The study finds that the value of improving cultural heritage by removing the road from a section of the WHS is worth £6.88 per taxpayer per year, for the 3 years of the Scheme's construction. But it is also true that a proportion of respondents said they would pay nothing, and a proportion said they would need to be paid to compensate for the loss of a good view from the road. For the subset who were willing to pay a positive amount, the average value was £41.78 overall (not per year). This subset is not a representative sample of the population, so it is not possible to say whether the result for this group is 'reasonable' or 'intuitive'.
- 16.4.49 Initial checks of the results focused on the statistical validity of results; confidence intervals were established around the overall NPV. These results show with a 95% confidence that the aggregate net WTP is between £1.2bn and £1.5bn. In survey based approaches the risk of error can never be reduced to zero so results are presented as a central case within a range. The methodology used ensures that the residual risk of over-estimating the true values is no greater than the risk of underestimating them. Therefore, it is no more accurate or appropriate to use the lower bound value as it is to use the upper bound value when calculating a BCR or estimating net benefits. Presenting the result as a central estimate within a 95% confidence interval is acceptable and robust.
- 16.4.50 It is a best-practice requirement to conduct a range of validity tests for Contingent Valuation studies. Content validity tests look at the adequacy, realism and neutrality of the survey instrument as well as at respondents' understanding, perception and reactions to the questionnaire. Additionally, the rate of protest provides valuable information on how respondents reacted to the scenarios. The validity testing included extensive testing of the draft survey instruments with input from the fieldwork provider, Ipsos Mori. Face-to-face pilot survey followed by in-depth cognitive debriefing about all parts of the questionnaire with 15 visitors at Stonehenge and online pilot surveys were undertaken, with some cognitive follow-ups on key parts of the questionnaire with 100 panel respondents in total, in both cases mimicking the conditions in which the final surveys would be implemented.
- 16.4.51 The Pilot surveys identified responses that accord with what would typically be defined as protests, such as political views on reducing road use, uncertainties related to the current political climate, and protests related to

perceived risk of damage within the WHS from tunnel construction (stating that there should be a longer tunnel). Overall, the relatively small protest rates within these three categories (3.8%) support the validity of the estimated WTP measures.

- 16.4.52 The content validation through the pilot surveys allowed the final survey to be designed to control for any endogenous factors, i.e. instead of correcting for relationships that could affect our results after the fact which risked introducing bias.
- 16.4.53 Comparing results of this study to Maddison and Mourato (2001) requires adjustments to be made to inflation, growth and key differences in the proposed schemes and in the surveys: this survey asked questions of individuals, whereas the 2001 study asked about households; this survey asks about an almost 3km tunnel whereas the 2001 study asked about a 2km tunnel on the A303 and removal of the A344 (which has since been removed). Attempting to correct for all these differences is challenging, and it is not appropriate to simply uprate values into a comparable price base. Nevertheless, where a like-for-like comparison can be made it shows the results are broadly comparable.
- 16.4.54 The surveys elicited a relatively large number of respondents – above the initial target needed to generate statistically robust results allowing for margins of error. The results are therefore statistically reliable and robust.

Key Issue

- 16.4.55 **Questions the inclusion of A303 Sparkford to Ilchester and A358 Taunton to Southfields in core model forecasts**

Highways England response

- 16.4.56 The National Policy Statement for National Networks (NPSNN) paragraph 4.6 notes that it is expected that the ‘national methodology’ is followed in development of the local transport model. The DfT WebTAG guidance provides this national methodology. Traffic forecasts have been prepared in accordance with policy and guidance given in WebTAG unit M4 ‘Forecasting and Uncertainty’. The impacts of the Scheme are assessed by comparing without-scheme and with-scheme cases, referred to as the ‘Do Minimum’ and ‘Do Something’ respectively. These have been developed as per guidance in WebTAG unit A1-2 sections 2.2.1 and 2.2.2. Both future development and infrastructure that are considered to be ‘near certain’ and ‘more than likely’ have been included in both cases. These are captured in the Uncertainty Log as recommended in WebTAG unit M4 and presented in Appendix A of the Combined Modelling and Appraisal (ComMA) report Appendix C – the Transport Forecasting Package [APP-301].
- 16.4.57 Three of the schemes on the A303/A358 corridor are categorised as either ‘near certain’ or ‘more than likely’ by virtue of being part of the first Road Investment Strategy (RIS1) programme. These are the A303 Sparkford to

Ilchester (currently at DCO examination), the A358 Taunton to Southfields (which has completed non-statutory options consultation) and the A303 Amesbury to Berwick Down. Both the A303 Sparkford to Ilchester and A358 Taunton to Southfields schemes therefore form part of the without-scheme or 'Do Minimum' network.

- 16.4.58 Including such schemes does not, therefore, prejudge the outcome of the Development Consent Order process and is in accordance with policy and guidance.

Key Issue

- 16.4.59 **5.6.7 Busy Day Model. Greater uncertainty with forecasts**

Highways England response

- 16.4.60 Survey evidence on local travel patterns were conducted for both 'neutral' and 'busy' days as shown by the overall survey programme set out in Section 2.5 of the Transport Data package [APP-299]. The use of these data in developing trip matrices for the busy and neutral time periods is explained in section 7 of the transport Model Package [APP-300]. The model development was undertaken in accordance with WebTAG Unit M4 guidance and the suitability for use of both the busy and neutral day models verified using validation test and criteria recommended.
- 16.4.61 The transport forecasting considers uncertainty following WebTAG Unit M4 guidance as explained in Section 4.12 in the Transport Forecasting Package (Appendix C of the Combined Modelling and Appraisal Report (ComMA) [APP-301]. Sensitivity tests are presented in Section 5.7 that illustrate the consequential range of outcomes.

Key Issue

- 16.4.62 **Consider that the range in traffic forecasts for low and high scenarios is very narrow.**

Highways England response

- 16.4.63 Traffic forecasts have been prepared in accordance with guidance given in WebTAG unit M4 'Forecasting and Uncertainty' and used national datasets such as the National Trip End Model (NTEM) provided by the Department for Transport (DfT). This is in accordance with the National Policy Statement for National Networks (NPSNN) paragraphs 4.6 and 4.7 which notes that it is expected that the 'national methodology' is followed in development of the local transport model.
- 16.4.64 The sensitivity test forecasts have been developed in line with guidance in section 4.1 of WebTAG Unit M4 which states that 'most models will not be able to reflect, explicitly and fully, the uncertainty of national trends such as GDP growth, fuel price trends and vehicle efficiency changes as they will be relying on the national models underlying NTEM. Therefore, it is best to test

the impact of this uncertainty by using high and low growth scenarios instead’.

- 16.4.65 As explained in responding to section 3.3 of the Written Representation, there have been variations in traffic growth observed on different parts of the road network. The 10% growth forecast by 2026 is aligned with the roundly 20% observed historic growth in traffic on major rural A roads since 2000.
- 16.4.66 Guidance for developing high and low growth scenarios is detailed in section 4.2 of WebTAG Unit M4. This guidance has been followed when developing the high and low growth scenarios, as reported in section 4.12 of the Transport Forecasting Package (Appendix C of the Combined Modelling and Appraisal Report (ComMA), [APP-301]).
- 16.4.67 The high and low growth scenarios have been developed by adding or subtracting a proportion of base year demand. In 2041 this proportion is 12% (shown in Table 4-13 [APP-301]) of the base demand. The capacity constraints on the A303, and other roads, act to moderate or narrow the range in the resulting traffic flow forecasts.

Key Issue

- 16.4.68 **5.7.2 Asserts that historically forecasts for non-motorway trunk roads have over-stated demand.**

Highways England response

- 16.4.69 As paragraph 5.7.2 notes, the base year for the local transport model has been comprehensively updated to a 2017 Base Year to enhance the representation of local and strategic demand. This is documented in both the Transport Assessment [APP-297] and the Combined Modelling and Appraisal (ComMA) report [APP-298] and its appendices.
- 16.4.70 In addition to the reference to the DfT analysis, Highways England continuously evaluates schemes following implementation, producing Post Opening Project Evaluation (POPE) reports ‘1 year after’ and ‘5 years after’ the opening of a road scheme. Figure 4 of Highways England’s Evaluation Insights Paper (which sets out the results of the meta-analysis of scheme POPE reports) shows that while 59% of forecasts reviewed were within 15% of the observed flows post opening, there was a tendency over the period to overestimate rather than understate traffic volumes. The report attributes this to the economic downturn and notes that ‘more recent schemes have accounted for this within their traffic growth assumptions’. The traffic growth assumptions used in the forecasting methodology adopted for assessment of the A303 Amesbury to Berwick Down scheme have used up-to-date traffic growth assumptions. These assumptions are set out in the ComMA and in ComMA Appendix C – Transport Forecasting Package [APP-301]. The report goes on to state that, ‘looking across the programme, 90% of all scheme objectives have been achieved, with only 2% of these not observed to have been achieved.’ Further to this, and as noted in response to SE.1.29

in the Examining Authority's first round of Written Questions [REP2-035], the A303 Amesbury to Berwick Down scheme specifically drew upon post opening data from the A3 Hindhead Tunnel scheme. These data were used as part of the development of a speed/flow relationship for the proposed Stonehenge tunnel, helping to inform the journey time forecasts for the Scheme and hence improve the estimation of the economic benefits of the Scheme.

- 16.4.71 Stonehenge Alliance also point to research by Nicolaisen and Næss titled 'Roads to nowhere: the accuracy of travel demand forecasts for do-nothing alternatives', published in 2015 in Transport Policy journal. The research evaluated the without-scheme traffic flows for 35 road projects in Denmark (15) and England (20) planned in the period 1970-2010 and completed between 1985 and 2010. In each case the scheme was not in place in the modelled opening year either due to a political decision to postpone or abandon a project, a delay in construction such that the scheme was not open at the ex-post reference point, or where construction was not determined to have impacted the transport network and thus observed traffic volumes in the last year of construction could be compared to modelled flows. The research concludes that on average, actual traffic volumes for the without-scheme traffic scenario are 7% lower than those predicted in forecasts. The article notes that it is not possible to make a detailed inquiry into the causes of the overestimation but that a likely reason is due to the assumption of traffic volumes growing at a fixed annual rate, disregarding behavioral adjustment for travelers in situations of increasing congestion. A specific development of UK guidance (now comprising WebTAG unit M2), introduced about 15 years ago, on the use of variable demand modelling was designed to address this point to mitigate this risk. Given the period over which data were sourced for this study the outcome of this change in practice will not have been reflected. The Highways England Post Opening Project Evaluation (POPE) meta report of 2015 notes that there is evidence to suggest improved accuracy in traffic forecasting over time following this change to guidance. The traffic forecasts for the A303 Amesbury to Berwick Down scheme have additionally made use of the latest DfT datasets, including National Trip End Model (NTEM) v7.2 which includes recent research on trip rates, reflecting recent changes in travel behavior. The criticism raised in the Nicolaisen and Næss study relating to the use of trend based forecasting does not apply to the A303 Amesbury to Berwick Down scheme traffic forecasts, which have applied the WebTAG variable demand modelling guidance (unit M2) which was designed to address these concerns.

Key Issue

- 16.4.72 **5.7.3 References DfT's intention that more emphasis will be given to appraising schemes against different scenario tests.**

Highways England response

- 16.4.73 In preparing their 2018 road traffic forecasts, the written response is correct at 5.7.3-4 in that the DfT have investigated sources of forecasting uncertainty and adopted an approach of the presentation of alternative scenarios. At this time research to consider how such an approach might be applied to the assessment of individual schemes has not concluded and, accordingly, the Department for Transport's (DfT) Web-based Transport Analysis Guidance (WebTAG) Unit M4, which presents current guidance on alternative scenarios that should be modelled, explains the use of High and Low Growth scenarios described in section 4. In Section 5, other scenarios may be required to test the impacts of significant sources of local uncertainty. In accordance with NPSNN sections 4.6 and 4.7 this guidance, which is in force, has been followed to assess the scheme.
- 16.4.74 In respect of connected and autonomous vehicle (CAV) technology, the DfT Road traffic forecasts 2018 explains in paragraph 5.4 that 'The purpose of the analysis presented here is not to forecast how CAVs will impact on demand, but to better understand what aspects of these new technologies traffic levels might be most sensitive to. This will be used to inform the priorities for our future research.' As also explained in para 5.21, the analysis is intended to inform how new technologies may influence travel, and accordingly the DfT 'assumed that technology develops quickly and a high proportion of the fleet is highly autonomous'. Whilst the research, reported by the DfT in their road traffic forecasts 2018, explains the uncertainties in forecasting the impacts of potential new vehicle technology, these are not expected to arise in the near future and would have little or no significance for 2026 forecasts when the Scheme is scheduled to open and, even given the adoption rates assumed by the DfT (paragraph 5.26), are likely only to be a moderate source of uncertainty for 2041 forecasts for the Scheme.

Key Issue

- 16.4.75 **5.7.6 Emphasis that there is a high degree of uncertainty about future traffic growth and expression of the view that there is a substantial likelihood that growth in traffic will be lower than the "Low Growth" forecast produced by Highways England**

Highways England response

- 16.4.76 It is acknowledged that the Department for Transport (DfT) provides seven scenarios in its Road Traffic Forecasts 2018 (RTF18). These scenarios consider a range of uncertainties combining multiple issues that represent potential future demand states. The Stonehenge Alliance notes that the 'recent trends scenario' assumed in this context to be RTF18 scenario 6 'Extrapolated trip rates' is a low-end scenario compared to RTF18 scenario 1 'Reference'. However, it should be noted that RTF18 scenario 2 'High GDP, Low Fuel cost' forecasts higher growth than the 'Reference' in the short-term (to 2020), with Scenario 7 'Shift to Zero Emissions Vehicles' forecasting

higher growth beyond 2030. Therefore, noting the Stonehenge Alliance's assertion that these potential futures are 'equally likely', then those scenarios could actually significantly increase the economic benefits of the Scheme.

- 16.4.77 It is noted that the RTF18 forecasts are used to help inform the DfT's roads strategy. Their use in individual scheme appraisal is not in accordance with current guidance set out in WebTAG. As such, traffic forecasts for the A303 Amesbury to Berwick Down scheme have been prepared in accordance with guidance given in WebTAG unit M4 'Forecasting and Uncertainty' and have used national datasets such as the National Trip End Model (NTEM) provided by the Department for Transport (DfT). This is in accordance with the National Policy Statement for National Networks (NPSNN) paragraphs 4.6 and 4.7 which note that it is expected that the 'national methodology' is followed in development of the local transport model. Therefore, the uncertainty has been assessed through the development of high and low growth scenarios following the methodology detailed in section 4.2 of WebTAG Unit M4. This is reported in section 4.12 of the Transport Forecasting Package (Appendix C of the Combined Modelling and Appraisal Report (ComMA), [APP-301].

Key Issue

- 16.4.78 **Section 6.4 and 6.5 Raise concern whether M3, M5 and A358 will have sufficient capacity if whole A303 corridor is upgraded**

Highways England response

- 16.4.79 Section 5 of the Traffic Forecasting Package (Appendix C of ComMA [APP-301]) contains the details regarding journey times on all routes considered. Tables 5-22 and 5-23 illustrate the journey times for the wider A303 corridor in 2026 and 2041 respectively. This includes route 2, which runs from J13 of the M25 to J29 of the M5 via the A303. It can be seen that there are forecast journey time savings for those travelling the full length of the corridor from J13 of the M25 to J29 of the M5 and in reverse (route 2), especially in the busy period model. These forecasts show that users will receive an improved level of service as a result of the A303 being upgraded.

Key Issue

- 16.4.80 **Section 6.6 Raises concerns about traffic impact in Devon and Cornwall**

Highways England response

- 16.4.81 As explained in our response to section 6.4 and 6.5 of this written representation, the Scheme would deliver an improved level of service for travellers to and from Devon and Cornwall. In respect of the concerns raised in section 6.6, it is noted that the Devon County Council Written Representation [REP2-085] states, "the applicant's document '7.1 the Case

for the Scheme, October 2018' clearly identifies the issues and constraints with the existing corridor, including its critical importance to the economy of the South West Peninsula. It highlights that despite being dual carriageway for most of its length, it is interrupted by sections of single carriageway and at-grade junctions which cause traffic bottlenecks."

- 16.4.82 It is noted that, as a local authority affected by the delays on the A303/A358/A30 corridor, Devon Council has taken a balanced view of the value of the A303 corridor to the local economy, reflecting pressures on coastal communities and does not appear to share the views and concerns expressed by the Stonehenge Alliance.
- 16.4.83 In addition to Devon CC's written representation, wide support from local authorities and other regional bodies in the South West is indicated by the Relevant Representations by the Heart of South West Local Enterprise Partnership, the Peninsula Transport Sub-national Transport Body and the A303/A30/A358 Improvement Partnership.

Key Issue

- 16.4.84 **Lack of emissions assessment for whole corridor upgrade**

Highways England response

- 16.4.85 The operational phase traffic data that was included in the air quality assessment includes traffic associated with other planned developments within the local area and is inherently cumulative. It is therefore considered to provide a realistic worst-case scenario as the basis for assessment.
- 16.4.86 Paragraphs 15.2.16 and 15.2.17 in the ES Chapter on the Assessment of Cumulative Effects [APP-053] state:
- 16.4.87 *'The overall list of other development and allocations was prepared jointly with the transport planners responsible for developing the traffic model, including developments which are judged to be "near certain" and "more than likely" in the traffic forecasting as being "reasonably foreseeable" as defined by HA205/08 (Ref 15.2). Therefore, the predicted traffic flows associated with the other developments and allocations identified have been included in the traffic flow predictions'.*
- 16.4.88 *'These developments include Highways England's A303 Sparkford to Ilchester and A358 Taunton to Southfields schemes, both due to open in 2023. The predicted traffic flows during construction and operation were used in the noise, air quality, water and people and communities' assessments and, as such, these assessments are inherently cumulative'.*
- 16.4.89 As such, all the schemes and developments requiring consideration have been incorporated into the traffic model used for both the 'Do-minimum' and 'Do-something' scenarios used for the air quality assessment.

Key Issue

16.4.90 **App 1 Article Published in LTT**

Highways England response

16.4.91 The article reproduced as the appendix makes no additional assertions to those expressed in the main body of the Transport Planning and Economics Issues Representation by the Stonehenge Alliance. Highways England's response to these assertions is set out above, with regard to:

- Consideration of alternative scenarios is commented on in the response to paragraphs 5.7.3-6 of the written representation;
- Highways England comments on the claims that the Scheme makes a loss of £800m in its response to Paragraph 5.2.2 of the written representation;
- The appropriateness of the value of heritage benefits is explained in the response to Section 5.5 of the written representation;
- The consideration of the scheme merits and its BCR is explained in the response to paragraph 5.2.2 of the written representation;
- The suitability of the heritage valuation is explained in our response to section 5.5 of the written representation;
- The case for investment in the Scheme is explained in the response to paragraph 5.2.2 of the written representation; and
- The appropriateness of the consideration of CO2 emissions is explained in the response to paragraph 5.3.3/4 of the written representation.

16.5 Needs and Benefits

Key Issue

16.5.1 **The overarching point is that the economic case is extraordinarily weak.**

Highways England response

16.5.2 The Scheme is part of the Government's programme of improvements along the A303/A358 corridor designed to upgrade the route to a high-quality dual carriageway, in recognition of the problems along the corridor and the need to improve connectivity to the South West. The proposed tunnel solution is value for money and has been identified from an exhaustive appraisal of options. In addition to delivering benefits in terms of improved journey times, reduced accidents and reliability benefits, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS. The OUV of the WHS would be sustained. The Scheme would also deliver a range of wider economic, environmental and community benefits. Further information on the range of benefits can be found in The Case for the Scheme [APP-294]. The

Combined Modelling and Appraisal Report [APP-298] contains the results of the Scheme's cost-benefit analysis, as shown in Table 5-5 below (recognising that the Scheme would be funded through the allocation of public finance).

Table 5-5: Summary of Scheme Cost Benefit Analysis

Benefit component	Private finance amount (£M)	Public finance amount (£M)
Economic Efficiency of Transport System (TEE) benefits (including construction)	252	252
Indirect tax revenues	92	87
Accident benefits	4	4
Increase in pollution from higher speeds and flow	-86	-86
Journey time reliability benefits	61	61
Wider economic impacts	35	35
Value of removing road from WHS (contingent valuation)	955	955
Benefits	1,313	1,307

2010 prices, discounted to 2010. Benefit rounded to nearest ten thousand

Key Issue

- 16.5.3 **We note that Highways England has a Benefit : Cost Ratio threshold of 1.5 and 10 Road Investment Strategy 1 projects were paused because they do not meet it.**

Highways England response

- 16.5.4 The Scheme is identified in DfT's Road Investment Strategy which has accompanying funding and DfT and HMT have periodically reviewed the business case in accordance with the normal requirements of Tier 1 projects, including reviewing the value for money case presented. In each review, Highways England's approach has been endorsed, and authorisation has been given for the Scheme to continue, including with reference to estimated costs, projected benefits and the Value for Money position.

Key Issue

- 16.5.5 **Significant delay occurs mainly on a relatively small number of weekends annually**

Highways England response

- 16.5.6 The Applicant refers to its response above in responding to comments expressed in Section 3.4 of the Written Representation in which it is explained that congestion is not limited to summer weekends (and therefore not to only a relatively small number of weekends annually).

Key Issue

- 16.5.7 **The accident reduction benefit is small. This indicates that a much smaller road safety project may be appropriate**

Highways England response

- 16.5.8 A small-scale safety project would not be appropriate. The Scheme is part of the Government's programme of improvements along the A303/A358 corridor designed to upgrade the route to a high-quality dual carriageway, in recognition of the problems along the corridor and the need to improve connectivity to the South West.
- 16.5.9 While existing accident data does not indicate that this section of the A303 is a particular accident blackspot relative to other A roads of a similar standard, the new dual carriageway would provide a safer standard than the existing single carriageway and would reduce accidents, reflecting Highways England's aim of reducing accidents across the strategic road network.
- 16.5.10 Section 6.8 of the 'Combined Modelling and Appraisal Report' (ComMA), Appendix D 'Economic Appraisal Report' [APP-302] explains that accidents and casualties on the A303 scheme section would be reduced following the implementation of the Scheme. Despite the increase in distance of the A303 as a result of the realigned Longbarrow interchange and Winterbourne Stoke bypass, a reduction in accidents and casualties is forecast as a result of reduced incident rates for modern dual 2-lane roads compared to older S2 A-roads, as defined in COBA-LT, reflecting the safer road design of the Scheme compared to the existing road.
- 16.5.11 The 'Case for the Scheme and NPS Accordance' [APP-294], sets out in Section 2.8.2 the objectives for the Scheme. The forecast net reduction in accidents will contribute to the Scheme's transport objective to create a high quality reliable route between the South East and the South West.
- 16.5.12 Furthermore, there are a number of other benefits and needs that are met by the Scheme that would not be addressed by a project that focussed solely on fixing road safety issues.

Key Issue

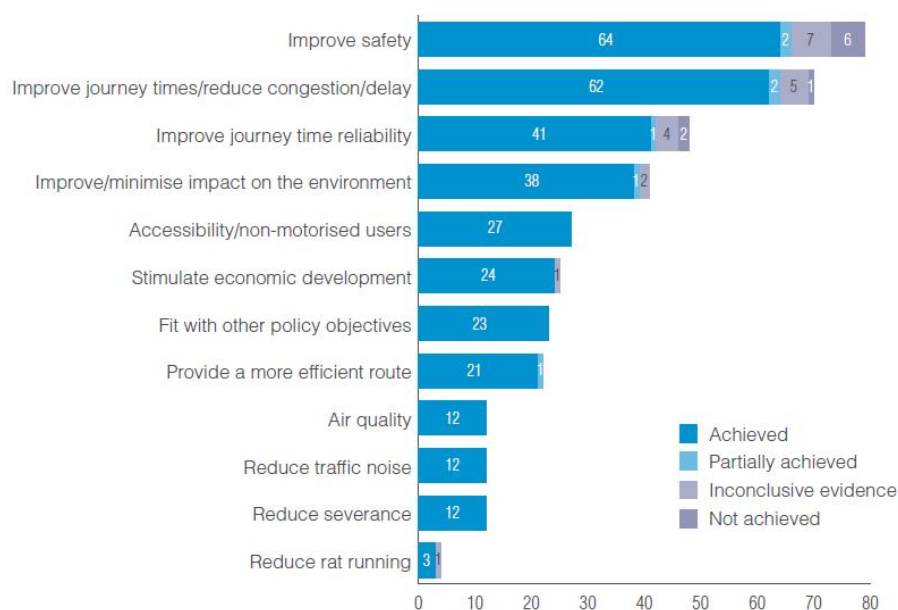
- 16.5.13 **CPRE evidence that only 24% of projects led to economic benefits.**
- 16.5.14 **source of £0.3bn benefits.**
- 16.5.15 **Wider Economic Impacts heading generates a modest benefits of £35million, demonstrating that the project would not have a significant impact on the economy of the South West.**

Highways England response

- 16.5.16 Section 5.4.1 of the Stonehenge Alliance Written Representation asserts that only 24% of projects that were examined by the CPRE found evidence that

economic benefits had occurred. The 2017 CPRE report 'The end of the road? Challenging the road-building consensus' is referenced in relation to this assertion. This CPRE report does not include information on how the 24% was calculated, so it is not possible to assess the validity of this figure. The latest Highways England Post-Opening Project Evaluation (POPE) meta insight paper (2019, available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/782823/POPE_Meta_Insight_Paper_2019.pdf and appended to this response in Appendix A) reviews outcomes of 85 Highways England schemes implemented between 2002 and 2014. As shown in the figure reproduced from the POPE report below, 24 of the schemes were able to evidence that they had contributed to the stimulation of economic development, and only one scheme demonstrated inconclusive evidence in the achievement of its economic objectives. It would be a misrepresentation of the data to suggest that only 24% of schemes deliver economic benefits; for schemes with an objective to stimulate economic development, which was then monitored, the data shows that 96% (24 of the 25 schemes) achieved their objective.

Figure 2. The extent to which scheme objectives had been achieved (by number of schemes)



Source: All schemes evaluated between 2002-2014. Most schemes will have multiple objectives (chart presents number of schemes against each objective)

16.5.17 Section 5.4.2 of Stonehenge Alliance's Written Representation relates to Highways England's estimate of the effects of the project on GDP (£0.3bn). This relates to economic modelling undertaken at PCF Stage 2. There is no 'double counting' as asserted; the Case for the Scheme reports these benefits in accordance with WebTAG Unit A2.1: Wider Economic Impacts

Appraisal Section 2.4. These benefits are not included within the Benefit Cost Ratio assessed for the scheme.

- 16.5.18 In terms of more significant benefits for the economy of the South West, the Government is supporting this aim via its planned upgrading of the complete A303 /A358 corridor between Amesbury and Taunton (of which this Scheme forms part), as set out in its Road Investment Strategy. Wide support for this strategy from local authorities and other regional bodies in the South West is indicated by Devon County Council's written representation and the Relevant Representations by the Heart of South West Local Enterprise Partnership, the Peninsula Transport Sub-national Transport Body and the A303/A30/A358 Improvement Partnership.

17 Stonehenge Alliance (Flood Risk and Groundwater Protection) (REP2-131)

17.1 General and cross-topic

Key Issue

Geotechnical Aspects of tunnel construction and legacy concerns of proposed works

- 17.1.1 During tunnelling, vibration may cause induced fracture migration and settlement in overlying strata transmitted upwards towards the surface. In the extreme, subsidence could migrate to surface levels, resulting in sinkholes and/or compaction.
- 17.1.2 Grout migration from the TBM systems could lead to extensive permanent areas of Chalk with lowered permeability.
- 17.1.3 The potential loss of fissures, fractures, void spaces, burial features, galleries, tunnels and shafts, at present undiscovered and unidentified, either by grout injection, settlement or the combined effects of both processes, could lead to the permanent loss of potentially important archaeological features.
- 17.1.4 Similar detrimental effects of settlement and grout migration may also cause problems in land drainage and surface/shallow subsurface drainage systems.

Highways England response

- 17.1.5 The small annular gap formed around the tunnel segments during excavation is necessary for the operation of the TBM and must be backfilled to provide support to the tunnel lining segments and limit settlement from ground closure around the lining. A backfill grouting system is therefore an integral part of TBM design and operation.
- 17.1.6 Grouting is undertaken in a controlled manner at the rear of the TBM Shield as the completed rings are built. The whole grouting process including material specification; use of setting accelerators; viscosity; injection pressures, and injection volume are all tightly controlled and monitored matters to ensure the void is completely filled without causing grout migration from the TBM system. Similarly, grouting required for ground stabilisation will involve using a mix designed to prevent uncontrolled grout loss or migration away from the area being strengthened. The properties and characteristics of the grout mix will be carefully selected and controlled to limit grout migration, dilution and other effects due to the presence of groundwater and fissures in the chalk. These matters will be able to be considered by consultees pursuant to the Heritage Management Plan and Groundwater Management Plan required by the Outline Environmental

- Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).
- 17.1.7 The Land Instability Risk Assessment (Environmental Statement Appendix 10.6 [APP-278]) includes consideration of initial tunnelling induced ground settlement. Settlement impacts may occur in areas associated with the tunnel and cutting works. Settlement can result in a change to surface and sub-surface conditions.
- 17.1.8 The predicted effects of excavation induced ground settlement have been considered as part of a staged assessment used in tunnelling to determine the zone of influence and potential structures and archaeology affected during construction (see Environmental Statement Appendix 10.6 - Land Instability Risk Assessment [APP-278, Section 6.4]. Items PW-CH1 and MW-CH1 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) require the preliminary works and main works contractors to produce Heritage Management Plans indicating how the historic environment is to be protected in a consistent and integrated manner, coordinated with all other relevant environmental topics. This includes the potential indirect impacts on heritage from activities such as ground vibration, ground movement / subsidence and dewatering. Items PW-NOI4 and MW-NOI5 of the OEMP [APP-187] identify industry guidance that the preliminary works and main works contractors are to follow in relation to controls and working methods for managing vibration. This guidance specifically refers to groundborne vibration from tunnelling. They also require the preliminary works and main works contractors to identify any potentially vibration sensitive cultural heritage assets and actions to control or mitigate impacts, including monitoring.
- 17.1.9 The installation of monitoring equipment and programme of monitoring to monitor ground movement above the tunnel will be included as part of the Heritage Management Plan required by item PW-CH1 and MW-CH1 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). Environmental Statement Chapter 6 - Cultural Heritage [APP-044] notes that “It is assumed that ground settlement will be minimal at the surface from the boring of the twin bored tunnel and any changes to heritage assets on the surface would be negligible and imperceptible to the eye” [APP-044, para. 6.4.1 (i)].
- 17.1.10 The monitoring methodology instigated as part of the Heritage Management Plan will consider acceptable levels and identify the associated action in response as part of a pre-planned contingency plan. The general principle is to control the works such that unacceptable levels are not breached, and put in place a warning of trends which may approach unacceptable levels.
- 17.1.11 The OEMP [APP-187] provided at Deadline 3 requires the main works contractor to develop a Ground Movement Monitoring Strategy to be approved by the Authority. The strategy will identify heritage assets that are

at risk from ground vibration from the tunnel, or from ground surface movement caused by settlement. As part of this strategy, the contractor shall develop contingencies and identify measures to ensure the protection of historic assets.

- 17.1.12 Annex 1 to the Groundwater Risk Assessment, Appendix 11.4 [APP-282] sets out the assessment of the potential for the tunnel to cause impedance to groundwater flow. Details are provided in Section 4.1 of Annex 1 [within APP-49]. Small changes were predicted for all conditions with no resultant significant effects.

17.2 Cultural Heritage

Key Issue

17.2.1 Geophysical Data

- 17.2.2 **In addition, since an incomplete picture is currently held by both archaeologists and Highways England of a full inventory of shallow and deeper sub-surface archaeological features along the route of the proposed new A303 alignment, damage to any such as-yet to be discovered features by any ground disturbance caused by tunnelling and excavation damage remains a significant threat.**

Highways England response

- 17.2.3 A comprehensive programme of archaeological evaluations, the scope of which was agreed with the Heritage Monitoring Advisory Group (HMAG) and endorsed by the Scientific Committee, has been completed within the scheme order limits, which includes land to be acquired temporarily and permanently, both within and outside of the WHS. The cultural heritage assessment, reported in Chapter 6 of the ES [APP-044], provides detail of the archaeological evaluation surveys and assessments that have been undertaken to inform the design of the scheme and on which the cultural heritage assessment is based.
- 17.2.4 The full Scheme boundary has been covered by non-intrusive archaeological geophysical survey (including detailed magnetometer survey as well as targeted earth resistance and Ground Penetrating Radar (GPR) survey of all areas outside the WHS boundary during Stage 3 of the project) and this and the results of historic surveys allow a robust assessment of likely impacts.
- 17.2.5 The draft Detailed Archaeology Mitigation Strategy (DAMS) [REP2-038], and accompanying Overarching Written Scheme of Investigation (OWSI) submitted to the Examination at Deadline 2 [REP2-038] set out the archaeological strategy and controls that will apply during the works. These include SSWSIs, HMPs and Method Statements, which will be prepared subsequent to the granting of the DCO. The SSWSIs, HMPs and Method Statements will be prepared in consultation with HMAG/ WCAS, prior to any Preliminary Works or Main Works commencing for the Scheme; these

processes are provided for in the draft DAMS (see paragraphs 4.1.11-4.1.14, 4.2.2 and 5.1.6) and the Outline Environmental Management Plan (OEMP) [APP-187] (Environmental Statement Appendix 2.2 [a revised version of which is submitted at Deadline 3]) (HMP – PW-CH1 and MW-CH1, SSWSIs – PW-CH3 and Method Statements – PW-G5 and MWG8). The DAMS (including the OWSI) will be developed during the course of the Examination through continuation of regular meetings with the Heritage Monitoring Advisory Group (HMAG) (which includes the National Trust), in order to produce a finalised DAMS prior to close of Examination. The HMAG meetings will be informed by further engagement with the Scientific Committee during this process. The final DAMS will be a certified document.

17.3 Flood risk, groundwater protection, geology and land contamination

Key Issue

Borehole Data, Drillhole logs, Rock Quality and associated Site Investigation information

- 17.3.1 **There is a requirement for an holistic approach to the now vast collection of ground characterisation data from all stages of the A303 Stonehenge realignments projects. Stonehenge Alliance suggest that this data could best be delivered by means of a digitally-based 3-D Ground Modelling system.**

Highways England response

- 17.3.2 We understand the desire and request for a 3-D delivery system, however, there may be a misunderstanding as all ground investigation data is held in the industry standard format, developed by the Association of Geotechnical and Geoenvironmental Specialists (AGS). In this format the data is interpreted using software such as gINT, which allows the borehole logs to be viewed, interpolated and plotted in three dimensions. The software also allows the in situ and laboratory test data to be viewed and interrogated similarly. Where possible, we view all geotechnical data in this way to create a relational database and therefore achieve the requested holistic approach.

Key Issue

Geotechnical Aspects of tunnel construction and legacy concerns of proposed works

- 17.3.3 **In addition to surprisingly weak rock, highly phosphatic Chalk has been identified. Although laboratory leaching tests carried out for HE have not identified any groundwater contamination risks, it remains a concern that changes in groundwater flow patterns caused by the proposed tunnel construction, and/or changes in groundwater quality and chemistry may cause long term concerns.**

- 17.3.4 **Disposal of tunnel spoil is likely to cause problems and concerns of induced phosphate contamination, especially when the status of the River Avon as a Special Area of Conservation (SAC), with existing unacceptable elevated levels of phosphate, is considered.**

Highways England response

- 17.3.5 The Written Representation is correct in that the assessment does not identify any significant effects on the groundwater, as set out in ES Chapter 11, Road Drainage and the Water Environment [APP-049], Chapter 9.
- 17.3.6 In relation to phosphate contamination, chemical testing and assessment of the solubility and leachate potential of the phosphatic chalk that the tunnel will bore through shows that the material does not pose a risk to controlled waters, which includes the River Avon SAC. Further details are set out in the ES Chapter 10, Geology and Soils [APP-048], paragraphs 10.6.75 - 10.6.76.

Key Issue

- 17.3.7 **Geotechnical Aspects of tunnel construction and legacy concerns of proposed works**
- 17.3.8 **As a consequence of the weak rock and the relatively shallow depth of the middle portion of the tunnel route it has been proposed by HE that a “slurry shield” method of closed-faced tunnelling would be the most likely tunnelling method to be adopted.**
- 17.3.9 **On completion of each tunnel drive, an annulus of unpredictable extent will surround the pathway excavated by the TBMs. If overbreak occurs at the tunnel crown or wall failure at the flanks, surface based grouting from a network alignment of new additional grout injection boreholes may be necessary.**
- 17.3.10 **This introduced impermeable barrier gives great cause for concern for long term effects on groundwater movement.**

Highways England response

- 17.3.11 A closed-face Tunnel Boring Machine (TBM) is considered to be the best option for tunnelling in the chalk geology as it provides greater control. As part of the risk management process during the TBM operation, grouting behind the tail skin will ensure uniform contact between the lining and the ground by ensuring the small annular gap formed during excavation is completely backfilled. Where the need for ground treatment is identified as part of the risk management process this will be undertaken from inside the tunnel bore where it is safe and practicable to do so in preference to surface intervention.
- 17.3.12 Annex 1 to the Groundwater Risk Assessment, Appendix 11.4 [APP-282] sets out the assessment of the potential for the tunnel to cause impedance

to groundwater flow. A groundwater model (based on the Environment Agency's Wessex basin regional groundwater model) has been used to simulate the effect of the tunnel. The model predicted increases in groundwater level upstream (north) and decreases downstream (south) as a result of impedance. Details are provided in Section 4.1 of Annex 1 [within APP-49]. Small changes were predicted for all conditions with no resultant significant effects as follows:

- Groundwater level changes at peak groundwater level periods [APP-282, Annex 1, Section 4.1.4 and Figure 4.1] which are relevant when considering flood risk;
- Groundwater level lows [APP-049, Annex 1, Section 4.1.25 and Figure 4.11], which are relevant when considering effects to baseflow in rivers (Section 4.1);
- Supply to private water users (Section 4.2); and
- Average conditions were also assessed [APP-049, Annex 1, Section 4.1.13 and Figure 4.6].

17.3.13 The effects of the tunnel as an impermeable barrier have therefore been assessed.

Key Issue

Geophysical Data

17.3.14 **The use of surface geophysical survey investigations to assess rock properties especially, along the line of the proposed route has, however, been sparse, if not completely absent. (See recommendations below.) Identification of weak rock zones, weathering levels, and even poor RQD horizons is now possible using appropriate surface geophysical survey techniques, equipment and interpretive methods.**

Highways England response

17.3.15 See response to issue 17.3.7.

Key Issue

17.3.16 **Consideration of the possibility of emergency measures involving an extensive surface grouting programme and subsequent effects for ground stabilisation, and the issues relating to plans for the stabilisation of slopes and cuttings.**

Highways England response

17.3.17 The approach to dealing with the risk during tunnelling requires detailed consideration of the most appropriate tunnel boring method to use based on an assessment and understanding of the expected geological and hydrogeological conditions. Industry guidelines, as published by the British

Tunnelling Society (BTS/ICE (2005) Closed-face Tunnelling Machines and Ground Stability, A Guideline for Best Practice) and a health and safety code of practice (BS 6164:2011 Code of Practice for Health & Safety in Tunnelling in the Construction Industry) have been referenced in the development of the Scheme in consideration of the most appropriate means of tunnelling. In addition, the Joint Code of Practice for Risk Management of Tunnel Works (ABI/BTS (2003) The Joint Code of Practice for Risk Management of Tunnel Works in the UK) contains measures to ensure best practice in the minimisation and management of risks associated with the design and construction of tunnelling projects.

- 17.3.18 A closed-face Tunnel Boring Machine (TBM) is considered to be the best option for tunnelling in the chalk geology found in this location as referenced in the Environmental Statement (ES) Chapter 2 The Scheme section 2.4.33 [APP-040]. Closed-face tunnelling also removes the exposure of workers to an unsupported ground interface; this interface is considered one of the highest safety risks in tunnelling.
- 17.3.19 It will be the responsibility of the contractor to ensure risks are assessed and mitigated in their safe systems of work during construction. Their assessment of the risk will be based on the existing and supplementary ground investigation being undertaken for detailed design. As part of their safe working plan, the contractor will develop contingencies using a suite of tool box items, this could range from simply slowing down the TBM to instigating ground stabilisation measures including grouting. Where the need for ground stabilisation is identified this will be undertaken from inside the main tunnel bore where it is safe and practicable to do so in preference to surface intervention.
- 17.3.20 Our current assessment indicates that the slopes and embankments can be safely constructed without the need for reinforcement or other stabilisation measures. The details of cuttings will be developed through the detailed design process in consultation with English Heritage Trust. This engagement is under discussion in the Statement of Common Ground [REP2-011] Item 4.10.

Key Issue

Hydrological and Hydrogeological Concerns

- 17.3.21 **The creation of a barrier to groundwater flow at depths of up to 40 metres, with grout invasion potentially penetrating some distance from the tunnel bores, will considerably affect long-term groundwater conditions.**
- 17.3.22 **Effects on regional and local groundwater flow paths, as well as knock-on detrimental effects on groundwater quality, are of much concern.**

Highways England response

- 17.3.23 Annex 1 to the Groundwater Risk Assessment, Appendix 11.4 [APP-282] sets out the assessment of the potential for the tunnel to cause impedance to groundwater flow. A groundwater model (based on the Environment Agency's Wessex basin regional groundwater model) has been used to simulate the effect of the tunnel. The model predicted increases in groundwater level upstream (north) and decreases downstream (south) as a result of impedance. Details are provided in Section 4.1 of Annex 1 [within APP-49]. Small changes were predicted for all conditions with no resultant significant effects.

Key Issue

Hydrological and Hydrogeological Concerns

- 17.3.24 **Groundwater modelling and reporting is incomplete. Recent publications of a number of draft versions of reports on this groundwater monitoring and modelling work have been placed on the Planning Inspectorate website by Highways England.**
- 17.3.25 **This work is incomplete, inadequately referenced, and is totally inadequate to properly address concerns about future groundwater conditions.**
- 17.3.26 **Absence of any significant authoritative and comprehensive groundwater (and associated hydrological) modelling presents an enormous gap in the assessment.**
- 17.3.27 **Both short and long-term effects on the quantity and quality of groundwater road also cause concerns.**
- 17.3.28 **A major campaign of groundwater resources and groundwater quality modelling, based on a robust, extensive and long-time frame database would provide a useful prediction of future consequences of the proposed construction project..**

Highways England response

- 17.3.29 The work is not incomplete. Clarification was requested by the Environment Agency and Wiltshire Council's peer reviewers. This was provided in working drafts of groundwater reports [AS-016, AS-017, AS-018 and AS-019] which have been made available for interested parties on the A303 application page of the PINS website. Ground investigation and monitoring is ongoing and these reports confirm that the findings of the ES [APP-049] remain valid as more data is being collected for design purposes. The working draft groundwater reports have been reviewed by the Environment Agency, Wiltshire Council and their peer reviewers and the final versions are submitted at Deadline 3. For further detail please refer to responses to the Written Representations from the Environment Agency and Wiltshire Council.

- 17.3.30 Detailed surface water and groundwater modelling has been undertaken as reported in Appendix 11.4 [APP-282] and the reports referred to in the paragraph above.
- 17.3.31 Road drainage is assessed in Appendix 11.3 - Road Drainage Strategy [APP-281]. The effects of the road on groundwater flow and quality are described in Environmental Statement Chapter 11 - Road Drainage and the Water Environment [APP-049] which concludes that there are no significant adverse effects on the groundwater environment.
- 17.3.32 A major campaign of monitoring of groundwater levels and quality is ongoing. Example output is provided in the report on Groundwater Monitoring 2018-19 Conceptual Model Review [AS-019] which concludes that the new groundwater monitoring data has supplemented the conceptual understanding presented in the GRA, the findings confirm the existing conceptual groundwater model and do not change the conclusions of significance of effects reported in the ES [APP-049].

18 Stonehenge Alliance (Concerns about consultation on the Scheme) (REP2-133)

18.1 General and cross-topic

Key Issue

- 18.1.1 **Stonehenge Alliance submits that, in its approach to consultation with the public, Highways England was in breach of the EU EIA Directive, Consideration 24 (for EU EIA Directive objectives on consultation to be achieved through the legislative process in respect of an NSIP); and EIA Directive Article 7, para 1 (all states party to the WH Convention are committed to its Articles in respect of the heritage of mankind both in their own and in other states party); and paras. 3, 4 and 5.**
- 18.1.2 **Should it be argued that the involvement of UNESCO serves to fulfil the requirements of these paragraphs, then it has been shown that UNESCO's WH Committee's advice has been repeatedly disregarded – as has its request for the timescale of the progress of the scheme to be adjusted to coincide with its ability to remain involved.**

Highways England response

- 18.1.3 In relation to 'Consideration 24', The Applicant considers that the consultation requirements of the EIA Directive have been met via compliance with UK legislative requirements with respect to consultation. This is set out in detail in the Consultation Report [APP-026], Chapter 7: Consultation under the EIA Regulations.
- 18.1.4 Article 7 of the EIA Directive has regard for transboundary effects and is not considered by The Applicant to be relevant in the context of the cultural heritage aspects of this Scheme. This is confirmed by the first and second screenings of transboundary effects, undertaken by the Planning Inspectorate on behalf of the Secretary of State in May 2018 and January 2019, which did not identify any transboundary effects requiring notification to EEA States.
- 18.1.5 In the Preliminary Meeting Note [EV-001], the Examining Authority advised that the Inspectorate had already taken its decision on the adequacy of the Applicant's Pre-Application Consultation in accepting the application for examination, and its adequacy could not be revisited in the course of the examination.
- 18.1.6 With respect to the Applicant's consideration of the recommendations of UNESCO/ICOMOS and the World Heritage Committee, the Applicant has taken these into account in the development of the Scheme.

Key Issue

- 18.1.7 **We also submit that Highways England’s approach to and conduct of its consultations was in breach of certain Considerations, Article 1, General Provisions and Definitions under Articles 2–3; and Articles 6 and 7 of the Aarhus Convention (1998).**

Highways England response

- 18.1.8 As stated in the Department for Communities and Local Government’s Planning Act 2008: Guidance on pre-application consultation (2008) (<https://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2009/08/guidancepreapplication.pdf>), the fundamental approach to community involvement and public access to information, as set out in the Planning Act, is reflective of the Aarhus Convention.
- 18.1.9 There has been extensive public consultation (including access to information) on the Scheme in accordance with the provisions of the Planning Act 2008, Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 and the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, as set out in the Consultation Report [APP-026]. The Examination process allows the public to participate in the consideration of the Scheme and to access and comment on information about the Scheme. All actions undertaken to date and procedures for the Examination going forward are considered to be in line with the Aarhus Convention.

Key Issue

- 18.1.10 **Highways England’s consultation on the A303 scheme does not appear to have followed Government Consultation Principles (2018), chiefly that:**
- 18.1.11 ***“C. Consultations should be informative. Give enough information to ensure that those consulted understand the issues and can give informed responses. . .”.***

And

“F. Consultations should be targeted. Consider the full range of people, business and voluntary bodies affected by the policy, and whether representative groups exist. Consider targeting specific groups if appropriate. Ensure they are aware of the consultation and can access it. . .”.

Highways England response

- 18.1.12 The Applicant considers that its consultation has conformed to the Government Consultation Principles (2018) which codifies well known consultation principles.

- 18.1.13 Paragraph C of these principles aligns with paragraphs 24, 25 and 55 of the MCHLG Guidance on the DCO pre-application process. Appendix A of the application Consultation Report [APP-026] gives a full explanation of how the Applicant undertook a consultation which provided sufficient and appropriate information to consultees.
- 18.1.14 Paragraph F of these principles aligns with paragraphs 53 and 54 of the MCHLG Guidance. Appendix A of the application Consultation Report [APP-026] gives a full explanation of how the Applicant undertook an appropriately targeted consultation.

Key Issue

- 18.1.15 **It also appears that Highways England’s consultations conflicted with Government guidance on the Planning Act 2008:**
- 18.1.16 **Para. 20. “Experience suggests that, to be of most value, consultation should be:**
- 18.1.17 ***based on accurate information that gives consultees a clear view of what is proposed including any options”;* and**
- 18.1.18 **Para. 68. “To realise the benefits of consultation on a project, it must take place at a sufficiently early stage to allow consultees a real opportunity to influence the proposals. At the same time, consultees will need sufficient information on a project to be able to recognise and understand the impacts.”**

Highways England response

- 18.1.19 The Applicant considers that the information provided at consultation was accurate, that the information provided at consultation gave all consultees a clear view of what was proposed, including the options presented, and that consultation, taking into account the 2017, as well as the 2018, consultation, took place at a sufficiently early stage to allow consultees a real opportunity to influence the proposals.
- 18.1.20 Statutory consultation was undertaken in accordance with the Statement of Community Consultation which was subject to consultation with the Local Planning Authority and the statutory requirements of Planning Act 2008. Information about the Scheme proposals was available online, at public events and local deposit locations. Staff were on hand at exhibitions to talk through the proposals. The material published for statutory consultation was based on the information available at that time and was sufficient to satisfy the purpose of gaining feedback on the Scheme proposals and for that feedback to be taken into consideration as part of the continuing development of the Scheme up to the time of submitting the DCO application.
- 18.1.21 Additionally, as part of the continuing development of the Scheme following statutory consultation, a supplementary consultation was carried out on three

specific design changes and the opportunity was also taken to clarify the public rights of way proposals along the Scheme.

- 18.1.22 Full details of the approach, engagement and outcomes of the consultation is presented in the Consultation Report [APP-026].
- 18.1.23 In the Preliminary Meeting Note [EV-001], the Examining Authority advised that the Inspectorate had already taken its decision on the adequacy of the Applicant's Pre-Application Consultation in accepting the application for examination, and its adequacy could not be revisited in the course of the examination. That decision concluded that the Applicant had complied with the pre-application consultation requirements of the Planning Act 2008, including the obligation to have regard to the Government guidance quoted by Stonehenge Alliance.

Key Issue

- 18.1.24 **We have drawn attention, in our Written Representation on Alternatives, to Highways England's failure adequately to consider and/or present for consultation reasonable alternatives to the Preferred Route for the A303 Stonehenge scheme, as required under Article 5.1. (d) of Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU**

Highways England response

- 18.1.25 Article 5.1. (d) of Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU refers to: "a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment".
- 18.1.26 Proposals for the improvement of the A303 between Amesbury and Berwick Down have been the subject of extensive study and consultation since 1991. The process of options identification and route selection leading to the Scheme is summarised in the Case for the Scheme [APP-294], Section 3.2 and in Chapter 3 of the ES, Assessment of Alternatives [APP-041], as are the reasonable alternatives studied and an indication of the main reasons for the options chosen taking into account environmental effects, all in compliance with the requirements of Regulation 14(2)(d) and Schedule 4 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (which transpose the Directive). The Scheme has been developed from an extensive process of options appraisal, including the consideration of options which avoided the World Heritage Site altogether, to identify the optimum solution, representing a significant investment by the Government aimed at addressing the congestion problems on the A303 and delivering benefits for the WHS. Further details on the appraisal of route options, determining the choice of those taken forward for non-statutory consultation,

and route selection following consultation can be found in the Technical Appraisal Report and the Scheme Assessment Report [REP1-031 and REP1-023].

- 18.1.27 In relation to the consideration of alternatives, the National Policy Statement for National Networks (paragraph 4.27) states: “.....Where projects have been subject to full options appraisal in achieving their status within Road or Rail Investment Strategies or other appropriate policies or investment plans, option testing need not be considered by the examining authority or the decision maker. For national road and rail schemes, proportionate option consideration of alternatives will have been undertaken as part of the investment decision making process. It is not necessary for the Examining Authority and the decision maker to reconsider this process, but they should be satisfied that this assessment has been undertaken”.
- 18.1.28 The assessment has been undertaken in accordance with the process set out above and in accordance with the Directive referred to in the Written Representation. The Examining Authority can therefore be satisfied that the necessary assessment has been undertaken.

Key Issue

- 18.1.29 **The A303 Stonehenge scheme has been driven forward in the face of planning and internationally agreed safeguards. Consultation documents have consistently included misleading statements about the benefits of the scheme; the majority of consultees have objected to the scheme in consultation; and responses expressing legitimate concerns about the proper protection of the WHS and missing information concerning the historic, hydrological, geological and natural environment have been disregarded. Information is still missing on critical elements of the scheme after the start of the Examination**

Highways England response

- 18.1.30 The development of the Scheme has been fully and properly undertaken, without misleading statements and informed by consultations with all views expressed being taken into consideration as set out in the Consultation Report [APP-026].
- 18.1.31 The EIA is fully compliant with the relevant overarching and topic specific legislation and policy and has reported on likely significant effects on all topics. The overarching legislative and policy context of the EIA is set out in ES Chapter 1, Introduction [APP-039]. The topic specific legislative and policy context is set out in the Legislative and Policy Framework sections of each topic chapter [APP-043 to APP-053]. There is therefore no missing information on critical elements of the Scheme.

Key Issue

- 18.1.32 **The A303 Stonehenge scheme is no ordinary expressway project: it has implications for a far wider than local community and it therefore deserved wider and scrupulously correct description and advertising and longer periods for responses**

Highways England response

- 18.1.33 The Applicant considers that the scope of consultation was appropriate.
- 18.1.34 The importance of the Scheme is recognised – it is designated as a nationally significant infrastructure project. In the context of the WHS and the internationally iconic status of Stonehenge, the Government has decided to make a significant investment in a scheme which will deliver extensive benefits for the WHS. The Scheme was the subject of extensive consultation both in relation to the selection of the preferred route and a consultation and supplementary consultation on the proposals that are the subject of the application for development consent. All views made have been taken into account as part of the development of the Scheme as explained in the Consultation Report [APP-026].
- 18.1.35 The statutory consultation was undertaken in accordance with the Statement of Community Consultation which was subject to consultation with the Local Planning Authority and the statutory requirements of Planning Act 2008. Information about the Scheme proposals was available online, at public events and local deposit locations. The material published for statutory consultation was based on the information available at that time and was sufficient to satisfy the purpose of gaining feedback on the Scheme proposals and for that feedback to be taken into consideration as part of the continuing development of the Scheme up to the time of submitting the DCO application. Reflecting wider interest, an exhibition was held in central London. The consultation was also advertised extensively, using national and local media, and the material was available on the Scheme website for the wider audience, as set out in the Statement of Community Consultation, Appendix C of the Consultation Report [APP-029]. The consultation ran for a period of 75 days. This is substantially in excess of the 28 day minimum required period and provided a significant amount of time for the public to consider and submit their views on the Scheme proposals. Full details of the approach, engagement and outcomes of the consultation is presented in the Consultation Report [APP-026].

Key Issue

- 18.1.36 **Consultation was angled towards those familiar with the geography and local conditions between Amesbury and Berwick Down. This was likely to prove a daunting prospect to those not familiar with the location but concerned about the WHS and who probably found it**

difficult or impossible to complete the questionnaires to their satisfaction, perhaps leading to many of them abandoning the effort

Highways England response

- 18.1.37 The Applicant considers that the information presented for consultation, as set out in the Consultation Report [APP-026], was able to be understood by a wide audience, including those not familiar with the geography and local conditions. Any questions raised by the public, seeking further understanding, have been responded to by the Applicant. Section 4.5 in the Consultation Report (including Figure 4.4) shows that a wide spread of non-local responses was received.
- 18.1.38 Public exhibition events were held in locations which reflected the impact and interest of the Scheme to local communities and customers. These were agreed with Wiltshire Council as host local authority. Reflecting wider interest, an exhibition was also held in central London. The consultation was also advertised extensively, using national and local media, and the material was available on the Scheme website for the wider audience. Information about the Scheme proposals was available online, at public events and local deposit locations. This included public-facing, plain English documents explaining the Scheme proposals, as set out in the Consultation Report Appendix A: Compliance Checklist [APP-027], against Paragraph 55 (under Department for Communities and Local Government (DCLG) Planning Act 2008: Guidance on the pre-application process).
- 18.1.39 The consultation also utilised innovative new consultation tools, including auralisations (sound demonstration), allowing the public to experience the actual noise environment and the changes the Scheme would bring, and 3-D visualisations, allowing the public to see what the landscape could look like with the Scheme. Staff were also on hand at exhibitions to talk through the proposals.
- 18.1.40 In addition, a number of video materials were made available online, including 'drive-throughs' of the Scheme and an aerial video showing the wider landscape with and without the Scheme, the 'Disappearing Road' video).
- 18.1.41 In the Preliminary Meeting Note [EV-001], the Examining Authority advised that the Inspectorate had already taken its decision on the adequacy of the Applicant's Pre-Application Consultation in accepting the application for examination, and its adequacy could not be revisited in the course of the examination.

Key Issue

- 18.1.42 **The considerable volume of documentary material to study as successive consultations took place, may also have been a daunting prospect for some. This was not helped by confident assertions by Highways England of, for example, 'no significant effects' on various**

matters, in the face of insufficient information upon which such assertions could be made.

Highways England response

- 18.1.43 The information presented for the successive consultations accurately reflected the development of the Scheme at that time, with the amount of information presented being relevant to the purpose of each consultation, as set out in the Consultation Report [APP-026]. The Report provides details on the considerable number of consultation responses received and the wide range of views expressed.
- 18.1.44 Statutory consultation ran for 75 days, which is substantially in excess of the 28-day minimum required period and provided a significant amount of time for the public to consider the information made and submit their views on the Scheme proposals. In addition to the more detailed Preliminary Environmental Information Report (PEIR), Highways England also made available a PEIR non-technical summary, which presented a description of the Scheme, the EIA process, and the point-in-time working conclusions of the EIA in a manner that was both appealing to read and easily understood by the public. Further, the public consultation events were attended by staff who were on hand to talk through the proposals with the members of the public.
- 18.1.45 In the Preliminary Meeting Note [EV-001], the Examining Authority advised that the Inspectorate had already taken its decision on the adequacy of the Applicant's Pre-Application Consultation in accepting the application for examination, and its adequacy could not be revisited in the course of the examination.

19 Natural England (REP2-120)

19.1 General and cross-topic

19.2 Design

Key Issue

- 19.2.1 **Third, we advise that the PROW and PMA route west of Green Bridge One is separated from the species rich chalk grassland to the north. Lack of fencing is likely to cause significant difficulties due to conflict between dogs (and their owners) and any stock management.**

Highways England response

- 19.2.2 The detail of the fencing and gating strategy for the PROWs will follow at the detailed design stage. Both north and south of the A303 there will be boundary/accommodation fencing. Details have been agreed with adjacent landowners and are subject to ongoing discussions regarding accommodation works. The Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) secured by requirement 4 in Schedule 2 to the draft development consent order [REP2-003], requires the Applicant to consult National Trust, Historic England, English Heritage and Wiltshire Council on its fencing proposals within the World Heritage Site.
- 19.2.3 The Applicant has added wording to the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) providing for a mechanism:
- i. obliging the Applicant to consult with heritage stakeholders on detailed design of key aspects of the Scheme;
 - ii. setting out design principles according to which the Applicant will require the detailed design of those key aspects of the scheme to be undertaken; and
 - iii. committing to certain additional key aspects of design, additional to the “D Series” design commitments already contained in the OEMP.

19.3 Biodiversity, ecology and biodiversity

Key Issue

- 19.3.1 **The embankments, cuttings and other areas proposed as species rich chalk grassland, if appropriately established and managed, have the potential to become a superb mosaic of priority habitats, important not only for the area of new habitat created, but also for the habitat connectivity provided. Collectively, a number of local wildlife organisations have aspirations to link Salisbury Plain (probably the**

world's largest expanse of species rich chalk grassland), to Porton Down (a very significant area of species rich chalk grassland). The habitat creation in this application will go a long way to realising this ambition, and in itself will link Salisbury Plain, via Parsonage Down, to the cluster of chalk grassland habitats around Stonehenge itself. For more information see the attached "Porton to Plain" project report. This begins to establish a coherent ecological network (c.f. NPPF para 170) in this area.

Highways England response

19.3.2 No response required.

Key Issue

19.3.3 However, we have a number of concerns with respect to detail of these areas within the DCO application.

19.3.4 First, we had hoped that the DCO would include infrastructure to allow grazing animals (most likely sheep) to be used for vegetation management on the larger areas of embankments and cuttings. This would deliver ecologically (and most likely financially) better outcomes compared to mechanical management options, without compromising road safety. Mechanical management tends to produce a far more homogeneous habitat lacking in the micro habitats that are essential for many species. However, we note that there does not appear to be any fencing included between the road and these areas, nor any provision of water infrastructure. We advise that designing the scheme so that can be used where areas are reasonably large would deliver ecologically and financially beneficial outcomes compared to other management options. Retro fitting such infrastructure would be impracticable.

Highways England response

19.3.5 It is proposed that stock grazing, together with appropriate fencing and stock watering facilities, will be included in discrete areas where feasible. The principles of creation and management of this land are set out in the Outline Landscape and Ecology Management Plan ('OLEMP') [APP-267]. Under requirement 8 of the draft development consent order [REP2-003], Highways England will be required to submit a detailed landscaping scheme, which is required to be on the basis of the mitigation measures set out in the ES, which includes the OLEMP.

Key Issue

19.3.6 Secondly, we note that the Environmental masterplan includes numerous areas of shrub planting. These are liable to become management liabilities requiring expenditure on scrub control much

greater than if left unplanted and likely to be detrimental in the long term to biodiversity. We are not clear what the purpose of planting these areas is, and advise each area is only retained if there is a good reason to do so.

Highways England response

- 19.3.7 Discrete areas of shrubs have been included in the scheme as shown indicatively in the Environmental Masterplan [APP-059] to provide a landscape link, for screening purposes and to provide a mosaic of habitats.
- 19.3.8 The shrubbed areas will be designed taking into account the need to avoid future management issues associated with rapidly expanding scrub. The principles of creation and management of these shrubbed areas are set out in the Outline Landscape and Ecology Management Plan ('OLEMP') [APP-267], details of which, are secured as part of the landscaping scheme pursuant to Requirement 8 (Implementation and maintenance of landscaping) under Schedule 2 of the draft development consent order [REP2-003].

Key Issue

- 19.3.9 **Please also see “Construction Impacts” in the annex.**

Highways England response

- 19.3.10 In response to above:
- v. No response required
 - vi. The objectives will be to create a mosaic of early-successional habitats ranging from bare ground to species-rich low nutrient swards. The selection of species will be carried out during detailed design and the preparation of the detailed landscaping scheme.
 - vii. The Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) sets out the requirement for the main works contractor to prepare a Landscape and Ecology Management Plan (LEMP) (MW-LAN1), in accordance with industry good practice. Under requirement 8 of Schedule 2 of the draft development consent order [REP2-003], Highways England will be required to submit a detailed landscaping scheme, which is required to be on the basis of the mitigation measures set out in the ES, which includes the OLEMP.
 - viii. As set out in the OEMP [APP-187], MW-BIO2, the main works contractor must establish the new habitats identified within the Environmental Masterplan (ES Figure 2.5) [APP-059] within the Order limits and manage them accordingly to ensure their establishment and development to achieve their target purpose(s), through to any handover of the Scheme.

Key Issue

- 19.3.11 **We advise that, unless there is a good reason, hedges should be used to separate arable land from species rich chalk grassland, as this will help reduce spray drift onto the grassland, and provide a valuable habitat in its own right. These benefits will outweigh the negative effect of encouraging the spread of scrub onto the species rich chalk grassland, provided the species mix for the hedge does not include rapidly spreading species such as dogwood or blackthorn. These should be excluded from the planting mix. On this basis, it would appear that there are additional locations where hedgerow planting may be beneficial.**
- 19.3.12 **We also advise that there is an opportunity to manage hedgerows that come into temporary ownership of Highways England during the construction period. A number of these are in very poor ecological condition (lacking thick woody cover at the base of the hedge). The scheme presents a great opportunity to coppice and or gap up these hedges, and leave them in a much better condition.**

Highways England response

- 19.3.13 Hedgerows have been included in the Scheme as shown indicatively in the Environmental Masterplan [APP-059] to provide a landscape link, for screening purposes and as suitable boundaries.
- 19.3.14 The opportunity for beneficial management of hedgerows within the scheme is agreed. As, stated in the response to Written Questions EC.1.7, [REP2-027] the OEMP sets out the requirement for the main works contractor to prepare a Landscape and Ecology Management Plan (LEMP) (MW-LAN1), in accordance with industry good practice. The principles for the LEMP are set out in the Outline Landscape and Ecology Management Plan (OLEMP) [APP-267]. Under requirement 8 of Schedule 2 of the draft development consent order [REP2-003], Highways England will be required to submit a detailed landscaping scheme, which is required to be on the basis of the mitigation measures set out in the ES, which includes the OLEMP.
- 19.3.15 Sections 10.1 and 10.2 of the OLEMP set out the principle that during construction existing hedgerows shall be protected, retained and inspected by measures set out by the Contractor's Arboricultural Mitigation Strategy. This will also include managing the structure and integrity of the hedgerows during the construction period, with any trimming undertaken outside of the bird breeding season. In clarification, paragraph 10.2.3(b) provides examples of management that may be needed to fulfil the management objectives, including trimming, laying, coppicing, or bulking up (planting in gaps).

Key Issue

- 19.3.16 **The ES para 8.9.153 identifies the key commuting routes impacted (for the most significant species, barbastelle):**

- 19.3.17 **The connective feature between Scotland Lodge and Parsonage Down.** We advise that all efforts are made to discourage bats from using the original crossing point at a height level likely to result in mortality, but rather to cross at a safe height or use green bridge 1. More detail should be provided as to what has been considered, what has been discounted and why, and how effective the proposed measures are likely to be. The overall impact on bats will be influenced by the timings of mitigation. We advise that, to minimise impacts on bats, mitigation planting should occur, and be functionally effective, prior to the severance of flight paths.
- 19.3.18 **The footpath adjacent to the River Till.** This route is unlikely to be impacted upon as the road will be elevated.
- 19.3.19 **The underpass at Vespasian's Camp.** The area between and including this underpass and the eastern cut and cover should be designed to encourage bats to cross over the cut and cover area. Additional planting in this area should be considered to achieve this. As above, the overall impact on bats will be influenced by the timings of mitigation. We advise that mitigation planting should occur, and be functionally effective, prior to the severance of flight paths.

Highways England response

The connective feature between Scotland Lodge and Parsonage Down

- 19.3.20 The provision of suitable landscaping is secured through paragraph 8 of Schedule 2 to the draft development consent order [REP2-003]. Under that, a landscaping scheme must be submitted for approval, based on the mitigation measures set out in the Environmental Statement. This would include the principles set out in the Outline Landscape and Ecology Management Plan (OLEMP). The OLEMP sets out principles relating to bat mitigation as summarised within 4.3 of the Statement of Common Ground [REP2-016].
- 19.3.21 **The footpath adjacent to the River Till**: noted and agreed. The route for bats along the Till valley will be maintained as the road will be on a viaduct.
- 19.3.22 **The underpass at Vespasian's Camp**: As shown indicatively within Figure 8.11 [APP-160] it is envisaged that the vegetation will be retained and managed along the south of the Scheme in the section from the Eastern Portal to the Vespasians Camp underpass location. This would provide suitable habitat connectivity leading towards the safe crossing point (where the A303 is diverted into tunnel). As such, mitigation is considered to be proportionate to the likely impact. As per the requirement contained in paragraph 8 of Schedule 2 to the draft development consent order, a detailed landscaping must be submitted for approval and must be based on the mitigation measures contained in the Environmental Statement. Additional details are provided in Written Question Ec.1.4 [REP2-027]; the Outline Environmental Management Plan (OEMP) [APP-187] (a revised

version of which is submitted at Deadline 3) MW-LAN4 requires the main works contractor in the CEMP and LEMP to implement planting / seeding as early as is reasonably practicable (and where there is no conflict with construction activities or other requirements of the Scheme), so as to be more established in advance of the operation of the Scheme.

Key Issue

- 19.3.23 **Natural England is having ongoing discussions with Highways England around the Habitats Regulations Assessment, and will be dealt with outside this representation.**

Highways England response

- 19.3.24 Confirmed

19.4 Draft Development Consent Order

Key Issue

- 19.4.1 **Broadly speaking, Natural England is supportive of the application with regards to its impacts on biodiversity, subject to passing the tests of the Habitats Regulations, and comments below. It seems reasonable to conclude that the scheme will deliver net gain for biodiversity, given the generally low value of the habitats being destroyed, and the large extent of high value habitat being created, and their large extent. Moreover the habitat creation proposed will provide significant linear habitat connectivity. However the DCO documentation does not present this information as per the Chief Highway Engineer Memorandum 422/18 Supporting Transparency around our Biodiversity Performance and so we are unable to draw a robust conclusion around the net impact on biodiversity net gain.**

Highways England response

- 19.4.2 The broad support of Natural England for the application is acknowledged and is also given in the issues agreed in the Statement of Common Ground between Highways England and Natural England [REP2-016].
- 19.4.3 Full details of the biodiversity gains can be found in the ES Chapter 8 [APP-046], Section 8, 8.8.14 – 8.8.21, 8.9.65 – 8.9.66, and Table 8.14, Habitat losses and gains associated with the Scheme. In addition, Highways England has confirmed that a biodiversity net gain report will be compiled and issued to Natural England. This will be based on the proposals shown indicatively on the 2018 Environmental Masterplan [APP-059] and subject to detailed design.

19.5 Health and Wellbeing

Key Issue

- 19.5.1 **The scheme may provide excellent opportunities to involve volunteers in delivering some of the natural environment aspects of the scheme. Natural England are discussing with Highways England how opportunities to do this can be realised, potentially within the Community Liaison section of the future CEMP.**

Highways England response

- 19.5.2 Noted, as stated in Table 2.1 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) the main contractor will have a community relations manager whose role will include engagement with stakeholders and local communities including taking opportunities for outreach with schools.

20 The National Trust (REP2-120)

20.1 Agriculture

Key Issue

- 20.1.1 **Acquisition of land and rights on a linear route through this unique area also pose much greater future management concerns than might otherwise be the case with land acquisition for, and construction of, a Nationally Significant Infrastructure Project in another location.**

Highways England response

- 20.1.2 The future management of the linear routes will be shared between Highways England and Wiltshire Council for assets associated with the trunk road and local roads/public rights of way respectively. This will be managed through the Outline Environmental Management Plan (OEMP) [APP-187], (an updated version of which is being submitted at Deadline 3 of the examination), secured via Paragraph 4 of Schedule 2 to the draft development consent order [REP2-003] and through their respective statutory functions as highways and traffic authorities. Further details are provided below.

Key Issue

- 20.1.3 **Impact of the intensification of PRow (Public Right of Way) use on agriculture: concerns that the scheme will result in an increase in the anti-social use of the PRow network have not been resolved. Currently illegal activities including hare coursing, fly-tipping, camping, and occupation by caravans, vans and motorhomes, already cause issues for land controllers. This includes left rubbish (which can be potentially hazardous for livestock and wildlife), fire sites, unauthorised use of agricultural water supplies, and the obstruction of agricultural access.**
- 20.1.4 **Requirements: care should be taken in approval of any detail in relation to the scheme not to encourage increased use of PRow by motorised users where that would harm the OUV of the WHS.**

Highways England response

- 20.1.5 Highways England's response to Written Question Ag.1.4 ii and iii [REP2-022] noted:
- To prevent improper use of the existing and proposed Public Rights of Way (PRow) network, fences and gates would be provided. The detail of these will follow at the detailed design stage if development consent for the Scheme is granted.
- 20.1.6 At this stage, it is envisaged that fences along public rights of way would be provided to prevent access onto private land, grazed grassland or the

highway, or to provide a buffer zone to the retained cutting between Longbarrow junction and the western tunnel entrance. Kent Carriage Gaps would be provided at access points to restricted byways, preventing entry by mechanically-propelled vehicles. Equestrian gates would be provided at access points to bridleways and pedestrian gates would be provided at access points to footpaths. This is subject to detailed design of these matters and discussions with Wiltshire Council. Within the World Heritage Site, the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), reference D-CH14, requires the provision of fencing and surfacing to be developed in consultation with the National Trust, Historic England, English Heritage and Wiltshire Council.

- 20.1.7 Article 9 of the draft development consent order [REP2-003] makes provision for the public rights of way provided by the Scheme to be maintained by Wiltshire Council. Wiltshire Council could also use its powers to prevent unlawful use of the existing and proposed Public Rights of Way. Highways England is in discussions with Wiltshire Council concerning matters arising from its maintenance of roads affected by the Scheme.
- 20.1.8 In addition, Highways England has prepared an update to the OEMP for submission at deadline 3 which contains additional design commitments, design principles to help guide the development of the detailed design together with a robust stakeholder consultation mechanism to involve heritage stakeholders, including the National Trust, in the development of aspects of the detailed design within the World Heritage Site. This includes consultation on aspects of the design of public rights of way within the World Heritage Site. Compliance with the OEMP is secured via requirement 4 of the draft development consent order [REP2-003].

Key Issue

- 20.1.9 **Agricultural access to land during construction: detail of how tenants are to access land severed during construction for the purposes of moving livestock, machinery, and undertaking routine management such as daily livestock welfare checks has not been provided.**
- 20.1.10 **Requirements: clarification is required.**

Highways England response

- 20.1.11 As noted in Highways England's response to Written Question Ag.1.11 [REP2-022]:

"...access to premises will be maintained during the operation of the Scheme and during its construction.

This is ensured by the scope of the powers available to the undertaker under the DCO. Article 10 of the draft development consent order [REP2-003] makes provision for the stopping up and replacement of private means of access. In accordance with paragraph (2)(a) of that article, a private means

of access that is to be replaced and is listed in Part 3 of Schedule 3, may only be permanently stopped up once the replacement private means of access has been completed to the reasonable satisfaction of the street authority. Article 10(2)(b) makes provision for a temporary alternative route to be put in place, pending the completion of the replacement means of access specified in Part 3 of Schedule 3.”

- 20.1.12 No land occupied by National Trust’s tenants will be severed during construction. The National Trust’s tenants will therefore be able to access land during construction for the purposes of moving livestock, machinery, and undertaking routine management such as daily livestock welfare checks.

Key Issue

Decommissioning of the A303:

- 20.1.13 **Requirements: clarification is sought on the maintenance, management, and future liability responsibilities for the land of what will become the decommissioned A303.**

Highways England response

- 20.1.14 The future management of the length of decommissioned A303 to become restricted byway will become the responsibility of Wiltshire Council as public rights of way authority. Highways England intends to retain responsibility for the section of decommissioned A303 to the east of Stonehenge Road – this area is expected to be managed as part of its soft estate. Controls over the extent and design of the works, how they will be carried out and thereafter operated are contained in the Outline Environmental Management Plan (OEMP) [APP-187], an updated version of which is being submitted at Deadline 3 of the examination, secured via Paragraph 4 of Schedule 2 to the draft development consent order [REP2-003].
- 20.1.15 The OEMP states at paragraph 1.1.11 “It is anticipated that the CEMP for the main works will be revised as necessary during the construction phase by the main works contractor, in line with the principles of this OEMP for approval by The Authority. However, as a minimum, the CEMP (Construction Environmental Management Plan) for the main works will be revised annually to ensure it is kept up to date”.
- 20.1.16 Paragraph 1.1.12 states “Towards the end of construction phase, the main works contractor will prepare a final version of the CEMP for the operational and maintenance phase of the Scheme, in the form of a Handover Environmental Management Plan (HEMP), again subject to The Authority approval. This will then be implemented by the maintenance authority responsible for the maintenance of the Scheme during the operational phase”.
- 20.1.17 Table 3.2b of the OEMP includes those actions to be incorporated into the main works for the Scheme and where relevant the operation and

maintenance of the Scheme by the 'main works contractor' or the 'maintenance authority'.

Key Issue

- 20.1.18 **Combine Harvester Access via Countess Farm: on request from the Applicant the National Trust has been asked to consider providing alternative access provision for a Combine Harvester, to replace existing access to the A303 which will be lost due to the Scheme. The request for access that we have discussed is only for the use of a Combine Harvester and is limited to a single informal access route passing along an unmade up track for approximately 6 times a year. There is no obligation for the Trust to provide alternative access although in principle we have no objection to doing so subject to an agreement recognising it as a response to Compulsory Acquisition of other Trust land which will ensure that it is a practical solution limited to the current user, and the requirement below.**
- 20.1.19 **Requirements: that any adverse impact to the OUV of the WHS (such as from hard surfacing) is avoided.**

Highways England response

- 20.1.20 As noted in Highways England's response to Written Question Ag.1.10:
"Farm access arrangements at Park Farm and West Amesbury Farm continue to be discussed with the affected landowner and tenant. Highways England are seeking to agree suitable alternative access arrangements with the two farms, which includes a new access to Countess Road for vehicles such as combine harvesters unable to negotiate the roads through Amesbury. The access required is beyond the Scheme's Order limits, therefore separate discussions with the National Trust (landowner) and another tenant at Countess Farm are ongoing in parallel with the DCO process. The suggested route from the 2004 Scheme has now been deemed unsuitable by the landowners, the National Trust".
- 20.1.21 Highways England and the National Trust have discussed and agreed in principle the provision of combine harvester access over National Trust owned land, outside of the Order limits. The route of this access has been discussed to be via bridleway AMES9a, rather than via the access point at Countess Farm. Highways England. Discussions will now take place with Wiltshire Council to ensure any highways issues are resolved.
- 20.1.22 No hard surfacing has been proposed over these routes where it crosses National Trust land.

Key Issue

20.1.23 Fencing and gates:

Requirements:

- a. **clarification on the location and specification of new fencing, gates, and all other accommodation works proposed for use on or adjacent to National Trust land interests is required to confirm suitability for agricultural use and to ensure no adverse impact on the OUV of the WHS**
- b. **that the design and specification is subject to approval by the Trust where located on or adjacent to Trust land interests.**

Highways England response

20.1.24 Highways England's response to Written Question Ag.1.4 ii and iii [REP2-022] noted:

"...The detail of fencing and gates will follow at the detailed design stage if development consent for the Scheme is granted.

At this stage it is envisaged that fences along public rights of way would be provided to prevent access onto private land, grazed grassland or the highway, or to provide a buffer zone to the retained cutting between Longbarrow junction and the western tunnel entrance. Kent Carriage Gaps would be provided at access points to restricted byways, preventing entry by mechanically propelled vehicles. Equestrian gates would be provided at access points to bridleways and pedestrian gates would be provided at access points to footpaths. This is subject to detailed design of these matters and discussions with Wiltshire Council".

20.1.25 The Applicant is developing a series of Design Principles to guide the detailed design of elements of the Scheme, including the public rights of way within the WHS, which will be submitted for Deadline 3.

20.1.26 As further noted in the response to Ag.1.4 ii and iii [REP2-022]:

"Within the World Heritage Site, the OEMP [APP-187], an updated version of which is being submitted at Deadline 3 of the examination, reference D-CH14, requires the provision of fencing and surfacing to be developed in consultation with the National Trust, Historic England, English Heritage and Wiltshire Council and approved by the Authority".

20.1.27 Further details of fences and gates are provided in Highways England's Deadline 2 Submission - 8.13 Public Rights of Way (PRoW) clarifications [REP2-040]. Through the ongoing Heritage Partners Design Review meetings, the Applicant is establishing the principles and developing a process for stakeholder consultation on detailed design of elements of the Scheme, to be incorporated into the updated Outline Environmental Management Plan as Chapter 4. This will be submitted for Deadline 3.

20.2 Design

Key Issue

- 20.2.1 **It is important to note that our commentary below, and in particular our need to see a more detailed approach to design, and the way in which the scheme is delivered, reflects the unique importance of the Stonehenge, Avebury and Associated Sites World Heritage Site.**

Highways England response

- 20.2.2 Highways England requires a necessary and proportionate degree of flexibility to develop the detailed design. Flexibility in the detailed design is essential to enable the design to respond to ground conditions which will only be discovered when works begin, to enable design to deliver greater value for money through the value engineering process, and to allow for more refined designs that deliver better environmental outcomes. The update to the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) contains further design commitments, design principles and a robust mechanism for consultation on elements of the detailed design within the World Heritage Site.

Key Issue

- 20.2.3 **In such an important landscape it is essential that a more granular level of design is committed to than might otherwise be expected within a DCO, and that there are mechanisms to ensure a robust process for external heritage input into the final design approach taken by the contractor who will 'design and build' the scheme.**

Highways England response

- 20.2.4 The Applicant can confirm that the Scheme's design principles and the process for consultation with key heritage stakeholders (to include the National Trust, English Heritage, Historic England and Wiltshire Council) during the detailed design process is included within the revised version of the OEMP [APP-187] that is submitted at Deadline 3. Compliance with the OEMP is secured via Paragraph 4 of Schedule 2 to the draft development consent order [REP2-003]. The update also builds upon, and adds to, the design commitments included in the version of the OEMP submitted with the application [APP-187] references D-CH1 to D-CH14, thereby providing a more granular level of design than might otherwise be expected within a DCO which is appropriate for the Scheme.

20.3 Air quality and emissions

Key Issue

20.3.1 **General dust generating activities and range: areas within the National Trust landholdings and WHS are not identified within the DCO documentation to contain specific activities likely to generate dust and therefore only 'standard' levels of mitigation are recommended in the Air Quality Chapter of the ES. We consider the range of activities most likely to generate dust is too narrow in range.**

Requirements:

- a) the Trust seeks discussions on what further mitigation should be considered particularly near to the unique lichen assemblage on the standing stones
- b) clarification on how dust will be controlled during construction of the flyover which is in close proximity to the agricultural, business and residential premises at Countess Farm
- c) the implementation of 'further standard' mitigation measures are requested which should be implemented to control and reduce the effects of dust and fine particles provided in Appendix 5.4 Table 5.4.10 of the ES.

Highways England response

20.3.2 Construction activities have the potential to generate dust and therefore standard good practice dust mitigation measures will be implemented across the construction works.

20.3.3 The construction works which are envisaged to turn the A303 into the proposed green byway are considered to have a risk of dust egress and can be adequately controlled using standard mitigation measures. The risk of adverse effects is also minimised through these measures for the lichen assemblage on the standing stones as these are located approximately 165m from these works, as discussed in the Stonehenge Lichen Report [APP-234]. Mitigation by standard good practice mitigation measures are outlined in the Environmental Statement Appendix on Construction Air Quality and Mitigation [APP-193], Section 11 Mitigation Techniques, Table 5.4.9. The locations where further standard mitigation is proposed are locations where notable sources of dust generation are anticipated (e.g. haul routes, large earthworks and stockpiling etc) and where sensitive receptors (i.e. residential locations) are in close proximity, some within 10 meters (m). This includes activities at Countess roundabout such as the construction of the flyover. The need for further standard good practice dust mitigation measures as well as standard good practice dust mitigation measures in some locations has been included in the Outline Environmental Management

Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), specifically in MW-AIR1 and MW-AIR2.

20.4 Cultural Heritage

Key Issue

- 20.4.1 **Currently, the busy A303 road cuts through the WHS, having a major adverse impact on its OUV, monument settings, and tranquillity.**
- 20.4.2 **We recognise that the proposed road scheme represents an opportunity to tackle the blight of the existing road that dominates the landscape of Stonehenge, and has the potential to have a significant positive impact on the OUV of the WHS. Finding a solution to the harm caused by the existing A303 is a specific action within the WHS Management Plan³ which we, together with partner organisations, are committed to delivering. The National Trust considers that the proposed scheme has the potential to be acceptable and deliver tangible benefits to the WHS, but as set out in further detail below, we consider that there is still work to do.**

Highways England response

- 20.4.3 Highways England acknowledges the National Trust's comments in relation to the major adverse impact that the existing A303 has on the Outstanding Universal Value (OUV) of the WHS, monument settings and tranquillity.
- 20.4.4 Highways England also acknowledges the National Trust's comments that they consider that the proposed scheme has the potential to be acceptable and deliver tangible benefits to the WHS.
- 20.4.5 There has been much engagement with the National Trust and other stakeholders in the development of the Scheme, a summary of which is presented in the Consultation Report [APP-026], Chapters 2 and 3. Further details of how the Scheme has been developed to avoid and minimise adverse impacts on cultural heritage are provided in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Embedded Mitigation, and Table 6.9.
- 20.4.6 Highways England will continue to engage with the National Trust, and other heritage stakeholders, on relevant Scheme matters.

Key Issue

- 20.4.7 **In respect of the proposed bored tunnel, we agree with the removal of a substantial section of the existing A303 from the Stonehenge WHS. The prehistoric landscape is currently split entirely in two by the A303, with tens of thousands of vehicles passing through it every day. The heavy traffic and constant noise and visual intrusion from the road compromises the enjoyment and understanding of the WHS, and severs both the visual relationships and access between monuments**

(including Stonehenge itself) in the northern and southern halves of the Stonehenge part of the WHS.

Highways England response

- 20.4.8 Highways England acknowledges the National Trust's support for the proposed bored tunnel.

Key Issue

- 20.4.9 **Together with Historic England, during the development of the scheme, we undertook a series of Outline Assessments of its impact on the Outstanding Universal Value of the WHS. This assessment work, undertaken in line with ICOMOS International's own guidelines, tells us that the scheme as now presented has the potential, subject to the amendments and requirements set out within our Written Representations, to be acceptable, however it is also clear that there is a broad range of component elements to the scheme which if designed or constructed in an inappropriate manner could have a significant adverse impact on the OUV of the WHS.**

Highways England response

- 20.4.10 Highways England has included measures within the Scheme to secure ongoing involvement with the National Trust (as a member of HMAG) with respect to how the Scheme is carried out and its impact on the WHS. Highways England has also secured the delivery of the design solutions designed to minimise the impact of the Scheme on the WHS, which also involve consultation with HMAG. Further detail of these measures is provided below, demonstrating the means that are in place to ensure the Scheme will not be designed or constructed in an inappropriate manner.
- 20.4.11 Consultation with the National Trust is secured in two key ways:
- Firstly, paragraph 4 of Schedule 2 to the draft development consent order [REP2-003] requires Highways England to carry out the Scheme in accordance with the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). The OEMP requires the contractor to develop Construction Environmental Management Plans ("CEMP") for the Scheme, which must be prepared in accordance with the principles of the OEMP. The OEMP requires the preliminary works CEMP to include for the preliminary works:
- PW-CH1 – a Heritage Management Plan, prepared in consultation with HMAG (of which National Trust is a member) and Wiltshire Council Archaeological Service;
 - PW-CH3 – Site Specific Written Schemes of Investigation, produced in consultation with HMAG, to describe the mitigation measures that will be carried;

- PW-CH4 – Method Statements, produced in consultation with HMAG for works within the WHS, to include protective fencing for identified heritage assets and appropriate archaeological mitigation measures;
- PW-CH5 – Site Specific Written Schemes of Investigation, produced in consultation with HMAG, to include measures to install temporary barrier fencing to limit land disturbance at the western portal and eastern portal approaches;
- PW-CH6 – Site Specific Written Schemes of Investigation, developed in consultation with HMAG for works within the WHS, to include measures to avoid significant archaeological remains where possible and implement appropriate archaeological mitigation measures where impacts are unavoidable;
- PW-LAN1 – requires consultation with HMAG prior to the installation of fencing to protect retained vegetation within the WHS.

20.4.12 In respect of the main works the OEMP requires the main works CEMP to include:

- MW-CH1 – Heritage Management Plan based on the Detailed Archaeological Mitigation Strategy (see requirement 5 of Schedule 2 to the draft development consent order [REP2-003]), prepared in consultation with HMAG and Wiltshire Council Archaeological Service, indicating how the historic environment is to be protected in a consistent and integrated manner.
- MW-CH3 requires consultation with HMAG on the type of construction boundary fencing to be used within the WHS or its setting and to be included in an Archaeological Method Statement forming part of a main works CEMP;
- MW-CH5 requires the development in consultation with HMAG for works within the WHS, of Archaeological Method Statements describing the appropriate measures to be used where potentially sensitive archaeological remains are required to be buried or sealed beneath fill material;
- MW-CH6 requires the preparation, in consultation with HMAG for works within the WHS, of Site Specific Written Schemes of Investigation in respect of service/utility corridors requiring excavations, to avoid archaeological remains wherever possible and implement appropriate archaeological mitigation measures where impacts are unavoidable;
- MW-CH7 requires appropriate monitoring arrangements for all heritage assets during the construction programme, prepared in consultation with HMAG for works within the WHS.

20.4.13 Secondly, paragraph 5 of Schedule 2 to the draft development consent order [REP2-003] requires the Scheme to be carried out in accordance with the

Detailed Archaeological Mitigation Strategy [a draft of which is provided at REP2-038]. Highways England has submitted a document that further clarifies the relationship between the Detailed Archaeological Mitigation Strategy and the OEMP [APP-187].

- 20.4.14 As stated in the OEMP [APP-187] [a revised version of which is submitted at Deadline 3; e.g. PW-CH1 and MW-CH1 for HMPs], HMAG will be consulted on before Highways England as 'the Authority' approves the documentation. The consultation provided for in the OEMP will ensure that the views of HMAG are taken into account in finalising the documentation, prior to Highways England's approval.
- 20.4.15 The Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) also provides for landowners to be informed of the programme and activities during both the preliminary works phase [see PW-COM1 of the OEMP] and the main works phase [see MW-COM1 of the OEMP].
- 20.4.16 Other key design elements, designed having regard to the impact of the Scheme on the WHS, that are secured via the OEMP include:
- D-CH8 – requires no signage or other vertical installations (such as CCTV) above the top of the cutting and no lighting of signs at the western end of the Scheme in order to protect the WHS's OUV;
 - D-CH2 and D-CH3 which require the redundant sections of the road surface to the existing A303 and A360 (including the existing Longbarrow Roundabout) to be broken out, save to the extent they are required for public rights of way;
 - D-CH4 – requires Green Bridge No. 4 to be approximately 150m wide;
 - D-CH5 – which requires the western approach to the tunnel to be in cutting to a minimum 7m depth with vertical retaining walls;
 - D-CH6 and D-CH7 – which require cut and cover tunnels extending eastwards and westwards from the bored tunnel;
 - D-CH9, D-CH10, D-CH11 and D-CH12 - which taken together limit the use of highway lighting within the WHS and require improved lighting at Countess roundabout.
- 20.4.17 The Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) therefore provides assurance that the design solution will be transmitted into the requirements of the main works contractor and that the National Trust, as a member of HMAG, will be consulted with regards to the design solution.
- 20.4.18 Potential impacts from construction will be considered as part of the Scheme-wide Heritage Management Plan detailed in the OEMP [PW-CH1, MW-CH1] which will indicate how the historic environment is to be protected in a consistent and integrated manner including from potential impacts of

construction. The implementation of the OEMP is secured by Requirement 4 of schedule 2 of the draft development consent order [REP2-003].

- 20.4.19 The OEMP [APP-187, MW-CH7] allows for monitoring arrangements for designated and non-designated heritage assets to be prepared in consultation with HMAG (for sites within the WHS) and WCAS (for sites outside of the WHS) and approved by The Authority prior to works commencing.
- 20.4.20 The Applicant has added wording to the OEMP submitted at Deadline 3 providing for a mechanism:
- Obliging the Applicant to consult with heritage stakeholders on detailed design of key aspects of the Scheme;
 - Setting out design principles according to which the Applicant will require the detailed design of those key aspects of the scheme to be undertaken; and
 - Committing to certain additional key aspects of design, additional to the “D Series” design commitments already contained in the OEMP.

Key Issue

- 20.4.21 **Co-design of these elements, and meaningful collaboration through construction, which includes the National Trust, will be essential in reaching the right detailed design solution and appropriate specification to ensure the protection of the OUV of the WHS.**
- 20.4.22 **Requirements: the Trust requires a clear and legally robust mechanism to be able to participate in these detailed design activities, ideally the terms of the DCO itself, would:**
- ensure the Trust is built into the Approvals Regime for the areas of concern with regards to outstanding detail, with reasonable allowances of time for response to be made by the Trust and engagement to be meaningful**
 - require the Applicant to produce a programme of design activities**
 - require the Applicant to identify pathways for securing solutions; ensuring the design solution is transmitted into the requirements of the contractor**
 - ensure that the Trust, HMAG (and whatever the final form and format agreed with the Applicant of how we are to be engaged) are built into monitoring protocols for the discharge of the agreed solutions, including where appropriate the provision of information on proposed and as built construction, and that provision is made for the cost of monitoring during the project.**

Highways England response

20.4.23 See response to issue 20.4.21.

Key Issue

20.4.24 **The National Trust has a strong interest in the development of the key control documents within the DCO including the:**

- **CEMPs (Construction Environmental Management Plan)**
- **CHAMPs (Cultural Heritage Asset Management Plans) and all successor plans produced by the Applicant on a four year cycle**
- **DAMS (Detailed Archaeological Mitigation Strategy)**
- **HEMP (Handover Environmental Management Plan)**
- **HMPs (Heritage Management Plans)**
- **LEMP (Landscape and Ecology Management Plan)**
- **Method Statements (specifying requirements for the preservation in situ of archaeological deposits)**
- **OWSI (Outline Written Scheme of Investigation)**
- **SSWSIs (Site Specific Written Schemes of Investigation)**

Highways England response

20.4.25 Noted, no comments.

Key Issue

20.4.26 **Limits of Deviation: there is allowance in the scheme for both the bored tunnel and the cut and cover tunnel to be extended up to 200 metres westwards (and reduced by a nominal 1m eastwards) at the western end, and up to 30 metres eastwards at the eastern end. We welcome the potential that this might provide to further reduce adverse impacts on the OUV of the WHS. However the impacts of such a variation are not explicitly assessed within the HIA submitted by the applicant. Positive impacts on OUV that might result from the additional visual cover of the cut, and a potential reduction of direct physical impacts on archaeology resulting from an extension to the length of the bored tunnel, are to be welcomed. However, we are also concerned that resultant engineering requirements affecting changes in vertical road alignment (and therefore depth of cut), or positioning of the area of land take (and any consequent change to direct physical impacts on archaeology) are not set out, nor their impacts assessed. We are concerned that there may therefore be additional direct physical impacts on the OUV of the WHS.**

20.4.27 **Requirements: the National Trust therefore seeks a requirement for the Applicant to provide an assessment of the impacts of such a variation on the OUV of the WHS prior to its authorisation, in order to ensure its protection.**

Highways England response

20.4.28 The Environmental Statement Chapter 6 [APP-044] and the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] considered the realistic worst case scenario for the Scheme and the results of the archaeological evaluations for the western portal and approaches and the eastern portal and approaches prior to submission of the DCO application.

20.4.29 With regards to the works detailed in 1E, 1F and 1G as set out in Table 2.1: Limits of deviation in Environmental Statement Chapter 2 [APP-040], which align with the limits of deviation set out in article 7 of the draft development consent order [REP2-003] these are outlined below.

20.4.30 **Work No.1E**

Article 7(7) allows for the cut and cover section of the tunnel to commence 200 metres westwards from the location shown by the "bow-tie" on the Works Plans [APP-008] and by a nominal 1m eastwards from that position. The 200m deviation westwards would allow for the point of commencement of Work No.1F (the bored tunnel and associated works) to also deviate westwards by the same amount, should it be required during the detailed design.

20.4.31 The exercise of this limit of deviation would allow archaeological remains, that would otherwise be archaeologically excavated and recorded prior to construction of the Scheme (which positions the western portal tunnel face at chainage 7400), to be preserved in situ. The nominal 1m deviation of the point of termination of Work No.1E eastwards would only increase the footprint slightly for the western portal and would not physically impact archaeological remains that are known to contribute to the OUV of the WHS. The significant effects reported in the Environmental Statement Chapter 6 [APP-044] and the conclusions reached in the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] are therefore the same whether the limits of deviation are used or not.

20.4.32 Should the maximum westerly deviation of 200m be required by the detailed design for both Work No.1E and Work No.1F then this would benefit the setting of five isolated designated heritage assets that contribute to the OUV of the WHS and lying to the south of the A303. This includes:

- Bowl barrow south of the A303 and north-west of Normanton Gorse (NHLE 1010832);
- Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft' (NHLE 1010833);

- Bowl barrow 400m west of Normanton Gorse (NHLE 1010831);
- Bowl barrow 350m south-west of Normanton Gorse (NHLE 1013812);
and
- Linear boundary within Normanton Gorse (NHLE 1010838).

20.4.33 The above benefits would result in Slight Beneficial (and therefore non-significant effects) and therefore the conclusions reached in the Environmental Statement Chapter 6 [APP-044] and the overall conclusions reached in the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] are the same whether the limits of deviation are used or not.

20.4.34 **Work No.1F**

Article 7(7) allows for the points of commencement and termination of Work No.1F (the bored tunnel and associated works) to deviate from the "bow-ties" shown on the Works Plans by up to 200m westwards and 30m eastwards respectively. It also permits the point of commencement of Work No.1F to deviate by a nominal 1m eastwards and the point of termination to deviate by a nominal 1m westwards.

20.4.35 The same considerations as those discussed in respect of Work No.1E above apply to westward deviation of the point of commencement of Work No.1F. Regarding the 30m eastwards deviation of the point of termination of Work No.1F this would allow archaeological remains, that would otherwise be archaeologically excavated and recorded prior to construction of the Scheme (which positions the eastern portal tunnel face at chainage 10400), to be preserved in situ. The nominal 1m deviation westwards of the point of termination of Work No.1F would only increase the footprint slightly for the eastern portal and would not physically impact archaeological remains that are known to contribute to the OUV of the WHS. The significant effects reported in the Environmental Statement Chapter 6 [APP-044] and the conclusions reached in the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] are therefore the same whether the limits of deviation are used or not.

20.4.36 **Work No.1G**

Article 7(7) allows the points of commencement and termination of Work No.1G to deviate eastwards from the "bow-tie" shown on the Works Plans by up to 30m and by up to 1m westwards. This is considered in response to 1F above.

20.4.37 **Vertical limits of deviation**

The vertical limits of deviation for Work No.1F are set out in article 7(5) by reference to the Bored Tunnel Limits of Deviation Plan [APP-019] and Note 3 on the Bored Tunnel Limits of Deviation Plan, which confirms that "For any extension of the bored tunnel outside chainage 7400 to 10400 the upper limit of deviation of the crown of the bored tunnel would be a minimum of 6.75m

below existing ground level and the upper limit of deviation for the finished road level would be a minimum of 15m below existing ground level". As such, the upper limit of deviation of the crown of the bored tunnel would be a minimum of 6.75m below existing ground level this would allow enough chalk coverage to preserve surface archaeological remains (generally located within the top 2m) above the tunnel, even where it is closest to the surface (at 6.75m below the ground surface).

20.4.38 The significant effects as reported in the Environmental Statement Chapter 6 [APP-044] and the conclusions reached in the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] are therefore the same whether the limits of deviation are used or not.

20.4.39 **Lateral deviations from the centreline**

Regarding the lateral limits of deviation for the western and eastern tunnel portals from the centre line of +3m/-3m, again this would only vary the footprint slightly for the eastern or western portals and would not physically impact archaeological remains that are known to contribute to the OUV of the WHS. The significant effects as reported in the Environmental Statement Chapter 6 [APP-044] and the conclusions reached in the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] are therefore the same whether the limits of deviation are used or not. There is therefore no need to include a requirement of the type suggested.

Key Issue

20.4.40 **Cutting Design: the cutting at the eastern end of the scheme immediately out with the cut and cover section is described as being, 'formed mostly of grassed slopes beyond the extents of the tunnel buildings' (6.1 Environmental Statement, Chapter 2, 2.3.2). This is contra to the advice provided by the National Trust to the Applicant (and assurances given by them) on what was required in order to minimise adverse impacts on the OUV of the WHS and ensure its protection.**

20.4.41 **Requirements: The Trust therefore seeks a requirement that throughout the scheme the cut should have vertical walls (to minimise land take and therefore the direct physical impacts on archaeology) rising to grassed slopes extending for approximately 2.5 metres at the top of the cut (to minimise adverse visual impacts on the OUV of the WHS). And that the surface of the cutting wall must not be visually intrusive, and must be a colour in-keeping with the character of the surrounding landscape.**

Highways England response

20.4.42 Highways England confirms that similar design principles will be applied to both portals. The extent of proposed retaining walls are indicated by heavy black lines on Sheet 8 of the Engineering Section Drawings (Plan and

Profiles) [APP-010]. Note that retaining walls are not proposed where the cutting is into the existing A303 embankment or where the cutting is formed by widening the existing A303 cutting.

- 20.4.43 The design has been developed having regard to the impact of the eastern portal within the World Heritage Site. The eastern tunnel portal has been positioned within a dry valley in an area of low archaeological potential and will be further concealed within the landscape by a short length of canopy (see ES Chapter 6, Cultural Heritage [APP-044], Section 6.8). The further detailed design of the portal and its associated infrastructure will be sensitive to its WHS context, following Highways England's guide 'The Road to Good Design' (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/672822/Good_road_design_Jan_18.pdf), and will be developed in consultation with the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust, and English Heritage).
- 20.4.44 Highways England therefore disagrees that a requirement as proposed is necessary.

Key Issue

- 20.4.45 **Variable Message Signs: the location of variable message signs, 'along the length of the Scheme.'** (6.1 Environmental Statement, Chapter 2, 2.3.48) is contra to the advice provided by the National Trust to the Applicant (and assurances given by them) that in order to protect the OUV of the WHS no such signage should be located within the WHS.
- 20.4.46 **Requirements: The Trust therefore seeks a requirement that no variable message signs will be located within the WHS.**

Highways England response

- 20.4.47 The road signage design will be the subject of detailed design within the context of the guidance and legislation noted in the response to Written Question CH.1.12 [REP2-025].
- 20.4.48 As per Environmental Statement Chapter 6 [APP-044, paragraph 6.8.5f], road signage would be designed for minimal impact.
- 20.4.49 Regarding Variable Message Signs (VMS), these will be primarily used to support diversion route and contraflow arrangements, warning of incidents, speed restrictions (on speed limit repeater signs) or delays along the route. As per discussions between the Applicant and the National Trust, large VMS (proposed MS4s) are sited outside the WHS.
- 20.4.50 The constraint of the WHS means that a reduced size and height sign is required within the WHS, to avoid visual impact and to protect its OUV. Small post-mounted speed limit repeater signs in the verge are proposed, but where speed limits change the signs must be of sufficient size to provide

terminal sign functionality in order to support the legal enforceability of the speed limit change. These will be designed in line with the road signage principles as stated above [APP-044, paragraph 6.8.5f] and be minimal impact.

20.4.51 A tunnel VMS will be installed at each tunnel portal, including the 'exit' portal to support for contra-flow traffic operation. Throughout the tunnel, roof mounted VMS will provide additional road user information.

20.4.52 There are a variety of design commitments and principles on the use of signs in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) which Highways England considers are sufficient to protect the WHS and its OUV while also giving Highways England the necessary flexibility to place the signs where they are required for efficient and safe operation of the trunk road network. Key commitments in the OEMP are:

- D-CH30 – which provides that road signs shall be designed and positioned for minimal impact when viewed from the WHS. The posts/settings on which road signs are mounted shall be of low reflectivity. The number of signs shall be the minimum required for the safe operation of the road. This provision includes a commitment to consult members of HMAG (which includes the National Trust) on signage prior to relevant works commencing.
- D-CH8 – providing that at the western end of the Scheme within the WHS no signs shall be set higher than the existing ground level on the lower of the adjacent sides of the cutting and the signs shall not be lit.
- Design principles P-SL01 and P-SL02, which provide for minimal lighting and signage in areas bordering the WHS, and that road signs be located as to avoid adverse impacts on the setting of monuments or interrupting views between Neolithic and Bronze Age monuments, wherever practically possible.

Key Issue

20.4.53 **A360 NMU route: it is not clear from the submitted documentation what the width or the surface treatment of the new restricted byway running north south along the existing alignment of the A360 would be (6.1 Environmental Statement, Chapter 2, 2.3.57).**

20.4.54 **Requirements: in order to minimise adverse visual impacts on the OUV of the WHS and secure its protection we seek provision that:**

- a. **there should be no new bound surface on the new PRow. A bound surface (with a maximum width of 3m) could be put in place along the line of the existing A360 (where this road becomes redundant). But at the point at which the NMU route diverges from the existing A360 eastwards into the WHS there should be no formal bound surface; in particular in the vicinity of the**

Winterbourne Stoke Barrow group where any new bound surface would represent an adverse impact on the monuments and their setting

- b. any area not used as a formal surface should become chalk grassland priority habitat (as defined by the Habitats Directive 2010 Annex I habitat types) in line with Policies 3g and 3h of the Stonehenge & Avebury and Associated Sites WHS Management Plan (2015)**
- c. no 'urban' infrastructure such as rubbish bins, benches, kerbing or significant drainage infrastructure should be installed, and any signage for the new PRoW should be non-reflective and in-keeping with the character of the WHS, and should be designed and located in such a way as to ensure no adverse impacts on the OUV of the WHS**
- d. there must be a maintenance strategy agreed that ensures that the surface approach continues to be applied throughout the maintenance agreement and any successor agreements. And those services providers who may need access to services beneath this surface must be required to make any repairs using the surfacing approach as defined above.**

Highways England response

- 20.4.55 Highways England disagrees that any new bound surface on the A360 would represent an adverse impact on the Winterbourne Stoke Crossroads Barrows and their setting. The existing A360 already has a major adverse impact on the group. Downgrading to an NMU and realigning the road to the west is assessed as having a Moderate Beneficial effect on the Asset Group in the Environmental Statement Chapter 6 [APP-044, Table 6.11: Summary of significant effects – construction (permanent)] and the Heritage Impact Assessment [APP-195, Table 11: Summary of assessed impacts and effects of the existing A303 and anticipated impacts and effects of the Scheme on Asset Groups conveying Attributes of OUV].
- 20.4.56 Within the World Heritage Site (WHS), commitments with regard to surfacing are set out at items D-CH2, D-CH3 and D-CH14 of the Outline Environmental Management Plan [APP-187] (a revised version of which is submitted at Deadline 3) which provide for, respectively, the breaking up of the redundant A303 and A360 within the WHS, and that provision of surfacing within the WHS shall be developed in consultation with National Trust, Historic England, English Heritage and Wiltshire Council.
- 20.4.57 Further surfacing details are provided in Highways England's Deadline 2 Submission - 8.13 Public Rights of Way (PRoW) clarifications [REP2-040]. Through the ongoing Heritage Partners Design Review meetings, the Applicant is developing a series of Design Principles to guide the detailed design of elements of the Scheme, including the public rights of way within

the WHS, be incorporated into the updated Outline Environmental Management Plan as Chapter 4. This will be submitted at Deadline 3.

Key Issue

- 20.4.58 **Byways Open to All Traffic (BOATS):** the current use of the BOATs within the WHS causes an adverse impact on the OUV of the WHS. To address this Policy 6 of the Stonehenge & Avebury and Associated Sites WHS Management Plan (2015) requires the management, ‘of vehicular access to byways within the WHS to avoid damage to archaeology, improve safety and encourage exploration of the landscape on foot whilst maintaining access for emergency, operational and farm vehicles and landowners.’ We are concerned that neither this scheme, nor the cumulative impacts of this scheme in combination with the existing BOATs within the WHS, should exacerbate the damage to OUV already caused. In addition, the benefits to OUV afforded by the scheme’s removal of traffic within a substantial proportion of the WHS should not be undermined, either by increased usage of the existing BOATs, or use (legally or illegally) by motorised users on new PRowS created as part of the scheme.
- 20.4.59 **Requirements: care should be taken in approval of any detail in relation to the scheme not to encourage increased use of PRowS by motorised users where that would harm the OUV of the WHS.**

Highways England response

- 20.4.60 As illustrated on the Rights of Way and Access Plans [APP-009], the Scheme does not promote a motorised link between the byways (AMES Byway 11 and AMES Byway 12).
- 20.4.61 Changing the status of the existing BOATs is beyond the scope of the Scheme and is a matter for Wiltshire Council to consider as the local highway authority. Highways England wish to ensure that the Scheme is integrated within the existing byway network and, where the opportunity exists, create legacy benefits for non-motorised users in accordance with its Strategic Business Plan and Road Investment Strategy, which are aligned with Government policy to encourage walking, cycling and horse-riding through national and local policies and plans. The new public rights of way measures proposed along the Scheme would not only maintain, but would also considerably enhance the existing PRow network, significantly improving connectivity for non-motorised users, as illustrated on the Rights of Way and Access Plans [APP-009].

Key Issue

- 20.4.62 **Ground Settlement: the Applicants states that, ‘it is assumed that,’ ground settlement will be minimal at the surface, but no evidence is provided to support this 6.1 Environmental Statement Chapter 6, 6.4.1 i)**

- 20.4.63 **Requirements: given the sensitivity of archaeological deposits and monuments to ground and sub-surface disturbance, we consider that further evidence needs to be submitted by the Applicant to demonstrate the scale of any surface ground settlement and assess the adequacy of proposed mitigation, and to identify any residual impacts on monuments that convey the attributes of OUV of the WHS.**

Highways England response

- 20.4.64 The Land Instability Risk Assessment (Environmental Statement Appendix 10.6 [APP-278]) includes consideration of the initial tunnelling induced ground settlement. Settlement impacts may occur in areas associated with the tunnel and cutting works. Settlement can result in a change to surface and sub-surface conditions. The effects of settlement may not be noticeable at ground level because the undulation of the natural surface is much greater and tends to mask subsidence movements. The level of impact that can occur to surface and subsurface features depends on the magnitude of movement that occurs, and the sensitivity of each feature to these movements. Movements that are sensitive to one feature might easily be accommodated by another.
- 20.4.65 Items PW-CH1 and MW-CH1 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) require the preliminary works and main works contractors to produce Heritage Management Plans indicating how the historic environment is to be protected in a consistent and integrated manner, coordinated with all other relevant environmental topics. This includes the potential indirect impacts on heritage from activities such as ground vibration and ground movement / subsidence. Items PW-NOI4 and MW-NOI5 of the OEMP [APP-187] identify industry guidance that the preliminary works and main works contractors are to follow in relation to controls and working methods for managing vibration. This guidance specifically refers to ground borne vibration from tunnelling. They also require the preliminary works and main works contractors to identify any potentially vibration sensitive cultural heritage assets and actions to control or mitigate impacts, including monitoring.
- 20.4.66 Notwithstanding the above, in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) a specific item has been added to require a ground movement monitoring strategy to be developed by the main works contractor.
- 20.4.67 The predicted effects of excavation induced ground settlement have been considered as part of a staged assessment used in tunnelling to determine the zone of influence and potential structures and archaeology affected during construction (see Environmental Statement Appendix 10.6 - Land Instability Risk Assessment [APP-278, Section 6.4]. The installation of monitoring equipment and programme of monitoring to monitor ground movement above the tunnel will be included as part of the Heritage

Management Plan required by item PW-CH1 and MW-CH1 of the Outline Environmental Management Plan.

20.4.68 Environmental Statement Chapter 6 - Cultural Heritage [APP-044] notes:

“It is assumed that ground settlement will be minimal at the surface from the boring of the twin bored tunnel and any changes to heritage assets on the surface would be negligible and imperceptible to the eye” [APP-044, para. 6.4.1 (i)], and “It is assumed that vertical and lateral displacement from the excavation of deep cuttings or the retained cut will be minimal and any changes to heritage assets on the surface would be negligible and imperceptible to the eye” [APP-044, para. 6.4.1 (j)]. These assumptions were made pursuant to section 6.4 of the Land Instability Risk Assessment [APP-278] which predicts that ground surface movement above the tunnel will be limited to 20-30mm as a maximum.

20.4.69 The monitoring methodology instigated as part of the Heritage Management Plan will consider acceptable levels and identify the associated action in response as part of a pre-planned contingency plan. The general principle is to control the works such that unacceptable levels are not breached, and put in place a warning of trends which may approach unacceptable levels.

20.4.70 To confirm the absence of any adverse influence regardless of predicted effects, monitoring regimes shall be developed by the appointed contractor. It is anticipated that for settlement, this will include monitoring points (settlement markers such as steel pins, inclinometers and extensometers) with manual monitoring by carrying out a levelling survey or by a fixed monitoring instrument. The installation of monitoring equipment and programme of monitoring to monitor ground movement above the tunnel will be included as part of the Heritage Management Plan required by item PW-CH1 and MW-CH1 of the Outline Environmental Management Plan [APP-187]. The contractor’s monitoring during construction will continue until such time as there is no further movement measured. The implementation of the OEMP is secured by Requirement 4 of schedule 2 of the draft development consent order [REP2-003].

20.4.71 The monitoring regimes outlined above will ensure that the predicted levels of settlement will be monitored by the appointed contractor. In the unlikely event of monitoring showing that that is not the case and heritage assets being subject to significant effects, responses could include appropriate in-tunnel mitigation measures.

20.4.72 The approach to dealing with asset protection requires a detailed consideration of the most appropriate method to use during tunnelling based on an assessment and understanding of the geological and hydrogeological conditions in addition to the acceptable levels determined for the heritage assets as referenced above. It will be the responsibility of the contractor to ensure risks are assessed and mitigated in their safe systems of work during

construction, pursuant to the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).

- 20.4.73 As part of this plan, the contractor will develop contingencies using a suite of tool box items from further investigation, assessment and monitoring during construction to identify measures to ensure the protection of assets. This could range from simply slowing down the TBM to instigating ground stabilisation measures including grouting. Where the need for ground stabilisation is identified this will be undertaken from inside the main tunnel bore where it is safe and practicable to do so in preference to surface intervention. Other methods for the ground stabilisation specifically for construction of the cross-passage tunnels could include fissure grouting and local face depressurisation facilitated from the main TBM tunnels; further enhanced ground support can be provided by the installation of pipe umbrellas or spiles. These methods have been successfully employed on the recent (2013) Crossrail C310 Thames Tunnel project through the chalk aquifer.
- 20.4.74 With these mitigation measures in place, the assumptions as set out in ES Chapter 6 [APP-044; para. 6.4.1 (i) and para. 6.4.1 (j)] still stand, and there will be no significant effects on monuments that convey the attributes of OUV of the WHS.

Key Issue

- 20.4.75 **Haul Roads: the Applicant states in 6.1 Environmental Statement Chapter 6, 6.8.4 c that, ‘compounds, temporary road diversions and haul roads would be built under a ‘no dig’ solution, wherever possible, with topsoil retained in situ and geotextile laid before road stone and the temporary road surface. This approach would also be implemented for PMAs and NMUs where agreed with HMAG and WCAS.’ However this is contra to assurances given by the Applicant to HMAG that no haul roads would be built within the WHS. This is to ensure there are no avoidable direct physical impacts on archaeology and the OUV of the WHS and further, to minimise the temporary visual impacts on the OUV of the WHS.**
- 20.4.76 **Requirements: the National Trust therefore seeks assurance that no haul roads be constructed within the WHS that fall outside the necessary footprint for the newly constructed road.**

Highways England response

- 20.4.77 As set out in the Detailed Archaeological Mitigation Strategy [REP2-038] (compliance with which is secured through Requirement 5 of the draft development consent order [REP2-003]), no haul roads are proposed within the WHS, other than those within the footprint of the proposed new road alignment. Paragraphs 2.4.17 – 2.4.20 of the Environmental Statement set

out the Scheme's proposals for haul routes, and the routes are shown indicatively on Figures 2.7A-E of the ES [APP-061].

- 20.4.78 As set out within the same document (and also referred to in item MW-CH5 of the OEMP), method statements in relation to the protection of archaeology in relation to haul routes will be produced in consultation with HMAG; and are therefore secured through Requirements 4 and 5 of the draft development consent order [REP2-003].

Key Issue

- 20.4.79 **Scrub: the creation of intermittent scrub habitat within the WHS, for example on the western approaches to Green Bridge 4 (6.1 Environmental Statement Chapter 6, 6.8.5 d) is in direct contradiction with Priority 1 of the Stonehenge & Avebury and Associated Sites WHS Management Plan (2015) which requires the management of scrub for the protection of archaeology. The introduction of scrub would also introduce a visual intrusion that would have an adverse impact on the visual relationships between the Winterbourne Stoke Barrow Group and the Diamond Group i.e. the adverse impact on OUV that Greenbridge 4 is intended to mitigate**
- 20.4.80 **Requirements: the National Trust therefore seeks assurance that other than for essential and proportional mitigation (where this does not adversely impact OUV) to provide habitat connectivity e.g., for bats, no new scrub is created within the WHS.**

Highways England response

- 20.4.81 The scrub proposed within the WHS is to aid connectivity for bats and this is in the vicinity of the Eastern Portal. There is also replacement scrub proposed at the bottom of the dry valley to the east of the eastern portal and around the drainage basins at Countess junction. The requirement contained in paragraph 8 of Schedule 2 to the draft development consent order [REP2-003] requires a detailed landscaping scheme to be submitted for approval. This must reflect the mitigation measures set out in the Environmental Statement, which include the principles set out in the Outline Landscape and Ecological Management Plan [APP-267]. As such, appropriate habitat and suitable management regime will be put in place through this mechanism. No further requirements are therefore appropriate.

Key Issue

- 20.4.82 **Lighting: the Applicant states that the tunnel portal lighting will be, 'downlit and hooded to avoid light spill,' however the commitment previously given by the Applicant is for not lighting within the WHS outwith the tunnel. This is to ensure no adverse impacts from lighting on attribute 4 of the OUV of the WHS ('the design of Neolithic and**

Bronze Age funerary and ceremonial monuments relating to the skies and astronomy.’).

- 20.4.83 **Requirements: the National Trust therefore seeks assurance that there will be no external lighting within the WHS (including at the tunnel portals, within the walls of the cut, and mounted on any of the tunnel control buildings or structures outwith the tunnel).**

Highways England response

- 20.4.84 There will be no external lighting within the WHS outside of the tunnel portals, within the walls of the road cuttings, or mounted on any of the tunnel control buildings or structures outwith the tunnel portals. In line with D-CH10 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), lighting under Green Bridge No. 4 will only occur between dawn and dusk, be dimmer controlled, and will be designed to minimise light spill outside of the bridge footprint.
- 20.4.85 This lighting strategy is provided for in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) (D-CH9 to D-CH12), and paragraph 4 of Schedule 2 of the draft development consent order [REP2-003] requires the Scheme to be carried out in accordance with the OEMP.

Key Issue

- 20.4.86 **Monitoring of Archaeological Mitigation: the appropriate monitoring of archaeological mitigation of the scheme is critical to ensuring the protection of the OUV of the WHS. While there is a commitment to such monitoring within the Applicant’s submitted scheme (6.1 Environmental Statement Chapter 6, 6.10.1) it is not specified how, or by whom this would be done.**
- 20.4.87 **Requirements: the National Trust seeks provision within the dDCO for appropriate consultation with Trust, and HMAG prior to, and as part of, sign off of all archaeological mitigation works within the WHS and for subsequent monitoring, including provision for cost of monitoring.**

Highways England response

- 20.4.88 As stated in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) [e.g. PW-CH1 and MW-CH1 for HMPs], HMAG will be consulted on before Highways England as 'the Authority' approves the plans relating to archaeological mitigation works, such as the Heritage Management Plan. The consultation provided for in the OEMP will ensure that the views of HMAG are taken into account in finalising the documentation, prior to Highways England's approval. There is therefore no requirement for any external approval by HMAG members.

- 20.4.89 The OEMP [MW-CH7] allows for monitoring arrangements for designated and non-designated heritage assets to be prepared in consultation with HMAG (for sites within the WHS) and WCAS (for sites outside of the WHS) and approved by The Authority prior to works commencing.
- 20.4.90 Section 7 of the draft DAMS [REP2-038], submitted at Deadline 2, sets out the monitoring, communications and sign-off of archaeological works procedures including consultation with HMAG (which includes the National Trust).

Key Issue

- 20.4.91 **Creation of New Earthworks within the WHS: the creation of new earthworks within the WHS would create an adverse impact on the Authenticity of the WHS and negatively impact the legibility of existing earthworks forming part of monuments that contribute to the OUV of the WHS. We are therefore concerned that contra to discussions with, and assurances given to, the National Trust and HMAG the Applicant states that new embankments will be created within the WHS scheme (6.1 Environmental Statement Chapter 7, Table 7.3 final paragraph). In Plans and Drawings 2.9 a new section of embankment can be seen above the top of the cut on the northern side of the approach to the eastern portal, and is referred to as, 'new embankment formations...up to 1m above ground level,' between the Eastern Portal and Countess roundabout'(6.1 Environmental Statement Chapter 7, 7.9.13).**
- 20.4.92 **Here the approach to the portal appears to be placed in a false cutting where the cut crosses the head of the dry valley. This is in a sensitive location within the WHS in proximity to a number of monuments contributing to its OUV, including both the Stonehenge Avenue and a number of round barrows.**
- 20.4.93 **Requirements: the Trust therefore seeks the removal by the Applicant of all above ground earthwork components of the scheme within the WHS, to ensure its protection.**

Highways England response

- 20.4.94 Earthworks are referred to within Table 7.3 of APP-045 to describe the embankments or cuttings that are proposed as part of the changes to landform.
- 20.4.95 The Applicant can confirm that at the detailed design the shallow embankment that crosses the dry valley between the eastern tunnel portal and Countess junction mentioned in this issue would be graded out to tie into existing ground levels and this specific aspect of the Scheme would not negatively impact upon the Authenticity or OUV of the WHS.
- 20.4.96 This detailed design intent is supported by the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is

submitted at Deadline 3), which has been updated to include a requirement that there shall be no permanent raised earthworks within the WHS other than that required for the construction of the Countess flyover (D-CH28).

Key Issue

- 20.4.97 **Tree planting: planting of new trees within the WHS can have adverse impacts on both sub-surface archaeology, and on the visual relationships between monuments relating to the OUV of the WHS. The National Trust is therefore concerned to ensure there are no adverse impacts on OUV from tree planting.**
- 20.4.98 **Requirements: no new tree planting should form part of the scheme within the WHS, and any replacement planting should only be permitted where it replaces existing screening of heritage assets; or provides essential and proportionate mitigation to provide habitat connectivity specifically for bats, providing it does not adversely impact on visual relationships between monuments conveying the attributes of OUV of the WHS; and where such replanting is fully archaeologically mitigated.**

Highways England response

- 20.4.99 The design avoids new tree planting within the Stonehenge and Avebury World Heritage Site as to adhere to the WHS Management and retain the open, rolling chalkland character of the landscape (as shown indicatively on the Environmental Masterplan [APP-059]). The exception is between the proposed Countess flyover and its slip roads, where new amenity tree and shrub planting is proposed within the highways corridor, reflecting the existing vegetated character of this part of the WHS.
- 20.4.100 Section 7.8 of Chapter 7 of the Environmental Statement [APP-045] sets out the landscape and visual design principles for the World Heritage Site as follows:
- Maximising landscape enhancement opportunities resulting from the removal of vehicles on the existing A303;
 - Maximising non-motorised users (NMU) opportunities within the WHS via 'green bridges', re-use of the existing A303 and connectivity to existing byways;
 - Avoiding the creation of new upstanding earthworks which would conflict with the inter-relationship of archaeological monuments/features within a rolling open landscape;
 - Locating new highways associated fencing below the skyline adjacent to the cutting approach to the western portal so as to minimise its visual impact;

- Implementing calcareous grassland on cut slopes above the retained cut to minimise visual impact between the existing land uses and the retained cutting;
- Minimising lighting and signage within and bordering the WHS; and
- Implementing a planting strategy to respect the objectives of the WHS Management Plan.

20.4.101 Paragraph 8 of Schedule 2 to the draft development consent order [REP2-003] requires Highways England to develop a landscaping scheme for approval by the Secretary of State, following consultation with Wiltshire Council. This Scheme must be based on the mitigation measures in the ES, which are set out in section 7.8 above. There is therefore no need for a further requirement as suggested by National Trust.

20.4.102 With reference to Written Examination Question Ch.1.47, it is noted that the National Trust are agreeable to proposals for planting beyond the Scheme boundary, within their grounds of Countess Farm with discussions on archaeological mitigation being ongoing.

Key Issue

20.4.103 **Fencing and Gates: we are concerned that design details of fencing within the scheme lack detail and that inappropriate design and location of fencing could have significant adverse impacts on the OUV of the WHS. Inadequately designed fencing has the potential to adversely impact views between monuments conveying OUV; adversely impact the setting of such monuments; and to be highly visible across long distances within the WHS.**

20.4.104 **Requirements: the Trust seeks a commitment from the Applicant that:**

- a. the top of "safety" or exclusion / security fences should be no higher than the top of the cutting.**
- b. all fencing visible from within the WHS should be visually recessive and have a non-reflective finish**
- c. all fencing above the top of the cutting should be stock fencing, appropriate to the rural landscape**
- d. all gates (both pedestrian and field gates) should be appropriate to the rural environment, visually recessive and have a non-reflective finish**
- e. all pedestrian gates must be, 'easy access' to allow use by visitors with restricted mobility e.g. 'Centrewire Aston Gate' or similar**
- f. the design of gateways should not allow illegal use of the NMU routes (in particular those created newly for the scheme) and should be specified to be natural timber products**

- g. there must be a maintenance strategy agreed that ensures the upkeep of fences and gates in line with the above specifications throughout the maintenance agreement and any successor agreements**
- h. Requirement is to be made within the dDCO for**
 - i. the Trust and HMAG to be meaningfully consulted in the design of all fences and gates within the WHS;**
 - ii. and for the Trust to be listed as part of the approval regime for final agreement where this applies to fences and gates on or adjacent to Trust land interests.**

Highways England response

- 20.4.105 At this stage, there are no plans available detailing construction phase fencing. This would be developed by the main works contractor during the detailed design stage. To ensure fencing has a minimal impact on the World Heritage Site (WHS), the main works contractor would consult with the Heritage Monitoring and Advisory Group (HMAG) to determine the type of construction boundary fencing to be used within the WHS, or within the setting of the WHS, to ensure that the type of fencing used would be sympathetic to the setting of the WHS. This would be secured through items MW-G28, MW-CH3 and D-CH14 of the Outline Environmental Management Plan (OEMP) (a revised version of which is submitted at Deadline 3), which is, in turn, secured by Paragraph 4 of Schedule 2 of the draft development consent order [REP2-003].
- 20.4.106 All heritage assets identified for protective fencing within the Detailed Archaeological Mitigation Strategy (DAMS), submitted at Deadline 2 [REP2-038], would be securely fenced during the early stages of the preliminary works, as outlined within sections 5.8.2 and 5.8.3 of the DAMS. This would be secured by Paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. The Contractor would consult with the HMAG (for works inside the WHS) and Wiltshire Council Archaeology Services (WCAS) (for works outside of the WHS) to determine the type of fencing to be used. This would be secured through item PW-CH4 of the OEMP.
- 20.4.107 Details of the Scheme's permanent fencing and gating strategy will follow at the detailed design stage. At this stage, it is envisaged that fences along Public Rights of Ways (PRoWs) would be provided to prevent access onto private land, grazed grassland or the highway, or to provide a buffer zone to the retained cutting between Longbarrow junction and the western tunnel portal. Where necessary for adjacent land use, appropriate stock-proof netting would be added to strained wire or other boundary treatment provided by way of accommodation works, as agreed between Highways England and the adjacent landowner. Indicative details are available in Series 3 of the Highway Construction Details, Manual of Contract Documents for Highway Works

http://www.standardsforhighways.co.uk/ha/standards/mchw/vol3/section1/h_serie_s.pdf. Please also refer to Highways England's Deadline 2 Submission - 8.13 Public Rights of Way (PRoW) clarifications [REP2-040].

- 20.4.108 Highways England is submitting an updated OEMP for deadline 3 that contains additional design commitments, design principles and a mechanism for consultation with heritage stakeholders (including the National Trust) on elements of the detailed design of the Scheme within the World Heritage Site.
- 20.4.109 Through the ongoing Heritage Partners Design Review meetings, the Applicant is developing a series of Design Principles to guide the detailed design of elements of the Scheme, including the public rights of way within the WHS, be incorporated into the updated Outline Environmental Management Plan as Chapter 4. This is being submitted at Deadline 3.

Key Issue

- 20.4.110 **Tunnel Protection Zone: the Applicant requires the imposition of restrictive covenants over the subsoil above the tunnel (and its exclusion zone), up to and including the surface of the land above. The purpose of this is to secure protection of the tunnel by restricting ability to undertake certain types of development and activities within this area;**
- a. **such covenants as currently articulated by the Applicant could compromise and potentially prevent both future research within the WHS, and also works necessary to the conservation and protection of sites and monuments that convey its attributes of OUV**
 - b. **the proposed extents and exact locations where various restrictions would apply are yet to be finalised, but the conditions proposed at present are overly restrictive and would for example prevent open area excavation and any excavation below 1.2m, thus compromising the researcher's ability to ensure the most appropriate fieldwork methodology is used**
 - c. **while we recognise the engineering and safety requirements that make a Tunnel Protection Zone necessary the Trust is concerned that within an archaeological WHS it would not be appropriate for the Applicant to dictate future access for research and management of archaeological sites, features, and finds without recourse to independent assessment of proposals that could create a significant risk of interference with the tunnel, and believe that such restrictions could compromise the ability to protect the OUV of the WHS**
 - d. **restrictions proposed for the use of only road legal vehicles would also mean that mini-diggers and 'JCBs' would not be able to**

access any areas subject to any such restrictions. This would prevent not only their use for instance in archaeological excavations but also for fence replacements, and works relating to replacement of utilities (public and private e.g. underground pipes feeding water troughs etc)

- e. in relation to this we are also concerned that the inclusion of National Trust land within Order limits for survey and monitoring removes the ability to ensure the conservation and protection of archaeological sites and monuments that are not Scheduled Monuments, but which convey the OUV of the WHS**

20.4.111 Requirements: the Trust seeks provision within the dDCO (potentially via Protective Provisions) for restrictive covenants that strike an appropriate balance between protection of the tunnel structure and preserving the ability of the land to be used for archaeological excavation and to maintain the OUV of the WHS.

Highways England response

20.4.112 As noted in the Statement of Reasons [APP-023], restrictions are required above the tunnel in order to secure protection of the tunnel from potentially conflicting future development and works that might jeopardise the structural integrity of the tunnel.

20.4.113 The proposed Scheme would provide powers to impose restrictions which may affect future archaeological research above the tunnel route, in order to protect the structural integrity of the tunnel. There are no restrictions intended to be placed on future archaeological research elsewhere. It is expected that the restrictions will vary along the length of the tunnel, depending upon the depth of the tunnel below the surface. The detail of the restriction is under discussion, but as currently drafted would restrict excavations relating to future archaeological research below 0.6m in areas where the tunnel is shallow, and below 1.2m in areas where the tunnel is deeper. The restriction would not prevent excavations from being undertaken below this depth but would require a promoter of future archaeological research to consult with Highways England in such cases in order to determine the extent to which that activity might have the potential to affect the structural integrity of the tunnel.

20.4.114 In response to the concerns raised by National Trust and HMAG that such restrictive covenants could impose an unacceptable restriction on future archaeological research, Highways England has identified that the level of restriction can be varied along the tunnel route based on the relative depth of the tunnel from ground surface. Where the tunnel is shallow (i.e. at the tunnel portals and at Stonehenge Bottom), any covenants imposed would need to involve a greater level of restriction, with a lighter restriction possible over the remainder of the route.

- 20.4.115 The terms of the restriction are still under discussion with the landowners and heritage partners. The current proposal is that restrictive covenants will be required over land above and adjacent to the tunnel. These activities would include:
- Development which would require planning permission, deep foundations, piling or influence existing ground conditions.
 - Changes in ground weight loading (either increasing or decreasing) such as:
 - i. Any excavation (including boring and future archaeological research) below a depth of 1.2m in the area shown in light blue and below a depth of 0.6m in the area shown in dark blue in Appendix A of the Response to Written Questions for Cultural Heritage [REP2-025];
 - ii. Any additional loading as a result of building work or storage;
 - iii. Use by any vehicles of greater weight than for standard road use vehicles; or
 - iv. Any new tree planting or removal.
- 20.4.116 Where archaeological research is identified requiring activity restricted by the above proposed terms (such as by requiring excavations deeper than 0.6m or 1.2m, depending on the location), the restrictive covenants would require consultation with Highways England in order to analyse on a case by case basis and determine to what extent the proposed archaeological works may be permitted.
- 20.4.117 It is therefore not the intention of the restriction to compromise and potentially prevent both future archaeological research within the WHS, and also works necessary to the conservation and protection of sites and monuments that convey its attributes of OUV, but to create a mechanism to allow archaeological research to continue, but also allow Highways England the ability to protect the integrity of the tunnel. As stated above, the restriction would not prevent open area excavation or any excavation below 1.2m. It would just provide a mechanism for Highways England to be consulted regarding this, whilst protecting the integrity of the tunnel.
- 20.4.118 The Applicant does not wish to dictate or restrict future access for archaeological research and management of archaeological sites, features, and finds. It would just provide a mechanism for Highways England to be consulted regarding this, whilst protecting the integrity of the tunnel. Such restrictions would not compromise the ability to protect the OUV of the WHS.
- 20.4.119 The tunnel is designed in accordance with BD37/01 Loads for Highway Bridges with a design load of Full HA meaning that it will have a 44 tonne structural capacity. The tunnel is therefore capable of carrying any vehicle conforming to Construction and Use Regulations 1986 which covers standard road vehicles and also has sufficient capacity to carry excavators, JCB back hoe's, 360 machines and the like.

- 20.4.120 The inclusion of National Trust land within the Order limits for survey and monitoring in relation to the tunnel does not remove the ability to ensure the conservation and protection of archaeological sites and monuments that are not Scheduled Monuments, but which convey the OUV of the WHS above the tunnel.
- 20.4.121 The Applicant therefore considers that an appropriate balance between protection of the tunnel structure and preserving the ability of the land to be used for archaeological excavation and to maintain the OUV of the WHS has been struck.

Key Issue

- 20.4.122 **Countess Farm Grade II listed buildings: it is stated that there will be 'permanent adverse effects on the setting of one listed building in the vicinity of Countess Roundabout.'**(6.1 Environmental Statement Chapter 16, Table 16.1) However, there is both a Grade II listed farmhouse and an associated group of Grade II listed buildings comprising the farm complex that will also be adversely impacted at Countess Farm.

Highways England response

- 20.4.123 Environmental Statement Chapter 6 Cultural Heritage [APP-044, Table 6.11] sets out the significant permanent adverse effect of the construction of the Scheme on the Grade II listed Stables and Barn at Countess Farm (NHLE 1131055). With regards to non-significant effects for the other listed buildings in the complex, which are situated slightly further back from the existing dual carriageway and Countess Roundabout, these are set out in Environmental Statement Appendix 6.8 - Cultural Heritage - Summary of non-significant effects [APP-217, Table 1.1: Construction phase: temporary; Table 1.4: Construction phase: permanent – historic buildings (setting) and Table 1.7: Operational phase: historic buildings (setting)] set out the non-significant effects for the Grade II listed buildings at Countess Farm including Countess Farmhouse and front garden walls (NHLE 1318487), a Large Barn at Countess Farm (NHLE 1131056), a Large Granary at Countess Farm (NHLE 1318488).

20.5 Biodiversity, ecology and biodiversity

Key Issue

- 20.5.1 **General 'net gain' and ecological networks: The fourth objective of the Applicant's scheme is 'to improve biodiversity. In the Environmental Statement (ES) Chapter 8. Page 8-3, 8.2.5 it states that the National Planning Policy Framework (NPPF) 2018 provides for 'minimising impacts and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures' and 8.2.7 'which encourages developers**

to look beyond maintaining existing biodiversity value and actively encourages provision of additional benefits for biodiversity which contribute to future proofing the natural environment.’ In addition, ES Chapter 8, Page 8-65, 8.9.72 states that - ‘The chalk grassland of the Scheme would enhance the west east connectivity, improving ecological network along the whole length from Yarnbury Castle to Amesbury’. In ES Chapter 8 Page 4-47, 8.8.17 states that – ‘In the eastern section of the Scheme the opportunities for habitat creation will be focused on the slopes of cuttings and along the existing A303’. Due to the current proposal for a surfaced track of 3-4 meters wide along the length of the line of the redundant A303, the area remaining for establishing a green byway of species rich chalk grassland and the delivery of a coherent ecological network, necessary to enhance connectivity, will be severely constrained within the remaining width of the single carriageway.

- 20.5.2 **Requirement: if a net gain for biodiversity is an objective of the scheme as outlined by the Applicant, every available area that is suitable should be used for the creation of species rich chalk grassland and further provision should be provided to restore or enhance species rich chalk grassland beyond the existing line of the road through appropriate introduction or supplementation of wildflower species.**

Highways England response

- 20.5.3 The proposed Scheme's objectives include the aim of improving biodiversity along the route. This will be achieved in a number of ways. Within the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), MW-BIO2, the main works contractor must establish the new habitats identified within the Environmental Masterplan (ES Figure 2.5) [APP-059] within the Order limits and manage them accordingly to ensure their establishment and development to achieve their target purpose(s), through to any handover of the Scheme.
- 20.5.4 Details of the proposed biodiversity gains can be found in the ES Chapter 8 [APP-046], section 8, paragraphs 8.8.14 – 8.8.21, 8.9.65 – 8.9.66, and Table 8.14, Habitat losses and gains associated with the Scheme. The main habitat to be created in the Scheme is chalk grassland, which is the main habitat that characterises the Salisbury Plain ecosystem. The Scheme would provide net gain of at least 186 ha of chalk grassland habitats, this would be secured through MW-BIO2 in the OEMP as detailed above. From consultation with stakeholders, Natural England and others via the Wiltshire Chalk Grassland Group, it was agreed that the priority for enhancement was chalk grassland, especially early successional stages of value as habitat and connectivity for butterflies of chalk grassland. This would be achieved by: extending the chalk grassland adjacent to the Parsonage Down National Nature Reserve (NNR); providing four green bridges; and delivering a

mosaic of high-quality habitat along the proposed Scheme (OEMP item MW-BIO2). This is in accordance with the aims of Natural England's Porton to the Plains project to improve connectivity of chalk grassland. Natural England agrees that the scheme will deliver biodiversity net gain in the draft Statement of Common Ground between Highways England and Natural England [REP2-016].

Key Issue

- 20.5.5 **Seed mixtures:** ES Chapter 8 Page 8-45 8.4.4 states that 'all green bridges would be sown or planted with suitable plant species to facilitate the movement of the biodiversity features' and ES Chapter 8 Page 8-47 8.8.16 states chalk bunds on green bridges and areas of false cuttings and embankments will be seeded and planted with larval food plants for butterflies. It also states that areas of new calcareous grassland will also be included. However, Appendix 8.26 Outline Landscape and Ecology Management Plan Table 6.2 provides detail of a typical wildflower seed mixture that excludes the larval food plants for key chalk grassland butterflies. In order to provide suitable conditions for butterflies and to benefit an expanded range of insect groups (such as moths and pollinators including bees, for which preferential pollen sources and extended food sources of pollen and nectar, including late flowering species, are critical) the National Trust requests the below.
- 20.5.6 **Requirements:** the National Trust asks that the list of wildflower species is expanded, with a targeted planting scheme implemented along the entire length of the chalk grassland habitat, to include seeds and wildflower plugs of additional species including but not limited to:
- 20.5.7 **Latin Name Common Name**
- **Succisa pratensis Devil's-bit scabious**
 - **Hippocrepis comosa Horseshoe vetch**
 - **Helianthemum nummularium Common rockrose**
 - **Viola hirta Hairy violet**
 - **Rumex acetosa Common sorrel**
 - **Echium vulgare Vipers bugloss**
 - **Centaurea nigra Common knapweed**
 - **Campanula rotundifolia Harebell**
 - **Knautia arvensis Field knapweed**
 - **Euphrasia nemerosa Eyebright**
 - **Campanula glomerata Clustered bellflower**

- **Stachys officinalis Betony**
- **Serratula tinctoria Saw-wort**
- **Filipendula vulgaris Dropwort**
- **Odontites vernus Red bartsia**
- **Trifolium pratense Red clover**

Highways England response

- 20.5.8 As set out in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), MW-BIO2, the main works contractor must establish the new habitats identified within the Environmental Masterplan (ES Figure 2.5) [APP-059] within the Order limits and manage them accordingly to ensure their establishment and development to achieve their target purpose(s), through to any handover of the Scheme. In addition, under the requirement in paragraph 8 of Schedule 2 to the draft development consent order [REP2-003], a detailed landscaping scheme must be submitted for approval. This must be based on the mitigation measures set out in the Environmental Statement, including the principles set out in the Outline Landscape and Ecology Management Plan ('OLEMP') [APP-267].
- 20.5.9 The objectives will be to create a mosaic of early-successional habitats ranging from bare ground to species-rich low nutrient swards. The selection of species will be carried out during detailed design and the preparation of the detailed landscaping scheme. As such, no further commitment is required.

Key Issue

- 20.5.10 **Scrub encroachment: Chapter 8, Page 8.47, 8.8.18. 'Management will be carried out to prevent excessive development of scrub':**
- 20.5.11 **Requirement: clarification is required on the future management responsibilities of these areas to prevent scrub encroachment onto areas of open grassland, and where grazing has been identified as the management tool how essential infrastructure such as fencing and water supplies will be provided.**

Highways England response

- 20.5.12 As set out in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), MW-BIO2, the main works contractor must establish the new habitats identified within the Environmental Masterplan (ES Figure 2.5) [APP-059] within the Order limits and manage them accordingly to ensure their establishment and development to achieve their target purpose(s), through to any handover of the Scheme.

- 20.5.13 As described in the OEMP [APP-187] MW-BIO13, botanical monitoring must be carried out to inform appropriate management of the chalk grassland and other habitats within the Scheme. This will inform the management action of ‘grazing, mowing, control of scrub, and specific habitat management to create or maintain conditions of characteristic species of chalk grassland and other habitats’.
- 20.5.14 Example management measures which will be confirmed within the detailed Landscaping Scheme to be submitted under Requirement 8 of the draft development consent order [REP2-003] would include, where practicable, managing chalk grassland by appropriate grazing to maximise gains in biodiversity, providing, in the areas where chalk grassland is to be managed by grazing, appropriate fencing and stock watering facilities. In addition, where areas of chalk grassland are not managed by grazing, mowing will be used to manage the grassland to achieve biodiversity and other objectives, with periodic control of scrub as necessary (paragraph 7.2.2 of the OLEMP [APP-267]), the principles of which will be reflected in the detailed landscaping scheme, to be submitted.

Key Issue

- 20.5.15 **Remediation of land: where land is being acquired on a temporary basis, including National Trust land, detail is required on remediation prior to return to landowners, and how delivery of the ongoing management necessary to achieve the successful establishment of species rich chalk grassland will be secured. Where land is being acquired and permanently retained a mechanism should be implemented to ensure land being restored to species rich grassland is under appropriate ownership to allow for the ecological objective to be met. Inadequate management such as insufficient or inappropriate timing of grazing or cutting, failure to remove cuttings, or failure to prevent scrub encroachment will prevent the successful establishment of species rich chalk grassland. In addition an ongoing programme of monitoring and wildflower sward supplementation of species not represented is required to ensure species rich chalk grassland is created.**

Highways England response

- 20.5.16 The Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), is the basis from which detailed, works-specific, Construction Environmental Management Plans (CEMPs) will be prepared by the relevant contractors, as is required by the OEMP itself and therefore secured through paragraph 4 of Schedule 2 of the draft development consent order [REP2-033].
- 20.5.17 The OEMP sets out the requirement for the main works contractor to prepare a Landscape and Ecology Management Plan (LEMP) (MW-LAN1), in accordance with industry good practice. The principles for the LEMP are set

out in the Outline Landscape and Ecology Management Plan ('OLEMP') [APP-267]. Under requirement 8 of Schedule 2 of the draft development consent order [REP2-003], Highways England will be required to submit a detailed landscaping scheme, which is required to be on the basis of the mitigation measures set out in the ES, which includes the OLEMP, and will incorporate management obligations.

- 20.5.18 In addition, under article 29 of the draft development consent order, Highways England (subject to certain exceptions) is under an obligation to restore land which is subject to temporary possession powers to the reasonable satisfaction of the owners of the land before handing it back.

Key Issue

- 20.5.19 **The creation of habitats using chalk substrate (ES Chapter 8, Page 8.47, 8.8.19):**

Requirements: further information is required on the treatment of the phosphatic chalk and if it is to be incorporated into the substrate for nutrient poor soils, whether it is suitable for chalk grassland vegetation establishment.

Highways England response

- 20.5.20 As detailed within Chapter 10 (paragraphs 10.6.77-79) of the Environmental Statement [APP-048], in order to assess the availability of phosphorus in the Phosphatic Chalk, phosphorus leachate testing was undertaken in February 2018 on the Phosphatic Chalk cores obtained during the EP GI and held in storage.
- 20.5.21 A total of 16 Phosphatic Chalk samples, collected at depths ranging between 8.45m bgl and 32.6m bgl and corresponding with the proposed tunnel vertical alignment, were submitted for leachate analysis for a suite comprising reactive phosphorus (also known as orthophosphate) and selected major ions.
- 20.5.22 The results of the additional leachate analyses reported concentrations of reactive phosphorus below the laboratory level of detection of 0.05mg/l in all 16 samples. Concentrations of leachable total phosphorus were also recorded below the laboratory level of detection of 1mg/l.
- 20.5.23 The leachate test results suggest that the dominant calcium carbonate chemistry of the Chalk is likely to generate a precipitation (mineral formation) rather than a dissolution environment, such that the rock is unlikely to yield large concentrations of dissolved phosphorus. This means that the material would not have a deleterious effect on the water quality of the River Till.
- 20.5.24 The establishment of suitable chalk grassland would be achieved even if some of the phosphatic chalk is at the surface. This is because of the low solubility of the phosphorous within the phosphatic chalk (paragraph 10.6.79) [APP-048].

Key Issue

- 20.5.25 **Trees: ES Chapter 8 page 8-31 Table 8.11 provides a summary evaluation of habitats present within the Scheme and study area. These sections only reference a single veteran beech tree located to the north of King Barrow Ridge. There are a number of veteran trees on King Barrow Ridge with high or moderate bat roost potential.**
- 20.5.26 **Requirements: the National Trust seeks assurance that Root Protection Zones have sufficiently been taken into consideration so that the construction operations will not have any adverse impact on the stability of trees in this location.**

Highways England response

- 20.5.27 As detailed within MW-LAN3 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which will be submitted at Deadline 3) an Arboricultural Mitigation Strategy (AMS) shall be prepared to protect trees retained within and immediately adjacent to the order limits which should deal with the concerns raised. This shall consider the following standards:
- BS 3936-1: Nursery stock. Specification for trees and shrubs;
 - BS 3936-4: Nursery stock. Specification for forest trees, poplars and willows;
 - BS 3882: Specification for topsoil and requirements for use;
 - BS 3998: Tree Work. Recommendations;
 - BS 4428: Code of practice for general landscape operations (excluding hard surfaces);
 - BS8545 Trees from nursery to independence in the landscape;
 - BS 5837: Trees in relation to design, demolition and construction; and
 - BS 6031: Code of practice for earthworks.
- 20.5.28 Alternatively, where a British Standard does not exist, works will follow industry good practice, e.g. Natural England's Advice on managing, restoring, and creating grassland and agreement will be sought from Wiltshire Council. The AMS shall also define:
- The root protection area (RPA) and Construction Exclusion Zones (CEZ) of trees to be retained within or immediately adjacent to the order limits and wherever practicable.
 - The approach for working within RPAs, where this cannot reasonably be avoided required.
 - The approach to inspecting, maintaining and managing trees and scrub to be retained.

- The approach for felling where otherwise not identified in the ES.
- 20.5.29 Compliance with the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which will be submitted at Deadline 3) is secured through the requirement contained in paragraph 4 of Schedule 2 to the draft development consent order [REP2-003].

Key Issue

- 20.5.30 **Bats: the buildings at the Countess Farm complex have been identified as bat roosts. The proposed mitigation is planting and inclusion of a noise barrier around the flyover with the intention of it 'likely providing the function of pushing up any bats flying over the A303 to 'safe' heights, or assist in funnelling bats through the large underpasses'. It is understood that the noise barrier will not be sufficiently high to prevent bats from flying directly into the path of taller traffic on the flyover and the proposed planting as suggested is restricted to within the existing boundary of the highway. In addition an unspecified number of trees are required to be removed to create sufficient area for the drainage system (see Fig 2.2 Preliminary design drainage catchments, Countess Pond 1, Countess Catchment 12, Outfall Catchment 15, Countess Pond 3 and Catchment 15), which will limit the space for replacement or additional planting.**
- 20.5.31 **Requirements: The National Trust seeks additional essential mitigation in the form of replacement planting by agreement with the Trust with 100% archaeological mitigation for works undertaken within the WHS.**

Highways England response

- 20.5.32 The crossing point surveys undertaken at the Countess roundabout only recorded a total of six bats crossing the A303 in a north or south direction during the six hours of surveys undertaken, none of which were confirmed to have emerged / re-entered from the Countess complex [APP-160]. Designs of the Countess flyover and Countess junction would be able to incorporate suitable and proportionate measures to reduce the potential impacts on the likely limited number of individual bats that may commute south from the roosts at Countess Farm complex.
- 20.5.33 With regard to the archaeological mitigation associated with removal of existing trees and replacement planting, the draft Detailed Archaeology Mitigation Strategy (DAMS) [REP2-038], submitted at Deadline 2 sets out the structured, iterative detailed archaeological mitigation strategy. The DAMS is being developed in consultation with the Heritage Monitoring Advisory Group (which includes The National Trust) and the Scientific Committee. It will be finalised prior to the end of the Examination and is secured by Requirement 5 of Schedule 2 of the draft development consent order [REP2-003].

20.5.34 Under the requirement contained in paragraph 8 of Schedule 2 to the draft development consent order [REP2-003], Highways England will be required to submit a detailed landscaping scheme for approval, which is required to be based on the mitigation measures set out in the Environmental Statement (ES). This would set out the detailed planting to be delivered by the Scheme. The obligation to act in compliance with this scheme is reflected in item MW-LAN2 of the OEMP and is also a requirement of the draft development consent order [REP2-003]. Other measures would separately be secured by the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which will be submitted at Deadline 3) through items such as MW-BIO1 onwards. Compliance with the OEMP is secured through the requirement contained in paragraph 4 of Schedule 2 to the draft development consent order [REP2-003].

20.6 Flood risk, groundwater protection, geology and land contamination

Key Issue

20.6.1 **The sensitivity of the WHS as a receptor within the Geology and Soils Chapter of the ES was not defined. This is inconsistent with the methodology used for other schemes, such as the A303 Sparkford to Ilchester dualling scheme. In accordance with DMRB methodology, the WHS could be defined to have a ‘very high’ sensitivity, which may change the outcome of the assessment.**

Highways England response

20.6.2 DMRB Volume 11 Section 3 Part 11 Geology and Soils refers to only statutory and non-statutory designations specifically related to geology or soils and not designations related to heritage or archaeology. The Sparkford to Ilchester Dualling Scheme Geology and Soils chapter (Environmental Statement, Chapter 9) and Table 9.1 refers to World Heritage Sites as an example of very high sensitivity receptors but only where they are designated due to their geological importance. The World Heritage Site at Stonehenge is not designated for its geological importance. In the absence of any geological designations in the study area, these were scoped out of the geology and soils assessment as stated in the Environmental Statement Chapter 10 Geology and Soils [APP-048] paragraph 10.6.43 and agreed with by the Planning Inspectorate in their Scoping Report responses. The remaining assessment presented in the Environmental Statement is a potential contaminated land assessment which considers visitors and workers at the WHS as moderate sensitivity receptors. The assessment also considers other receptors within the WHS like groundwater and the River Avon which borders the WHS to the east. The Environmental Statement [APP-048] in Chapter 10, paragraph 10.6.90 refers to a low potential for ground contamination to exist along the Scheme and whilst archaeological

remains, scheduled monuments and historic landscapes are not explicitly stated in the conceptual site model and Table 10.8 (Summary of Potentially Sensitive Receptors); measures contained within the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which will be submitted at Deadline 3) such as: PW-GEO1 (ground investigation), PWGEO2 (unexpected contamination), MWGE01 (contamination risks), MW-GE02 (groundwater contamination), MW-GE03 (soils management strategy), MW-GE06 (hazardous substances), MW-GEO07 (excavated materials management), and MW-GE08 (construction on and adjacent to land affected by contamination) would all limit the possibility for dispersal and accidental releases of any existing contamination encountered, or any potential polluting materials introduced during construction, to heritage assets (including the WHS which is assessed as of very high value in the Environmental Statement Chapter 6 Cultural Heritage [APP-044]). This includes measures to control soil derived dusts and uncontrolled run-off/releases to ground as described in paragraph 10.8.9 of chapter 10 in the Environmental Statement [APP-048].

20.7 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

20.7.1 **Extent of acquisition proposed: Articles 3, 5, 7 and 19 to 30 and Schedules 1, 3, 4, 6, 7 and 11. These provisions comprise the powers to construct the scheme, make variations to it and to acquire land or rights, permanently or temporarily. Negotiation is under way with the Applicant on these provisions with a view to the National Trust being able to confirm in, or before, the compulsory acquisition hearing it has requested whether:**

- a. **the boundaries of the plans are accurate in terms of Trust ownership**
- b. **the extent of the land and rights required is the minimum necessary to achieve the public purpose underlying the scheme**
- c. **in all other respects whether the dDCO accurately and clearly records the extent of the Trust's existing land rights and the extent of the powers that are being sought over them.**

Highways England response

20.7.2 In response to the above:

- Highways England's land referencing exercise has confirmed the accuracy of boundaries of the plans in terms of the National Trust's ownership, including verification against the registered titles and confirmation from the National Trust through land interest questionnaires. Highways England believes the land ownership shown in the Book of

Reference is an accurate record of the National Trust's ownership, and awaits the National Trust's further confirmation.

- As set out in the Statement of Reasons [APP-023] paragraph 5.3.4:

“The Applicant considers that the Land included in the DCO is the minimum land-take required to construct, operate, maintain and mitigate the Scheme and is therefore necessary to achieve the objectives of the Scheme. The Applicant has sought to achieve a balance between minimising land take and securing sufficient land to ensure delivery of the Scheme, noting that the detailed design of the Scheme has yet to be developed. In that context, the limits of the Land have been drawn as tightly as possible so as to avoid unnecessary land take. In the event that less land proves to be required in a particular area following the detailed design stage, the Applicant would only seek to acquire that part of the Land that is required and, in all events, will seek to minimise effects on landowners”.
- Highways England believes that the Book of Reference accurately and clearly records the extent of the National Trust's existing land rights and the Book of Reference and Schedules 4, 6 and 7 of the draft development consent order [REP2-003] sets out the extent of the compulsory acquisition powers and temporary use powers that are being sought, and awaits the National Trust's confirmation.

Key Issue

- 20.7.3 **Subject to ongoing discussions with the Applicant, the National Trust reserves its position on the above points. Specific issues that will be addressed within those discussions will also include:**
- a. **whether the Trust should retain ownership of the land it is deemed to own underneath any existing carriageways after any stopping up provisions in the DCO take effect, and if not, whether adequate safeguards exist to regulate the use of this land in the interest of protecting the WHS**
 - b. **whether adequate access arrangements are being proposed to support future use of all land retained by the Trust**
 - c. **whether through requirements, protective provisions, control documents or other means there can be satisfactory controls identified over the extent and design of the works, how they will be carried out and thereafter operated.**

Highways England response

- 20.7.4 The Applicant is discussing these issues with the National Trust.
- The existing A303 has been included within the Order land for permanent acquisition by Highways England to ensure land is secured to construct

and maintain the new restricted byway and private means of access, and to provide rights for statutory undertakers to access apparatus. Highways England would acquire the minimum land necessary to deliver the Scheme and will continue to discuss these issues with the National Trust, in particular the application of the ad medium filium presumption.

In terms of safeguards, all works carried out under the DCO would be subject to the requirements, in particular, the measures in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which will be submitted at Deadline 3), compliance with which is secured by requirement 4 in Schedule 2 to the draft development consent order [REP2-003].

- Adequate access arrangements provided to support the use of the land retained by the National Trust are included in the Scheme, shown on the Rights of Way and Access Plans [APP-009] and described in Schedule 3 to the draft development consent order [REP2-003].
- As detailed above, Highways England is confident that the mechanisms included within the draft development consent order [REP2-003] including its requirements, the DAMS and the updated OEMP submitted at Deadline 3, are appropriate in the context of this Scheme, but will continue to discuss these matters with the National Trust with a view to addressing its concerns.

Key Issue

- 20.7.5 **The National Trust understands that substantial alterations to the OEMP and the consultation arrangements proposed post confirmation of the DCO are expected from the Applicant, on which the Trust is not yet able to comment. The issues to which these protections need to be addressed are set out elsewhere in these Written Representations.**

Highways England response

- 20.7.6 It is agreed that alterations will be made to the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which will be submitted at Deadline 3), which is secured through paragraph 4 of Schedule 2 of the draft development consent order [REP2-003]. The Applicant will be submitting an update to the OEMP for Deadline 3 and the National Trust's role in the updated OEMP is discussed further below.

Key Issue

- 20.7.7 **Section 130 Land: it is a matter of record that the land proposed for acquisition is held inalienably to which the provisions of section 130 Planning Act 2008 apply. The ongoing negotiations between National Trust and the Applicant are also allowing the Trust to keep under review the extent of the safeguards generally that are being offered to the Trust in terms of protections available to it and in the light of the**

robustness of those safeguards, whether the objection that the Trust is presently maintaining to acquisition of its land by compulsion can be withdrawn. The Trust is not however able to predict whether or at what point, if any, during the examination process it will be in a position to withdraw that objection.

Highways England response

- 20.7.8 Highways England understands that the land owned by the National Trust which it is proposing to compulsorily acquire pursuant to the DCO is held inalienably.
- 20.7.9 Highways England will continue to work with the National Trust to understand and address its outstanding concerns and work towards the removal of the National Trust's objection.

20.8 Draft Development Consent Order

Key Issue

- 20.8.1 **The National Trust has engaged with the proposed scheme since its inception in 2014. Throughout the pre-application process we have seen the scheme improve in terms of its potential impact on the WHS based on the feedback the Applicant has received. What we have laid out below are the Trust's current remaining concerns (on the scheme as presented at this time) which we summarised within our Relevant Representation.**

Highways England response

- 20.8.2 Highways England is grateful for the National Trust's engagement with the Scheme since its inception.

Key Issue

- 20.8.3 **Our response set out below is set in the context of recent verbal commitments from the Applicant to:**
- a. **define further detailed design principles and parameters within the OEMP (Outline Environmental Management Plan)**
 - b. **to involve the National Trust and other heritage experts in detailed design and other controls beyond and outside of the DCO process.**
- 20.8.4 **We expect to see such commitments secured during the Examination period, but should that not be the case, we would expect to make a clear case on where any shortfall will need to be addressed.**

Highways England response

20.8.5 The Applicant can confirm that the Scheme's design principles and the process for consultation with key heritage stakeholders (to include the National Trust, English Heritage, Historic England and Wiltshire Council) during the detailed design process is included within the revised version of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which will be submitted at Deadline 3). Compliance with the OEMP is secured via Paragraph 4 of Schedule 2 to the draft development consent order [REP2-003]. The update also builds upon, and adds to, the design commitments included in the version of the OEMP submitted with the application [APP-187] references D-CH1 to D-CH14, thereby providing a more granular level of design than might otherwise be expected within a DCO which is appropriate for the Scheme.

Key Issue

20.8.6 **The approach defined within the above listed documents will be key in our assessment of the scheme's suitability. As such, we expect to be closely consulted in their development. The National Trust's position is that these documents do not presently have sufficient detail.**

20.8.7 **Requirements: in order to better understand the development of these documents the Trust seeks for the Applicant to:**

- a. **prepare and distribute a road map detailing expected timelines for the development of these documents; showing:**
 - ix. **points where the Trust, and HMAG will see and have the opportunity to input into these documents**
 - x. **when the Trust, and HMAG will see the finalised versions**
- b. **provide a named person (or role) within the project ultimately responsible for:**
 - xi. **the production of each of these documents**
 - xii. **ensuring the requirements or conditions of the document are upheld**
- c. **provision to be made within the dDCO for the Trust and HMAG to be consulted throughout the development of these documents and to be listed as part of the approval regime for final sign off.**

Highways England response

20.8.8 The various documents are required at different times and are prepared by different parties.

20.8.9 As set out in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which will be submitted at Deadline 3), the CEMPs will be developed by the preliminary works and main works contractors [APP-187, PW-G1 and MW-G5]. They will be consulted upon with Wiltshire Council, the Environment Agency, Natural England and Historic England and

will append as appropriate the Heritage Management Plan which the National Trust will be consulted upon as part of HMAG (for works within the WHS).

- 20.8.10 As set out in paragraph 6.8.14 of ES Chapter 6 Cultural Heritage [APP-044], Cultural Heritage Asset Management Plans (CHAMPs) will be prepared every four years by Highways England (or the operating authority) and following DMRB Volume 10 Environmental Design and Management, Section 6 Archaeology, Part 2, HA 117 / 08 Cultural Heritage Asset Management Plans (Highways Agency 2008) and as referred to in the draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038], to ensure that cultural heritage assets are protected during the course of highways operation and maintenance works.
- 20.8.11 The Deadline 2 Submission - 8.11 Draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] sets out the structured, iterative detailed archaeological mitigation strategy, including, at part two, the Overarching written scheme of investigation. The DAMS is being developed by Highways England in consultation with the Heritage Monitoring Advisory Group (which includes the National Trust) and the Scientific Committee. It will be finalised prior to the end of the Examination and is secured by Requirement 5 of Schedule 2 of the draft development consent order [REP2-003].
- 20.8.12 Potential impacts from construction will be considered as part of the Heritage Management Plans detailed in the OEMP [APP-187 items PW-CH1 and MW-CH1] which will indicate how the historic environment is to be protected in a consistent and integrated manner including from potential impacts of construction. The National Trust will be consulted upon on these plans (for works within the WHS) as part of HMAG.
- 20.8.13 Handover Environmental Management Plans ('HEMPs') (see paragraphs 1.1.12, 3.1.3 and ref MW-G11 in Table 3.2b: REAC tables for the main works, in Appendix 2.2 OEMP [APP-187]) will be based on the final CEMPs which will be consulted upon as described above.
- 20.8.14 Section MW-LAN1 of the OEMP requires the mains work contractor to prepare a Landscape and Ecology Management Plan (LEMP), which will be appended to the CEMP as appropriate. This will be consulted on with Wiltshire Council and Natural England as the appropriate consultation bodies for such matters.
- 20.8.15 In respect of the other documents set out in National Trust's submissions, consultation with the National Trust is set out in the OEMP in the following items:
- PW-CH3 – Site Specific Written Schemes of Investigation, produced in consultation with HMAG for works within the WHS, to describe the mitigation measures that will be carried; and

- PW-CH4 – Method Statements, produced in consultation with HMAG for works within the WHS, to include protective fencing for identified heritage assets and appropriate archaeological mitigation measures.

Key Issue

- 20.8.16 **A general note should be made in respect of the use of the phrases "in consultation with" and "approval by" the National Trust in the comments below. The Trust is approaching the examination of the control documents to be certified under Article 56 and Schedule 12 and any other schemes that serve a similar purpose of regulating design, construction or operation, with the intent of seeking changes to them such that they have sufficient detail to be approved by the Secretary of State as part of any confirmation decision made. This would leave the Trust (and often other stakeholders) to be consulted upon any further detail submitted subsequently pursuant to the terms of those control documents.**

Highways England response

- 20.8.17 Noted.

Key Issue

- 20.8.18 **Conversely, if the present situation continues, of inadequate detail being provided in those documents during the examination, the National Trust would move to a position of advocating the need for subsequent approval of the entire control document(s) in question, prior to implementation of the scheme. Where the word "approval" is used below it connotes that as matters presently stand, the detail contained within the relevant control document is inadequate for it to be approved without further independent assessment of additional material still required within it.**

Highways England response

- 20.8.19 The Applicant is of the firm view that an appropriate level of detail is included in the application, including the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038], and other documents to be certified under article 56 and listed in Schedule 12 to enable the ExA and all participants of the examination into the Scheme to properly consider the Applicant's proposals and appropriate provision has been made to secure design commitments, for the principles underlying and the involvement of key stakeholders (including NT) in the development of the detailed design of the Scheme.

Key Issue

- 20.8.20 **There is also the potential for a class of issues over which specific agreement of the National Trust may be required, either during examination or subsequently, prior to implementation. It is not possible to specifically identify them at this point (although an example given**

already is the design of gates or fences on or adjacent to Trust retained land), but they are likely to emerge through direct negotiation between the Trust and the Applicant.

Highways England response

- 20.8.21 The Applicant will continue to discuss its proposals with the National Trust. As noted elsewhere in this response, a mechanism for securing key further design commitments, the design principles underlying the detailed design of the scheme and consultation with the National Trust and other key heritage stakeholders on aspects of the detailed design of the Scheme within the WHS is included in the the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).

Key Issue

- 20.8.22 **Article 3 and 7 and Schedule 1 – these provisions define the scheme and the flexibility sought by the Applicant in its design. Acceptability of the level of flexibility sought is tied in with the control documents referred to in the requirements below.**

Highways England response

- 20.8.23 Noted, although we presume “Article 3” is intended to refer to “Article 4”.

Key Issue

- 20.8.24 **Article 29 - ‘Temporary use of land for constructing the authorised development’: The Article 29 powers of temporary possession are too wide. The current drafting would allow the Applicant to exercise powers of temporary possession for very wide purposes over any Order land. This is not acceptable in connection with National Trust owned land or for any other land within the Order limits. There is the potential for works done pursuant to temporary powers to circumvent control mechanisms within the dDCO and adversely impact on the OUV of the WHS.**
- 20.8.25 **Requirements: the wording at Article 29(1)(b)(ii) should be removed and the Applicant must only be able to exercise temporary possession powers during construction over land included in Schedule 7 for the purposes specified there. This would allow the Trust and other parties to assess if the use of the proposed temporary possession powers for construction purposes is acceptable in relation to those specified land parcels.**

Highways England response

- 20.8.26 The Applicant understands the National Trust is referring to article 29(1)(a)(ii) which would authorise the temporary possession of any Order land in addition to the land listed in Schedule 7.

- 20.8.27 It is essential that the Applicant is authorised to temporarily possess Order land, other than that listed in Schedule 7. In respect of land that is to be acquired, the availability of the temporary possession power would ensure that the Applicant could access the land prior to its acquisition. This would enable the Applicant, in the light of the detailed design, to minimise the land acquired compulsorily, and is therefore well established practice, having precedent in made DCOs. In respect of land over which rights are proposed to be acquired compulsorily, the temporary possession power is necessary in order to gain access to the land to carry out the works for which those rights are required. The removal of this provision would remove the flexibility needed by the Applicant to exercise the powers sought in a proportionate manner. The Applicant has justified, on a plot by plot basis, its requirements for the land in the Tables appended to the Statement of Reasons [APP-023].
- 20.8.28 Finally, the Applicant does not accept that the exercise of temporary possession powers under article 29 would enable the circumvention of control mechanisms within the DCO, in particular those measures in the the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), which itself is secured by requirement 4 in Schedule 2 to the draft development consent order [REP2-004] and the Draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] secured by requirement 5 in Schedule 2 to the draft development consent order [REP2-004]. Both requirements are clear that the authorised development must be carried out in accordance with the terms of those documents and therefore also apply to works carried out pursuant to the exercise of the Applicant's power of temporary possession.

Key Issue

- 20.8.29 **II. Article 30 – ‘Temporary use of land for maintaining the authorised development’:** The National Trust understands that there is a need to include some powers to temporarily use land to maintain the authorised development once it is built and operating. However, the use of such powers must be proportionate and subject to appropriate controls. Given that, as currently defined in the dDCO, ‘maintain’ includes powers not only to ‘inspect, repair, adjust, alter and remove’, but also to ‘reconstruct’, the Trust has concerns about the justification for such wide powers to be exercised over land within and/or adjoining the WHS. The breadth and type of works that could be required to maintain the authorised development have the potential for unassessed and unmitigated adverse impacts to arise in relation to the OUV of the WHS.
- 20.8.30 **Requirements:** with regards to the National Trust's own land, the Trust requires the Applicant to agree a mechanism by which it will consult the Trust on, and allow the Trust to agree to the proposed use of its land for any temporary purposes. This could be secured through

amendments to the dDCO either within Articles 29 and 30 or in protective provisions for the Trust.

Highways England response

- 20.8.31 The Applicant's response to the Written Question DCO.1.12 [REP2-030], considers the definition of "maintain" and related issues. It is clear that maintenance of the authorised development would not lead to environmental effects that have not been assessed (see DCO.1.12(iii)).
- 20.8.32 Temporary possession for the purposes of maintenance under article 30 may only be taken on the service of not less than 28 days notice and the notice is required to state the part of the authorised development for which possession is required, and the purpose for which possession will be taken (see article 30(3)). Additionally, temporary possession of land may only be taken during the "maintenance period" defined in paragraph 11 as the period of five years beginning with the date on which that part of the authorised development came into use or was opened to the public. The Applicant will continue to discuss articles 29 and 30 with the National Trust with a view to reaching an accommodation acceptable to both parties.

Key Issue

- 20.8.33 **Requirements relating to Design and Control Documents: based on the scheme as currently conceived, and the dDCO as submitted, the National Trust is seeking certain changes to be made as set out above and cross referenced here for ease of reference:**
- a. **Schedule 2, Requirement 3: Requirement 3 specifies that the authorised development must be designed in detail and carried out so that it is compatible with the works plans and engineering section drawings unless otherwise agreed by the Secretary of State in consultation with the planning authority on matters related to its functions. The Trust seeks commitment to be consulted on and, where appropriate, provide approval of key detailed design elements through either additional drafting within the DCO requirement itself or bespoke Protective Provisions. This is a particular area where ongoing discussion between the Trust and the Applicant is expected to lead to significantly revised consultation processes to be advanced by the Applicant and the identification of specific design principles from the Trust to be incorporated within them, including addressing involvement of the Trust during the tender stage for procurement of the works.**
 - b. **Schedule 2, Requirement 4: Requirement 4 provides that the authorised development must be carried out in accordance with the OEMP. CEMPs and HEMPs are to be produced in accordance with the OEMP so this is a key document. The Trust seeks a commitment from the Applicant to be consulted on the development of the OEMP**

throughout Examination and for Requirement 4 to include provisions to ensure the Trust is consulted on and engaged within final approval of the CEMPs, LEMP and HEMPs to be produced in accordance with the OEMP.

- c. **Schedule 2, Requirement 5:** Requirement 5 states that the authorised development must be carried out in accordance with the DAMS. An Outline Archaeological Mitigation Strategy (OAMS) was included with the application as appendix 6.11 to the Environmental Statement. The OAMS is stated to be the basis for extensive consultation with members of HMAG in order to produce the final strategy. The DAMS and the accompanying OWSI and SSWSI will be key control documents for the Trust and will need to be reviewed in detail by it. The Trust seeks a commitment from the Applicant to be consulted on the DAMS, OWSI and SSWSI throughout the Examination and for the DCO to ensure that the Trust and HMAG are engaged within final approval of the DAMS, OWSI and SSWSI. The Trust also requires consultation upon and engagement within approval of Method Statements, HMPs and CHAMPS.
- d. **Schedule 2, Requirement 8:** Requirement 8 requires a landscaping scheme to be submitted and approved in writing by Secretary of State following consultation with the planning authority. The Trust seeks a commitment from the Applicant to be consulted on the content and approval of the landscaping scheme.
- e. **Schedule 2, Requirement 9:** Requirement 9 of the dDCO sets out that a Traffic Management Plan (TMP) must be approved by the Secretary of State following consultation with the local highway authority. The Trust seeks a commitment from the Applicant to be consulted on the content and approval of the TMP.

Highways England response

20.8.34 The Applicant responds as follows:

- As noted in the National Trust's response, this has been a matter discussed between the parties. As noted elsewhere in this response the Applicant has updated the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), to include a mechanism for consultation with the National Trust, and other key heritage stakeholders, on aspects of the detailed design of the Scheme within the WHS, as well as securing design commitments and design principles that will apply in the detailed design of the Scheme.
- Discussions between the Applicant and the National Trust during the examination are continuing. The OEMP makes extensive provision for consultation with the National Trust, through its membership of HMAG,

on the preparation of elements of the CEMPs, including Heritage Management Plans, Site Specific Written Schemes of Investigation.

Handover Environmental Management Plans ('HEMPs') (see paragraphs 1.1.12, 3.1.3 and ref MW-G11 in Table 3.2b: REAC tables for the main works, in Appendix 2.2 OEMP [APP-187]) will be based on the final CEMPs and Heritage Management Plans, the latter of which will be consulted upon with HMAG in relation to matters in the WHS.

- Section MW-LAN1 of the OEMP requires the mains work contractor to prepare a Landscape and Ecology Management Plan (LEMP), which will be appended to the CEMP as appropriate. This will be consulted on with Wiltshire Council and Natural England as the appropriate consultation bodies for such matters.

The draft Detailed Archaeology Mitigation Strategy (DAMS) [REP2-038], and accompanying Overarching Written Scheme of Investigation (OWSI) was submitted to the Examination at Deadline 2 [REP2-038]. The DAMS (including the OWSI) will be developed during the course of the Examination through continuation of regular meetings with the Heritage Monitoring Advisory Group (HMAG) (which includes the National Trust), in order to produce a finalised DAMS prior to close of Examination. The HMAG meetings will be informed by further engagement with the Scientific Committee during this process. The final DAMS will be a certified document.

The draft DAMS sets out the archaeological strategy and framework for the preparation of SSWSIs, HMPs and Method Statements, which will be prepared subsequent to the granting of the DCO. The SSWSIs, HMPs and Method Statements will be prepared in consultation with HMAG/WCAS, prior to any Preliminary Works or Main Works commencing for the Scheme; these processes are provided for in the draft DAMS (see paragraphs 4.1.11-4.1.14, 4.2.2 and 5.1.6) and the Outline Environmental Management Plan (OEMP) (Environmental Statement Appendix 2.2 [a revised version of which is submitted at Deadline 3]) (HMP – PW-CH1 and MW-CH1, SSWSIs – PW-CH3 and Method Statements – PW-G5 and MWG8).

- Requirement 8 provides that the landscaping scheme must be approved by the Secretary of State, in consultation with the planning authority, Wiltshire Council. Wiltshire Council are the appropriate consultation body for this requirement due to its role as local planning authority, which places duties on it to consider, independently, the proposed landscape scheme. The Secretary of State may consider it appropriate, in his or her expert opinion, to further consult other interested parties, but the Applicant does not consider it appropriate to narrow the discretion on this and prescribe further consultees on the face of the DCO.

- The Applicant, in its update to the OEMP submitted at Deadline 3, has amended ref MW-TRA2 to require consultation with owners of significant local visitor attractions (including the National Trust and English Heritage) when developing the Traffic Management Plan. This obligation is secured by requirement 4.

20.9 Health and Wellbeing

Key Issue

- 20.9.1 **In addition, the removal of vehicles from the existing A303 alignment would provide significant benefits for public access. Without the physical barrier and associated safety concerns, visitors and the local community would have much greater opportunity to use existing rights of way and permissive open access land to explore the landscape and monuments to the south, as well as to the north, of the existing road.**

Highways England response

- 20.9.2 Highways England acknowledges and welcomes the National Trust's support for the Scheme and the significant benefits for public access that it will bring.

Key Issue

- 20.9.3 **We are concerned about the impact of the construction on all the occupants of our property at Countess Farm.**
- 20.9.4 **Requirements: the National Trust seeks clarification on the mitigation to limit the impact of noise, dust, light and disturbance on our tenants.**

Highways England response

- 20.9.5 The potential for noise, dust, light and disturbance impacts on Countess Farm as a result of the construction of Countess flyover are assessed in the relevant topic chapters of the Environmental Statement (ES), including Chapter 5, Air Quality [APP-043], Chapter 7, Landscape and Visual [APP-045], Chapter 9, Noise and Vibration [APP-047], and Chapter 13, People and Communities [APP-051], and Chapter 15, Cumulative Effects [APP-053].
- 20.9.6 The assessment reported in the ES has concluded that there would be: no significant adverse impacts on air quality; and temporary significant adverse noise effects for nearby residents during construction. The cumulative effects assessment found that in-combination there would be a significant adverse visual, noise and air quality effect during the construction phase at Countess Farm.
- 20.9.7 During construction, impacts will be controlled and reduced as far as reasonably practicable in the vicinity of the Countess Farm through measures contained within the Outline Environmental Management Plan

(OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), to, for example, control noise (PW-NOI1, PW-NOI3, PW-NOI4, PW-NOI5, MW-NOI1, MW-NOI3, MW-NOI4, MW -NOI5 and MW-NOI6), dust (PW-AIR1 and MW-AIR1), and artificial lighting (MW-G29). The OEMP is secured through paragraph 4 of Schedule 2 to the draft development consent order [REP2-003].

- 20.9.8 Operational mitigation will be delivered through the use of a thin surfacing system, which results in lower levels of noise generation than a standard hot rolled asphalt surface, as required by D-NOI1 in the OEMP, a 1.8m high noise barriers on the north and south sides of the flyover, as required by reference D-NOI2 in the OEMP; and landscaping of the flyover embankments would be secured through requirement 8 of the draft development consent order [REP2-003]. The Applicant considers that these measures provide adequate mitigation against the impacts of noise, dust, light and disturbance on the tenants of Countess Farm.

20.10 Landscape and Visual

Key Issue

- 20.10.1 **It should be noted that many of the points raised above, particularly within the section on heritage are relevant to protecting the landscape and visual amenity of the WHS and to the National Trust's landholding within it, both land required for the scheme and land to be retained. Those points are relevant when landscape and visual amenity are being considered but are not repeated here.**

Highways England response

- 20.10.2 Highways England fully acknowledge the relationship between the Cultural Heritage matters raised above and the required collaboration and integration with Landscape and Visual matters. This has been our approach during our scheme development, as set out in the review of the Stonehenge and Avebury World Heritage Site (WHS) Management Plan in paragraph 7.6.117 of [APP-045] and the WHS design strategy set out in paragraph 7.8.6 of [APP-045] and in our assessment of local landscape character areas and visual receptors within the WHS, as set out in [APP-045] and inherent relationship between Cultural Heritage and landscape continues to be our approach as demonstrated by the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) which includes combined measures to reduce Cultural Heritage and Landscape and Visual Impacts within the Heritage Management Plan (OEMP PW-CH1 page 21) requiring the contractor to address vegetation clearance and works compounds. There is also a combined approach within the general provisions – site management, including MWG28 (OEMP page 38 seq.) which covers heights and tonal colours of compounds to screen and integrate these construction aspects and in the Cultural Heritage design

matters (OEMP page 43 seq.) which includes visual screening (D-CH1), width of green bridge 4 (D-CH-4), the minimum depth of the retained cutting (D-CH5) and the provision of fencing and surfacing within the WHS (D-CH14).

Key Issue

- 20.10.3 **Assessment of impacts on Countess Farm: clarification of the assessment of the impact of the mitigation at Countess Farm by year 15 is sought. In 6.1 Environmental Statement Chapter 7: Landscape and Visual, Table 7.11: Summary of significant effects – construction and Table 7.12: Summary of significant effects - operation year 1, Countess Farm (High Receptor Sensitivity) has a Major Impact Magnitude and a Large adverse Residual Effect recorded. In Table 7.13 Summary of significant effects – operation year 15, Countess Farm is predicted to have Moderate Impact Magnitude and Moderate adverse Residual Effect. In 6.1 Chapter 16: Summary: Table 16.1: Summary of effects, the Permanent adverse effects on these listed buildings at the Construction Phase are then not described at the Operational Phase, which appears to the Trust to be contradictory. Additional information is required on this reduction in the Impact Magnitude and Residual Effect and how under the best case scenario, the proposed mitigation of planting will deliver this reduction over 15 years. Currently the proposed planting is restricted to within the soft estate of the existing highway, and in addition an unspecified number of trees are to be removed to create sufficient area for the drainage system (see Fig 2.2 Preliminary design drainage catchments, Countess Pond 1, Countess Catchment 12, Outfall Catchment 15, Countess Pond 3 and Catchment 15), which will limit the space for replacement or additional planting. The visualisations shown in ES Figures [APP -145] and [APP-146] illustrate the view from the North-East and therefore do not fully show the impact magnitude of the flyover on Countess Farm. We seek additional mitigation in the form of extended fencing and planting including standard trees to maximise the buffering, with 100% archaeological mitigation for all works undertaken within the WHS.**

Highways England response

- 20.10.4 The reduction in the magnitude of impact between operation year 1 ([APP-045] Table 7.12) and operation year 15 ([APP-045] Table 7.13) is due to the establishment of new planting between the elevated section of Countess flyover and the slip road from the proposed A303 to Countess roundabout, as indicated on Section H of the Environmental Masterplan [APP-059], as this planting would be in leaf and taller in height than compared to the year 1 assessment when the vegetation would not be in leaf and smaller and the landscape less established and integrated.

- 20.10.5 In [APP-054]: Summary of Effects, table 16.1: Summary of effects, for Cultural Heritage, the permanent adverse effects on these listed buildings are described as Construction (permanent) as this approach allows for a thorough and detailed assessment of each constituent element of the Scheme to be undertaken, acknowledging the permanent impacts as a result of the construction of the Scheme. The Applicant considers this approach to be appropriate and in line with methodology as set out in DMRB, Volume 11, Section 3, Part 2 (HA208/07) for the assessment of road schemes in relation to cultural heritage and is therefore not contradictory in its approach. Please also refer to the Applicants response to Written Question CH.1.9 [REP2-025].
- 20.10.6 The construction (temporary) and operational (permanent) significant adverse effects to the visual receptor is included in the Landscape and Visual Impact Assessment section of Table 16.1 [APP-054].
- 20.10.7 With reference to Highways England response to Written Question CH.1.47 [REP2-025], the planting proposals would screen the lower parts of the Countess flyover retaining walls and slip-roads and soften views of the upper parts of the flyover. However the flyover would remain visible and retain a significant visual effect at year 15 of operation as the viaduct and vehicles (including lorries) would be up to 11.5 metres above the grounds of Countess Farm.
- 20.10.8 The detailed design stage of the drainage works, in combination with a detailed tree survey, will establish the likely impact and exact extent of removal; such that it may be that the extent of tree loss could be reduced. The planting will be secured under requirement 8 of Schedule 2 of the draft development consent order [REP2-003] pursuant to which Highways England will be required to submit a detailed landscaping scheme, which is required to achieve at least the level of mitigation measures set out in the ES.
- 20.10.9 Highways England has offered additional off-site planting to which the National Trust are agreeable, as set out in the response to Written Question CH.1.47 [REP2-025]. Requests for extended fencing and the planting to include standard trees are under discussion, along with the detail of any agreement between Highways England and the National Trust regarding archaeological mitigation.

Key Issue

- 20.10.10 **Sound barrier and screening at Countess Flyover: Requirements: further information is required on the type and height of screening and sound barrier that will be attached to the flyover; in addition to the how light and pollution will be mitigated at Countess Farm.**

Highways England response

- 20.10.11 A 1.8-metre-high and absorptive noise barrier is proposed between the slip roads on both the north and south side of Countess flyover as set out in paragraph 9.8.14 of Chapter 9 of the ES, Chapter 9 - Noise and Vibration [APP-047]. Absorptive barriers are proposed to minimise reflection of noise from the barrier towards receptors on the opposite side of the road. The requirement for the barriers is set out in DNOI-2 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).
- 20.10.12 Lighting during the construction phase must be in accordance with the provisions of item MW-G29 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), which sets out that lighting should be designed, positioned and directed so as not to unnecessarily intrude on adjacent buildings, ecological receptors, structures used by protected species and other land uses to prevent unnecessary disturbance, interference with local residents, or passing motorists. Compliance with the OEMP is secured through requirement 4 of Schedule 2 to the draft development consent order [REP2-003].

20.11 Noise and Vibration Effects

Key Issue

- 20.11.1 **Vibration effects at Stonehenge Cottages: the National Trust is concerned that the impact of vibration at the Stonehenge Cottages during construction of the proposed scheme may have been underestimated. The precise method of calculation of predicted vibration levels from tunnelling has not been referenced.**
- 20.11.2 **Requirement: the National Trust considers that further investigations into the potential for vibration impacts at the Stonehenge Cottages are required to determine if the current level of proposed mitigation is sufficient.**

Highways England response

- 20.11.3 As stated in paragraph 9.3.13 of the Environmental Statement [APP-047] the prediction methodology for vibration from the Tunnel Boring Machine (TBM) follows the tunnelling vibration methodology prescribed in BS 5228:2009 + A1:2014 'Code of Practice for noise and vibration control on construction and open sites'. This methodology is conservative as it is derived from worst case source data for tunnelling in rock using a hydraulic hammer. Source data for TBM works and chalk ground conditions indicates lower levels of vibration are likely to be generated, however as a precautionary approach the BS 5228 tunnelling vibration prediction methodology has been used.
- 20.11.4 The predicted vibration levels at Stonehenge Cottages are reported in Table 9.15 of the ES. Paragraph 9.9.20 reports the impact at Stonehenge Cottages

as being above the Significant Observable Adverse Effect Level (SOAEL) for annoyance, but well below the onset of cosmetic damage criteria.

- 20.11.5 The risk of exceeding the SOAEL for construction vibration annoyance is estimated to occur when the TBM is within a distance of approximately 55m.
- 20.11.6 The Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) requires the contractor to undertake a vibration scoping appraisal of the works to construct the Scheme (MW-NOI5), and vibration monitoring at Stonehenge Cottages commencing when the TBM is approaching (MW-NOI6).
- 20.11.7 As a conservative approach monitoring of vibration at Stonehenge Cottages is proposed to start when the TBM is within 250m of the Cottages. At this distance the predicted vibration level is less than half the Lowest Observed Adverse Effect Level (LOAEL) for vibration annoyance effects, and therefore this would allow for a period of monitoring to occur before there is a risk of perceptible vibration.

20.12 Traffic and Transport

Key Issue

- 20.12.1 **One of the Applicant's four scheme objectives is, "to create a high quality reliable route between the South East and the South West that meets the future needs of traffic". As we stated during the pre-application consultations on this scheme (and the separate scheme proposed at Sparkford-Ilchester), the National Trust is aware of the longstanding challenges of highway access to the South West via the A303 route corridor. This includes traffic congestion at peak travel times, which affects local residents, businesses and visitors. There are likely to be benefits for local communities and for visitor access to the South West as a result of the proposed road improvements in the A303 corridor, including between Amesbury and Berwick Down.**

Highways England response

- 20.12.2 Highways England acknowledges and welcomes the National Trust's support and recognition of the congestion benefits of the scheme in improving access to the South West and how this will apply to local communities and visitors alike.

Key Issue

- 20.12.3 **The overall Rights of Way strategy needs further consideration, especially in regards to the proposed treatment of the current A303 and the redundant portion of the A360 and other NMU (Non-Motorised User) access post scheme construction. Additionally the status of the current BOATs (Byways Open to All Traffic) require further consideration to ensure compatibility with the overall configuration of**

the other forms of access and Rights of Way within the WHS post scheme construction.

Highways England response

- 20.12.4 The new and altered public rights of way for the Scheme are shown on the Rights of Way and Access Plans [APP-009]. The Applicant considers its proposals in respect of public rights of way will improve provision for non-motorised users in and around the World Heritage Site.
- 20.12.5 In respect of the detailed design of the public rights of way created or altered by the Scheme, Highways England has prepared an update to the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) which contains additional design commitments, design principles to help guide the development of the detailed design together with a robust stakeholder consultation mechanism to involve heritage stakeholders, including the National Trust, in the development of aspects of the detailed design within the World Heritage Site. This includes consultation with heritage stakeholders, including the National Trust, on aspects of the design of public rights of way within the World Heritage Site. Compliance with the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) is secured via requirement 4 in Schedule 2 to the draft development consent order [REP2-003].
- 20.12.6 The status of the existing BOATS AMES 11 and AMES12, or any change to them, is a matter for Wiltshire Council as local highway authority.

21 Council for British Archaeology (REP2-070 to REP2-079 and REP2a-005)

21.1 General and cross-topic questions

Key Issue

- 21.1.1 **S.4 and S.14(3)(b) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 require ESs to consider the likely evolution of the baseline scenario without implementation of the development, but the ES for these proposals is more or less silent about the factors that would shape the evolution of the historic environment and OUV of the WHS without the development. The whole area affected by these proposals represent a highly managed landscape in which very little change is purely ‘natural’ (ie independent of human interference). The ‘natural’ evolution is thus that human interference will play a major role.**
- 21.1.2 **The ES cultural heritage baseline does not fully address the EIA requirement to consider the likely evolution of the site without the development, or considers this neutral. But if delivery of the WHS Management Plan is taken to set the framework (most likely including areas of boundary change) the expected evolving baseline would see more modest but potentially significant reduction of problems with the A303.**

Highways England response

- 21.1.3 The future baseline and assessment taking into consideration in the future baseline scenario is fully compliant with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. It has been undertaken in accordance with PINS Advice Note 17 and is presented within the ES technical discipline chapters [APP-043 to APP-052] and ES Chapter 15 Assessment of Cumulative Effects [APP-053] (see in particular the explanation for the future baseline given at paragraph 15.2.19).
- 21.1.4 As stated within paragraphs 15.2.12-15.2.14 of Chapter 15 of the ES, Assessment of Cumulative Effects [APP-053], Wiltshire Council was consulted during preparation of the list of committed or planned developments and responded on 14 February 2018 following a review of the draft list. To keep the list up to date Wiltshire Council was consulted further and responded again on 16 August 2018 to confirm additional developments for consideration within the assessments. These agreed and confirmed developments (listed within Appendix 15-2 [APP-291] of the ES) have been considered and taken into account as part of the assessment process and reported in the ES; that appendix indicates whether the developments identified are part of the baseline, the future baseline, or included as ‘other development’ for the purposes of the cumulative impact assessment. The

developments (committed and proposed) agreed and included within the Future Baseline Scenario do not include the WHS Management Plan because the proposed changes contained in the Management Plan do not comprise existing and/or approved projects or allocations within local development plan documents and frameworks. The process for identifying development for consideration in the future baseline and the cumulative scenario is provided within para 15.2.8 to 15.2.11 of ES Chapter 15 [APP-053]. In any event, it was considered that as there was insufficient certainty as to the measures in the Management Plan being implemented in the foreseeable future, it was not appropriate to rely upon those measures as having been undertaken in the future baseline scenario.

- 21.1.5 Notwithstanding, the HIA [APP-209] considers the ways in which the Scheme delivers against the aims and policy set out in the 2015 WHS Management Plan and considers alignment of the Scheme with the WHS Management Plan vision, aims and policies. Further at para 5.10.4 the HIA [APP-209] considers the changes (including boundary changes) referred to within the WHS Management Plan and at para 5.10.5 states ‘This HIA considers impacts upon both sites located with the current WHS boundary, and physically related archaeological features that contribute to OUV located outside the current boundary’.

Key Issue

- 21.1.6 **This part of a much larger issue of strategic context in decision-making. In particular this concerns whether and how the balance of environmental, social and economic pros and cons of different schemes within the Road Investment Strategy have been considered, and if the approach adopted conforms with statutory and regulatory requirements for having regard to the environmental effects of the Road Investment Strategy at national, regional, Strategic Route and scheme packages levels.**
- 21.1.7 **We believe the necessity for RIS and associated strategic routes to be subject to SEA is indisputable because the Infrastructure Act 2015 imposes statutory duties on both the Secretary of State and Highways England to have regard for the environmental effects of their strategies, and they are not just budgetary or financial plans but show how a series of socio economic, road safety and environmental objectives will be delivered as a Programme of identified projects subject to EIA. That these are Programmes that set a statutory framework for decisions delivering EIA Schedule 1 road schemes that is subject to independent monitoring and potential penalties for non-delivery is written into the Act. Our detailed analysis of this is presented in (Appendix G).**
- 21.1.8 **But it is for the Examination to consider whether it is lawful for a scheme that is part of such a strategy which so clearly ‘sets the**

framework' for decision making to be put forward without that framework having been subject to strategic environmental assessment as required by UK law. The legal requirement for SEA derives from UK secondary legislation (SI 2004 No. 1633 *The Environmental Assessment of Plans and Programmes Regulations*) which apply to strategic plans and programmes of development, though not policies or budgets.

21.1.9 The A303 Amesbury to Winterbourne Stoke Improvement Scheme is only one (though much the most costly) of several highways schemes in the SW Region at various stages of development. These form part of a national programme of highways infrastructure development consisting of numerous specifically identified stretches of the National Road Network. These come within the Government's national Roads Investment Strategy (RIS) with two programmes RIS1 (2015-19) and draft RIS2 (2020-2024).

21.1.10 As a number of other objectors have noted, these strategic programmes have never been subject to Strategic Environmental Assessment. In February 2019, Andy MacDonald MP asked the Roads Minister:

'Whether his Department undertook a Strategic Environmental Assessment of the draft road investment strategy 2?'

21.1.11 The Minister, Jesse Norman MP responded:

'Every project proposed through the next Road Investment Strategy will go through the appropriate sections of the planning process, and this process usually includes multiple opportunities for consultation. As such, RIS proposals are subject to Environmental Impact Assessment regulations, rather than to those leading to a Strategic Environmental Assessment. The Department will ensure that every project is assessed in line with applicable law, and aims to provide additional opportunities for people with wider environmental interests and concerns to get involved when possible.' (Written Question 217075, February 5th 2019)

21.1.12 When the key tests for whether SEA is required are applied to the nature and purposes of RIS1 and RIS2 the approach of relying ONLY on project-by-project EIA appears to be unlawful, for the following reasons as explained in more detail in Appendix F:

21.1.13 The scheme is not exempt from SEA because its authorisation is not through a direct Parliamentary approval (which was the only legal reason why HS2 was exempted from SEA)

- The scheme is one of many specifically identified in RIS 1 and RIS 2 for delivery against stated objective and thus forms part of a national plan and programme of road infrastructure developments.

- RIS1 and RIS2 are required by Government under the 2015 Infrastructure Act and are official reports to ministers laid before Parliament.
- RIS1 and RIS2 are NOT exempted from SEA by virtue of fulfilling only (or largely) policy or budgetary purposes, or concerning national security development. Specifically:
- The overall budgets for the programmes have been set by successive budgets and Public Expenditure Statements by HM Treasury
- The overall policies governing the programmes are set by several policy statements, both specific and more general, including the DfT *National Policy Statement for National Networks*; DEFRA *25 Year Environment Plan*.
- RIS1 and RIS2 clearly represent a Programme of specifically identified developments within an overall strategic plan for highways infrastructure developments that have clearly stated overall economic, social and environmental objectives.
- As their documentation clearly indicates, these strategies clearly ‘set the framework’ for future decision-making, not only being clearly stated as implementing Government policy, but also being the basis on which Highways England as a statutory company under the Infrastructure Act 2015 is accountable to Government and subject to formal scrutiny for delivering the programme of schemes in a way that meets specified economic, social and environmental objectives.
- All the development schemes identified in RIS1 and RIS2 are ‘schedule 1’ projects for which EIA is compulsory, and being included in a Plan or Programme that sets the framework for decision-making means that Plan/Programme must have been subject to SEA, not just EIA.

21.1.14 The CBA therefore agrees with representations from other organisations that this is a fundamental flaw in procedures. The courts typically refuse to overturn decisions that breach procedural rules unless there are demonstrable reasons why they have substantive real-world effects. In this case the lack of SEA is not just a legal issue of procedural niceties, but a highly practical problem of how failure to consider the overall environmental impacts of RIS1 and draft RIS2 and their subsidiary regional and route strategies and scheme packages the Strategy programme are to be addressed.

21.1.15 In particular, despite statutory duties to have regard to the environmental effects of their Strategies, there appears to be no rational, objectively assessed basis for how key environmental effects

on nationally and internationally important landscapes have been assessed, what means exist for avoiding, reducing or offsetting them, and how environmental benefits can most effectively be secured across ALL schemes in balance with also meeting national socio economic objectives and good value for money.

Highways England response

- 21.1.16 The Road Investment Strategy (RIS) is not a plan or programme requiring a strategic environmental assessment (SEA) within the meaning of the SEA directive. The RIS does not set the framework for future development consent of projects and does not prevent environmental effects being taken into account at the development consent stage, nor does it constrain the decision whether or not to grant development consent. The consenting framework for strategic road improvements is set mainly by the National Networks NPS (NNNPS), and in the context of the DCO the plan or programme which constrains the decision making is the NNNPS (which was subject to an Appraisal of Sustainability incorporating a Strategic Environmental Assessment under European Directive 2001/42/EC on the assessment of effects of certain plans and programmes on the environment). Therefore, Highways England does not consider that an SEA is required for the RIS.

Key Issues

- 21.1.17 **This part of a much larger issue of strategic context in decision-making. In particular this concerns whether and how the balance of environmental, social and economic pros and cons of different schemes within the Road Investment Strategy have been considered, and if the approach adopted conforms with statutory and regulatory requirements for having regard to the environmental effects of the Road Investment Strategy at national, regional, Strategic Route and scheme packages levels.**
- 21.1.18 **We believe the necessity for RIS and associated strategic routes to be subject to SEA is indisputable because the Infrastructure Act 2015 imposes statutory duties on both the Secretary of State and Highways England to have regard for the environmental effects of their strategies, and they are not just budgetary or financial plans but show how a series of socio economic, road safety and environmental objectives will be delivered as a Programme of identified projects subject to EIA. That these are Programmes that set a statutory framework for decisions delivering EIA Schedule 1 road schemes that is subject to independent monitoring and potential penalties for non-delivery is written into the Act. Our detailed analysis of this is presented in (Appendix G).**
- 21.1.19 **But it is for the Examination to consider whether it is lawful for a scheme that is part of such a strategy which so clearly ‘sets the**

framework' for decision making to be put forward without that framework having been subject to strategic environmental assessment as required by UK law. The legal requirement for SEA derives from UK secondary legislation (SI 2004 No. 1633 The Environmental Assessment of Plans and Programmes Regulations) which apply to strategic plans and programmes of development, though not policies or budgets.

- 21.1.20 The A303 Amesbury to Winterbourne Stoke Improvement Scheme is only one (though much the most costly) of several highways schemes in the SW Region at various stages of development. These form part of a national programme of highways infrastructure development consisting of numerous specifically identified stretches of the National Road Network. These come within the Government's national Roads Investment Strategy (RIS) with two programmes RIS1 (2015-19) and draft RIS2 (2020-2024).
- 21.1.21 As a number of other objectors have noted, these strategic programmes have never been subject to Strategic Environmental Assessment. In February 2019, Andy MacDonald MP asked the Roads Minister:
- 21.1.22 *'Whether his Department undertook a Strategic Environmental Assessment of the draft road investment strategy 2?'*
- 21.1.23 The Minister, Jesse Norman MP responded:
- 'Every project proposed through the next Road Investment Strategy will go through the appropriate sections of the planning process, and this process usually includes multiple opportunities for consultation. As such, RIS proposals are subject to Environmental Impact Assessment regulations, rather than to those leading to a Strategic Environmental Assessment. The Department will ensure that every project is assessed in line with applicable law, and aims to provide additional opportunities for people with wider environmental interests and concerns to get involved when possible.'* (Written Question 217075, February 5th 2019)
- 21.1.24 When the key tests for whether SEA is required are applied to the nature and purposes of RIS1 and RIS2 the approach of relying ONLY on project-by-project EIA appears to be unlawful, for the following reasons as explained in more detail in Appendix F:
- 21.1.25 The scheme is not exempt from SEA because its authorisation is not through a direct Parliamentary approval (which was the only legal reason why HS2 was exempted from SEA)
- The scheme is one of many specifically identified in RIS 1 and RIS 2 for delivery against stated objective and thus forms part of a national plan and programme of road infrastructure developments.

- **RIS1 and RIS2 are required by Government under the 2015 Infrastructure Act and are official reports to ministers laid before Parliament.**
- **RIS1 and RIS2 are NOT exempted from SEA by virtue of fulfilling only (or largely) policy or budgetary purposes, or concerning national security development. Specifically:**
- **The overall budgets for the programmes have been set by successive budgets and Public Expenditure Statements by HM Treasury**
- **The overall policies governing the programmes are set by several policy statements, both specific and more general, including the DfT National Policy Statement for National Networks; DEFRA 25 Year Environment Plan.**
- **RIS1 and RIS2 clearly represent a Programme of specifically identified developments within an overall strategic plan for highways infrastructure developments that have clearly stated overall economic, social and environmental objectives.**
- **As their documentation clearly indicates, these strategies clearly ‘set the framework’ for future decision-making, not only being clearly stated as implementing Government policy, but also being the basis on which Highways England as a statutory company under the Infrastructure Act 2015 is accountable to Government and subject to formal scrutiny for delivering the programme of schemes in a way that meets specified economic, social and environmental objectives.**
- **All the development schemes identified in RIS1 and RIS2 are ‘schedule 1’ projects for which EIA is compulsory, and being included in a Plan or Programme that sets the framework for decision-making means that Plan/Programme must have been subject to SEA, not just EIA.**

21.1.26 The CBA therefore agrees with representations from other organisations that this is a fundamental flaw in procedures. The courts typically refuse to overturn decisions that breach procedural rules unless there are demonstrable reasons why they have substantive real-world effects. In this case the lack of SEA is not just a legal issue of procedural niceties, but a highly practical problem of how failure to consider the overall environmental impacts of RIS1 and draft RIS2 and their subsidiary regional and route strategies and scheme packages the Strategy programme are to be addressed.

21.1.27 In particular, despite statutory duties to have regard to the environmental effects of their Strategies, there appears to be no rational, objectively assessed basis for how key environmental effects

on nationally and internationally important landscapes have been assessed, what means exist for avoiding, reducing or offsetting them, and how environmental benefits can most effectively be secured across ALL schemes in balance with also meeting national socio economic objectives and good value for money.

Highways England response

- 21.1.28 The Road Investment Strategy (RIS) is not a plan or programme requiring a strategic environmental assessment (SEA) within the meaning of the SEA directive. The RIS does not set the framework for future development consent of projects and does not prevent environmental effects being taken into account at the development consent stage, nor does it constrain the decision whether or not to grant development consent. The consenting framework for strategic road improvements is set mainly by the National Networks NPS (NNNPS), and in the context of the DCO the plan or programme which constrains the decision making is the NNNPS (which was subject to an Appraisal of Sustainability incorporating a Strategic Environmental Assessment under European Directive 2001/42/EC on the assessment of effects of certain plans and programmes on the environment). Therefore, Highways England does not consider that an SEA is required for the RIS.

21.2 Alternatives

Key Issue

- 21.2.1 **Reconsideration of alternatives needs to re-examine the need to upgrade the A303 while reducing and possibly removing its damaging intrusion into the WHS, avoiding additional physical loss of OUV, other protected landscapes and harm to designated heritage/habitats.**
- 21.2.2 **The justification for the proposed scheme over other options is not sound, including its unique, highly selective and logically flawed reliance on a controversial heritage monetisation study. What this demonstrates more than anything is that standard methods can be supplemented and enhanced where the case demands (as in the case of enhancing internationally and nationally protected landscapes); but also it should be done by a fully informed assessment on a properly like-for-like basis, as required by NSPNN and the EIA regulation that emphasises the need to provide information and forecasts of effects required to make informed judgements (see paragraph 34 above).**

Highways England response

- 21.2.3 Proposals for the improvement of the A303 between Amesbury and Berwick Down have been the subject of extensive study and consultation since 1991. The process of options identification and route selection leading to the Scheme is summarised in the Case for the Scheme [APP-294], Section 3.2

and in Chapter 3 of the ES, Assessment of Alternatives [APP-041], in compliance with the requirements of Schedule 4 of the Infrastructure Planning (Environmental Impact Assessment Regulations) 2017. The Scheme has been developed from an extensive process of options appraisal, including the consideration of options which avoided the World Heritage Site altogether, to identify the optimum solution, representing a significant investment by the Government aimed at addressing the congestion problems on the A303 and delivering benefits for the WHS.

- 21.2.4 The A303 Stonehenge Tunnel project is following the processes mandated by Highways England's Project Control Framework (PCF). The PCF provides a defined lifecycle broken into phases and stages structured around key milestones. The early stages of Options and Development are illustrated in Figure 3.1 in chapter 3 of the Environmental Statement (ES) [APP-041]. The Options Phase has two stages: Stage 1 "Options Identification" which identifies the routes to be taken to Public Consultation, and Stage 2 "Options Selection" which considers the findings of the consultation and concludes with the Preferred Route Announcement (PRA). The Development Phase then commences with Stage 3 "Preliminary Design" which develops the preferred route in sufficient detail to inform the environmental, economic and operational assessment prior to making the DCO application.
- 21.2.5 The options appraisal undertaken is a full options appraisal and a proportionate option consideration of alternatives, not only following the WebTAG and PCF processes normally used to assess road schemes, but going further during PCF Stage 1 by introducing additional stages in order to take account of the number of options requiring consideration. The Applicant notes that paragraph 4.27 of the NPSNN states that it is not necessary for the Examining Authority and the decision maker to reconsider this process. As evidenced above and in the SAR and TAR (defined below), the Examining Authority and decision maker can be satisfied that the assessment was undertaken.
- 21.2.6 The methodology, sequence of decisions and outcome of the PCF option and selection process followed by Highways England is outlined below in response to [21.2.8](#) and further details can be found in the Technical Appraisal Report (TAR) [REF1-031 to 038] and the Scheme Assessment Report (SAR) [REF1-023 to 030] The TAR and SAR include the results of the WebTAG (online Transport Appraisal Guidance) process, which is a Department for Transport process used to inform Government funding decisions.
- 21.2.7 The approach to the calculation of monetised environmental benefits is discussed in our response to [21.5.1](#).

Key Issue

- 21.2.8 **A major problem with the way that alternatives are considered by Highways England's standard methodology means that the pros and**

cons of shortlisted options are not fairly weighted in the balance through all relevant stages. Once a shortlist – typically nowadays a very short list of two - options have been identified as the best strategically different solutions, one is chosen after consultation with the pros and cons appraised. But these lines-on-a-map appraisals seldom include junctions and other major items of land-take; nor do they consider the possible means of avoiding impacts or achieving better highways or economic performance by introducing significant design features of equivalent cost to the preferred option – in this case an entirely exceptional major tunnel that if built would be by far the longest in the UK (see Appendix F)

- 21.2.9 **Thus when the preferred option is significantly refined and developed involving substantial further costs (in this case another 400m of tunnel), without the alternative being brought (even at a generic level) to an equivalent level of mitigation the balance is not evenly poised.**
- 21.2.10 **The consideration of alternatives has been approached on the basis of flawed logic set in a strategically blinkered approach to the overall effects on and opportunities to enhance nationally and internationally protected landscapes.**
- 21.2.11 **The CBA's OBJECTION is – as 2004– the proposals cause undue harm to the WHS OUV without delivering the fulicss of removing the A303 – for which alternative solutions exist including one far cheaper. Such savings could deliver additional net environmental gain elsewhere in the RIS2 programme where substantial impacts on protected landscapes are unavoidable.**

Highways England response

- 21.2.12 As detailed in the response to the Examining Authority's Written Question AL.1.4 [REP2-024] the Scheme Assessment Report (SAR), [REP1-023] and Technical Appraisal Report (TAR), [REP1-031] were compiled by the Applicant to describe and explain the process of options appraisal which led to the identification of the preferred route. This process followed Highways England's Project Control Framework (PCF) which is an established staged process starting with problem and opportunities identification (Stage 0), options identification (Stage 1) (see Chapter 5, Page 72, TAR [REP1-031]), and options appraisal (Stage 2) (see Chapter 6, page 98, SAR [REP1-023]). The TAR and SAR include the results of the WebTAG (online Transport Appraisal Guidance) process, which is a Department for Transport process used to inform Government funding decisions.
- 21.2.13 The process used during PCF Stage 1 had a number of stages (referred to as 'Design Fixes', see paragraph 5.1.1 of TAR [REP1-031]) in order to sift the large number of corridor and route options identified from historical sources (see Section 1.3, page 19, TAR [REP1-031]). This process was used due to the large and complex nature of the project to ensure that all

possible options were considered in a proportionate way. These stages of appraisal are described in the remainder of the TAR (Chapter 5 onwards).

- 21.2.14 The SAR, prepared at PCF Stage 2, then summarises the work undertaken in Stage 0 and 1, and also describes the further work carried out in Stage 2 to select a preferred route, following further detailed appraisal. This is described in Chapter 6 (page 98) onwards [REP1-023].
- 21.2.15 The environmental aspects of the appraisal process are also summarised in Chapter 3 of the Environmental Statement [APP-041].
- 21.2.16 During Scheme development, the options were subject to public consultation as set out in Figure 2.1 of the Consultation Report [APP-026] and described in Chapter 2 of that report. This included information events in February 2016 and non-statutory consultation between January and March 2017. Statutory consultation was then undertaken between February and April 2018 and non-statutory supplementary consultation undertaken between July and August 2018.
- 21.2.17 The Applicant considers that the options appraisal undertaken is a full options appraisal and a proportionate consideration of alternatives, not only following the WebTAG and PCF processes normally used to assess road schemes, but going further during PCF Stage 1 by introducing additional stages in order to take account of the number of options requiring consideration. The Applicant notes that paragraph 4.27 of the NPSNN states that it is not necessary for the Examining Authority and the decision maker to reconsider this process.
- 21.2.18 However, as evidenced above and in the SAR and TAR, the Examining Authority and decision maker can be satisfied that the assessment was undertaken.

Key Issue

- 21.2.19 **CBA recommends reconsideration of three strategically very different options:**
- a long-bored tunnel;
 - a southern surface route like option F010
 - a retained single carriageway and Winterbourne Stoke bypass
- 21.2.20 **Having outlined the issues related to these alternatives, the CBA thus concludes that three strategically different solutions merit much closer scrutiny to a level not yet achieved. Such scrutiny and optimisation needs to achieve a generically comparable level of detail – including junction locations and layouts, optimised horizontal and vertical alignments, major structures, general landscaping, key construction requirements, and disposal of surplus material – that allows a sound overall understanding of how they would perform against highways, economic social and environmental objectives.**

- 21.2.21 **Pending such a review, and subject to closer review of Deadline 1 documents, the following are the salient features and key aspects of how these alternatives compare with the proposed scheme.**
- 21.2.22 **With respect to the factual information underpinning our comments on possible alternatives, we have used the reports of earlier stages in the scheme and the account in the ES but these are far from satisfactory, providing only the vaguest and generalised information. Significant extra material has been submitted on this some of which can only now be assessed in relation to the additional archaeological material and how that combines with setting issues relative to OUV. As a result much of this has NOT been fully assessed for this initial Statement.**
- 21.2.23 **CBA proposing an alternative ‘do minimum’ approach which attempts to address WHS Management Plan objectives and RIS requirements without compromising future delivery of a more comprehensive solution.**

Highways England response

- 21.2.24 The Applicant disagrees that further scrutiny of these options is required, over and above what it has already undertaken, as detailed above in the response to 21.2.8 and in response to Written Question AL.1.4 [REP2-024].
- 21.2.25 **Long-bored tunnel:**
The Detail of the reasoning behind the decision to reject the option to extend the tunnel in a westerly direction can be found in Highways England’s response to Written Question AL.1.29 [REP2-024] which includes the following points regarding the option of a bored tunnel emerging west of the WHS:
- 21.2.26 *The locations of the eastern and western portals in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost.*
- 21.2.27 *The option to extend the bored tunnel beyond the WHS boundary would position the western portal at the first viable location for commencement of the tunnel. This location can be seen on the longitudinal section on sheet 5 of the Engineering Section Drawings Plan and Profiles [APP-010] where, at chainage 5+600, the existing ground levels begin to come down to meet the proposed A303 road level. This would place the western portal immediately west of the current proposed location of Green Bridge Three.*
- 21.2.28 *This option would have a major impact on the location and layout of Longbarrow junction which would require a total redesign in a location further from the existing A360 and closer to Winterbourne Stoke.*

21.2.29 *The option to extend the bored tunnel was rejected because consideration of the balance of benefits and disbenefits would not justify the significant additional cost, estimated at £578 million, over and above the cost of the Proposed Scheme.*

21.2.30 The major disbenefit of the option to extend the bored tunnel is summarised in paragraph 29:

The relocated junction would also lead to complications with connectivity to the existing A360, increasing journey times and likely displacing traffic on to the local road network. The A360 itself would be retained in its current position to avoid traffic rat running via unsuitable local roads through nearby communities. This would remove the benefit to the WHS of removing traffic immediately beside the Winterbourne Stoke Crossroads Barrow Group

21.2.31 The Heritage benefits of the option to extend the bored tunnel are summarised in paragraphs 43 to 47:

Overall, therefore, this option would not avoid all impacts on Attributes that convey the OUV of the WHS. Although archaeological remains would be preserved within the WHS in the western approaches (benefiting Attribute 2) and the landform would be retained in this location (benefiting Attribute 5), construction of the cutting would still remove archaeological remains at the eastern portal resulting in adverse impacts to Attributes 2 and 5 in this part of the WHS. The retention of the A360 on its existing alignment would also continue the adverse impacts of the surface A360 on AG12 Winterbourne Stoke Crossroads Barrows, retaining existing adverse impacts on Attributes 3 and 5 that convey the OUV of the WHS. Overall, therefore, this option is assessed as slightly more beneficial than the Scheme.

21.2.32 **Southern surface route like option F010:**

A full range of routes outside the WHS was identified and appraised during the course of the Scheme's development. All have been discounted as they would not be as successful as the proposed scheme in delivering the Scheme objectives or were discounted on environmental grounds.

21.2.33 The option identification and selection process followed for this Scheme is described above in our responses to 21.2.1 and 21.2.8. In respect to a southern surface route the key decision points are summarised as:

- All historic route options to the south of the WHS were included in corridors F and G.
- At Design Fix A, Corridor F was identified as one of the two best performing corridors.
- At Design Fix B three route options in corridor F were selected for further assessment and optimisation. These largely represented a northern, central and southern option.

- At Design Fix C the northern route (F010), along with two routes in corridor D, was selected for further WebTag Assessment.
- This further assessment concluded that:

“The two route alignments within Corridor D, namely D061 and D062 were therefore identified as the preferred route options for consultation on the basis that they performed better against Client Scheme Requirements (CSR) and the relevant national and local policy objectives than F010”.

21.2.34 The F010 route option was discounted as it would not deliver the scheme objectives as well as the proposed Scheme. Route F010 would run through nearly 14 miles of largely tranquil, unspoilt countryside. This would require crossings of the Till Valley between Berwick St James and Winterbourne Stoke and of the Woodford Valley between Great Durnford and Upper Woodford on substantial viaducts. Both are designated as Special Areas of Conservation and Sites of Special Scientific Interest. The overall environmental impact when compared against the proposed scheme would be much greater, in terms of effects on local communities, conservation areas, listed buildings, landscape, biodiversity and environmentally designated sites, and with risks of impact on an area rich in archaeology despite being outside the boundary of the World Heritage Site. There would be disbenefits for road users having to travel on a longer southern route, and southern routes would also not interact effectively with the local road network, leaving higher levels of rat-running traffic. One of the objectives of the Scheme is to improve the quality of everyday life in local communities and route F010 would not satisfy this objective. Further information can be found in the Technical Appraisal Report.

21.2.35 **Retained single carriageway and Winterbourne Stoke bypass:**

The tunnel is a fundamental part of the Scheme, designed to bring substantial benefits to the WHS.

21.2.36 There are no short-term options that offer an alternative to the Scheme to address the problems on the A303 and which would deliver the Scheme's objectives. Imposing additional speed restrictions would not remove the congestion. Observed journey times along the 30-mile section of the A303 between the A34 and A36 shown in the Transport Assessment [APP-297], Section 6.5.4 indicate an average speed during busy days of 45 mph, demonstrating that speeds are already very low, and this is forecast to reduce to 35mph by 2041. Additionally, there are no alternative routes that can take the traffic, other than those that are currently used by rat running traffic which badly affects local communities and still leaves congestion on the A303.

21.2.37 Any option which retains the single carriageway in the WHS would not secure the benefits of one of the key aims of the scheme which is to remove the sight and sound of the A303 traffic from much of the WHS landscape.

Key Issue

- 21.2.38 **Undue focus on the Stonehenge ‘star attraction’ at the expense of the wider WHS has driven selection process and undue obsession with tunnel ‘solution’.**
- 21.2.39 **New research has provided a much stronger understanding of the articulation of the various sites in the Stonehenge WHS (and beyond it) in the Mesolithic, Neolithic and Bronze Age. Archaeological interest has confirmed a wider field of vision, which now encompasses not only the immediate environs of Stonehenge (the ‘Stonehenge bowl’) but also a broader landscape inside and outside the current WHS boundary, and is cognisant of major changes to the landscape in prehistoric times. The enormous increase in knowledge about the diversity, extent and significance of the archaeological remains and their interrelationships potentially exacerbates the adverse impact of inappropriate development affecting the WHS and strengthens the justification for beneficial change and investment.**

Highways England response

- 21.2.40 The benefits of the Scheme associated with removal of the sight and sound of traffic from a large part of the WHS, the opportunity for reconnection of The Avenue, and the provision of a c.150 metre green bridge, are considered in the context of the whole WHS and the many scheduled monuments within it, not just the Stonehenge monument. The Heritage Impact Assessment, as set out in ES Appendix 6.1 [APP-044], Section 12.4, concludes that the scheme will deliver significant beneficial effects for the setting of many scheduled monuments within the WHS, as well as Stonehenge, whilst sustaining the OUV of the WHS.
- 21.2.41 Heritage has been a key consideration during route selection and consultation, being one of the Scheme's objectives to help conserve and enhance the WHS. Highways England has engaged regularly with key heritage stakeholders, throughout the Scheme's development, including through the Heritage Monitoring Advisory Group (HMAG), which includes Wiltshire Council Archaeology Services (WCAS), Historic England, National Trust, and English Heritage, and the Scientific Committee of eminent archaeological experts. Their involvement will continue up to and through construction, and is secured as part of a Detailed Archaeology Mitigation Strategy (DAMS) [REP2-038], which is being developed in consultation with WCAS and the HMAG and which is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. More information on engagement with archaeological and other heritage experts can be found in the ES Chapter 6, Cultural Heritage [APP-044] and the Consultation Report [APP-026].
- 21.2.42 The preferred route was carefully chosen to minimise effects on archaeology and to avoid known archaeological remains, important sites and monuments

(having regard to the WHS as a whole). A comprehensive programme of archaeological evaluation surveys has informed the Scheme being designed in a way that has limited any direct physical impacts on archaeology as far as practicable. Examples of how the design has been developed to limit these impacts on archaeology include, but are not limited to, the choice of a northern bypass of Winterbourne Stoke, the reduced footprint and land take for Rollestone Corner, and the design and placement of the western and eastern tunnel portals and portal approaches in areas that have been shown to have limited archaeological remains within their footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Table 6.9. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction. The DAMS identifies areas to be protected in-situ.

- 21.2.43 Highways England acknowledges that the Scheme would have some adverse effects on some of the Attributes of OUV. In arriving at an assessment of the overall effect on the OUV of the WHS as a whole, we have also taken into account the very substantial benefits arising from provision of the 3.3km tunnel.
- 21.2.44 The Heritage Impact Assessment (HIA), as set out in ES Appendix 6.1, HIA [APP-195], considers the implications of the Scheme in the context of the protection of OUV and the Authenticity and Integrity of the WHS. The HIA concludes that overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained as set out in Section 12.4 of the HIA.

Key Issue

- 21.2.45 **Bored tunnel reduces harmful effects on the WHS impacts but does not AVOID causing serious damage to the OUV beyond the ends of the bored section despite its extension by 400m.**
- 21.2.46 **Consideration of any alternative solutions that have been assessed or are proposed for this ‘heritage led’ scheme must be based on the need to achieve a clear and logical understanding of the balance between positive and adverse heritage effects and the need for ‘clear and convincing evidence’ that any harm is clearly outweighed by other public benefits (cf Q AL.1.4) Importantly, the WHS Management Plan sets a very high bar in this respect, and in effect means that harm to the WHS OUV should only be countenanced if there is no alternative that would avoid it AND the public need is of a very high order (eg international or very high national) imperatives.**
- 21.2.47 **The WHS Management Plan does not include an objective or policy of achieving any form of net balance of enhancement over harm, but has very clear priorities to avoid harm to OUV while promoting benefits. This means it is NOT appropriate to consider the balance of harm**

versus benefits just in terms of the net balance within the scheme, but far more importantly to consider the scheme proposed with any alternative means of upgrading the A303 and removing its damaging intrusion while entirely avoiding additional physical impact on OUV.

Highways England response

- 21.2.48 The relevant tests for the Examining Authority and Secretary of State in determining whether to grant consent for the Scheme are set out in section 104 of the Planning Act 2008, and as a result of those provisions, the decision maker must decide the application in accordance with the National Policy Statement for National Networks (NPSNN). That requirement is subject to certain exceptions, including under section 104 (7) which requires that the application should be determined in accordance with the NPSNN unless the adverse impact of the proposed development would outweigh its benefits. This requires a balancing exercise to be undertaken of the adverse and beneficial impacts of the Scheme.
- 21.2.49 Another exception makes the requirements of the World Heritage Convention relevant to the decision to grant consent. Other prescribed matters and any other important and relevant matters will also be relevant to the decision, including conformity with local planning policy and the WHS Management Plan.
- 21.2.50 There is no requirement in the NPSNN, the World Heritage Convention, local planning policy, the WHS Management Plan or ICOMOS guidance to avoid all adverse impacts on the OUV of the WHS.
- 21.2.51 With respect to the NPSNN requirements, NPSNN is concerned to avoid substantial harm to heritage assets, and includes requirements in relation to the balancing of less than substantial harm against the public benefit of the development. The Scheme's compliance with the NPSNN requirements is demonstrated in the NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294].
- 21.2.52 The requirements of the World Heritage Convention and the Scheme's compliance with those requirements are addressed in response to Written Question G.1.1 [REP2-021].
- 21.2.53 Local planning policy compliance is addressed in Appendix B of the Case for the Scheme and NPS Accordance [APP-294].
- 21.2.54 The 2015 WHS Management Plan (2015, para. 11.1.9) noted that "The stakeholder reference group set up to inform the A303/A30/A358 corridor feasibility study included, among others, representatives from English Heritage, the National Trust, Wiltshire Council and the Chairman of the WHS Partnership Panel. A Technical Working Group was formed specifically to consider options for A303 improvements between Amesbury and Berwick Down. **The Technical Working Group agreed three key outcomes against which options should be tested: the OUV of the WHS is**

conserved and enhanced; current and predicted traffic problems are comprehensively resolved; and social and economic growth is delivered for local communities and the wider South West. Improvements to the WHS landscape have the potential to contribute to the last through greater access to the landscape and enhanced sustainable tourism opportunities. (Policy 6a/Action 133)”.

- 21.2.55 It goes on to note that “Significant developments within the WHS should be assessed using the Guidance on Heritage Impact Assessments for Cultural World Heritage Properties produced by the International Commission for Monuments and Sites. [...]

It provides a framework for assessing impacts on the attributes of OUV and the OUV of the WHS itself. In addition, such a significant scheme would need to be assessed against the full range of economic, social and environmental impact criteria as required by the planning system; and would be likely to undergo the Nationally Significant Infrastructure Project planning process”.

- 21.2.56 ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (ICOMOS 2011, para. 6.2, https://www.icomos.org/world_heritage/HIA_20110201.pdf) notes that “Every reasonable effort should be made to **avoid**, eliminate or minimise adverse impacts on attributes that convey OUV and other significant places. **Ultimately, however, it may be necessary to balance the public benefit of the proposed change against the harm to the place. In the case of WH properties this balance is crucial**”.
- 21.2.57 In terms of balancing the harm and benefits to attributes of OUV as a result of the Scheme, in order to arrive at an overall effect on the WHS as a whole, the Heritage Impact Assessment has been prepared following ICOMOS guidelines (https://www.icomos.org/world_heritage/HIA_20110201.pdf). The scope and approach of this assessment, which is reported in ES Appendix 6.1 [APP-195], was endorsed by UNESCO/ICOMOS in their report from their third advisory mission on the scheme early in 2018 (<https://whc.unesco.org/en/list/373/documents/>). The Applicant considers that the HIA has been carried out accurately and with a full appreciation and understanding of the importance of the WHS and its OUV, and it considers the approach to balancing the impacts on attributes of OUV in order to reach an overall conclusion in terms of the impact on the OUV of the WHS is appropriate, and necessary in order to inform the tests required to be undertaken by the Secretary of State as set out above.
- 21.2.58 Overall, the Scheme would have a slight beneficial effect on the WHS as a whole and would sustain the Outstanding Universal Value of the WHS as summarised in Section 12.4 of the Heritage Impact Assessment, in ES Appendix 6.1, HIA [APP-195].

21.3 Design

Key Issue

- 21.3.1 **Need more scheme detail, on parameters of LoD, design of tunnel portals, landscaping, positioning, surface treatments, lighting, signage, surface treatment of proposed PROWs and BOATs, management of light levels, night-time and day-time.**
- 21.3.2 **Cuttings, canopies insufficient and green bridge 4 a very poor substitute for a more complete tunnel.**

Highways England response

- 21.3.3 Highways England considers that the application has provided sufficient information to allow CBA to understand and comment on the Scheme. Highways England has prepared a signposting document [AS-009] to support or enhance interested parties' understanding of the nature of the Scheme.
- 21.3.4 The application for development consent submitted by Highways England was accepted by the Planning Inspectorate, on behalf of the Secretary of State for Transport, who, after the 28-day formal acceptance period, concluded that it met the standards required to progress to examination. As part of the consideration to formally accept the application for examination the Secretary of State needed to have been satisfied that the application documents contained adequate information on the Scheme.
- 21.3.5 To assist CBA in their understanding of the proposals some key items of detail are summarised below.
- 21.3.6 **Limits of Deviation**
- In terms of securing the parameters of the Scheme, Article 7 of the draft development consent order [REP2-003] sets constraints (limits of deviation) for the Scheme and allows for a proportionate amount of flexibility for certain aspects of the Scheme. Limits of deviation are necessary because development consent is being applied for whilst the Scheme is still at the preliminary / reference design stage, which is normally the case for nationally significant highways projects. Highways England's Additional Submission 3 [AS-009] explains in further detail how the DCO and related plans describe the Scheme.
- 21.3.7 **Longbarrow junction**
- The lateral layout of the proposed Longbarrow junction is shown on sheet 5 of the Works Plans [APP-008] and it is shown in profile on sheet 5 of the Engineering Section Drawings (Plan and Profiles) [APP-010]. An indication of how the Scheme could be developed within those parameters is shown on Sheet 5 of the General Arrangement Drawings [APP-012]. The junction has been located as close as possible to the point of intersection of the A303 and

A360 alignments while at the same time minimising impact on the WHS and other environmental constraints.

21.3.8 **Green Bridge No. 4**

Green Bridge No. 4 was moved eastwards and widened from 50m to approximately 150m, from the position shown during the statutory consultation, in order to provide greater physical and visual connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group and, in particular, the two upstanding long barrows in each group in this western part of the WHS. The retained cutting in the western approaches allows visual connectivity to be maintained between the Winterbourne Stoke Crossroads Barrows, the Diamond Group and the Normanton Down Barrows that contribute to the OUV of the WHS, as agreed with heritage stakeholders.

21.3.9 **Retained cutting**

The design of the retained cutting incorporates an upper grassed slope (committed via ref D-CH5 in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) compliance with which is secured by paragraph 4 of Schedule 2 to the draft development consent order [REP2-003]). This allows the cutting to blend into the surrounding landscape from key views between monument groups. The Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the Scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on three of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the Scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained. The precise layout of the hard and soft landscaping would be developed in the detailed design of the Scheme and submitted for the Secretary of State's approval following consultation with Wiltshire Council, and would be based on the mitigation measures contained in the Environmental Statement, in accordance with paragraph 8 of Schedule 2 to the draft development consent order [REP2-003].

21.3.10 **Tunnel approaches and portals**

Visualisations of the tunnel approaches and portals can be found in section 6.4 of the Design and Access Statement [APP-295]. In addition Highways England has prepared an update to the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) which contains additional design commitments, design principles to help guide the development of the detailed design together with a robust stakeholder consultation mechanism to involve heritage stakeholders (English Heritage, Historic England, National Trust and Wiltshire Council) in

the development of aspects of the detailed design within the World Heritage Site. Compliance with the OEMP is secured via requirement 4 of Schedule 2 of the draft development consent order [REP2-003].

21.3.11 **Countess junction**

The lateral layout of the proposed Countess junction is shown on sheet 9 of the Works Plans and in profile on Sheet 9 of the Engineering Section Drawings (Plan and Profiles). An indication of how the Countess junction could be developed within those parameters is shown illustratively on Sheet 9 of the General Arrangement Drawings [APP-012]. The junction has been designed to utilise the existing roundabout and to fit within the footprint of the existing highway.

21.3.12 **Levels in relation to existing topography**

Proposed road levels in relation to existing ground levels are shown in the Engineering Drawings (Plans and Profile) [APP-010]. These drawings show the difference between existing and proposed levels at 100m intervals along each of the proposed highways in the proposed scheme. Further information can be seen in the Engineering Drawings (Cross Sections) [APP-011] which show both existing and proposed levels at selected cross sections along the scheme.

21.3.13 **Materials selection and surface treatments**

Materials and surface treatments would be determined during the detailed design of the Scheme. Highways England has committed to using low noise surfacing on the mainline of the new A303 and associated slip roads (ref D-NOI1 of the OEMP). As noted above, the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) to provide additional design commitments, design principles and a stakeholder consultation mechanism.

21.3.14 **Landscape Integration**

A description of the earthwork landscape proposals is included in paragraph 2.3.55 of Chapter 2 of the ES [APP-040]. For further detail refer to ES chapter 7 2 Landscape and Visual Effects [APP-045] and Figure 2.5 Environmental Masterplan [APP-059]. As is noted above, the final design of the Scheme's hard and soft landscaping will be determined in detailed design and submitted for the approval of the Secretary of State following consultation with Wiltshire Council, in accordance with paragraph 8 of Schedule 2 to the draft development consent order [REP2-003].

21.3.15 **Lighting**

The majority of the Scheme would not be lit. There would be no external road lighting within the WHS outside the tunnel or Green Bridge No. 4. The exception is the existing lighting provision at Countess roundabout which will be replaced with a modern system that will reduce light spill (Ref: Environment Statement, Chapter 2, paragraph 2.3.51). Note that as per

Environmental Statement Chapter 6 [APP-044, paragraph 6.8.5e] lighting under Green Bridge No. 4 would only occur during the day time and would be dimmer controlled at dusk and dawn to avoid sudden bursts of light emitting into the landscape at these specific times of the day. This lighting is provided for in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) (D-CH9 to D-CH12), and paragraph 4 of Schedule 2 of the draft development consent order [REP2-003] requires the Scheme to be carried out in accordance with the OEMP.

21.3.16 **Signage**

In the context of the WHS, the Scheme has committed to no signage above the top of the cutting and no lighting of signs at the western end of the Scheme in order to protect the WHS's OUV [see OEMP, D-CH8]. Appropriate signage and infrastructure will also be provided outside the WHS to manage traffic through the corridor.

21.3.17 **Boundary treatment**

At this stage there are no plans available detailing construction phase fencing. This would be developed by the main works contractor during the detailed design stage. To ensure fencing has a minimal impact on the World Heritage Site (WHS), the main works contractor would consult with the Heritage Monitoring and Advisory Group (HMAG) to determine the type of construction boundary fencing to be used within the WHS, or within the setting of the WHS, to ensure that the type of fencing used would be sympathetic to the setting of the WHS. This would be secured through items MW-G28, MW-CH3 and D-CH14 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) which is, in turn, secured by Paragraph 4 of Schedule 2 of the draft development consent order [REP2-003].

Key Issue

- 21.3.18 **We take the long view: it has taken c.25 years to progress to the current unsatisfactory point. This is but a moment in the 6,500 year evolution of the Stonehenge landscape. In the next decades transport needs and traffic management will likely change radically, not least because of climate issues. But any scheme built now will last for millennia. As one of the World's most iconic landscapes of prehistoric human culture, Stonehenge is the last place on earth to create a memorial to Britain's current obsession with economics built on fossil-fuelled road transport.**
- 21.3.19 **We urge the Examination Panel to take an equally long view and reflect deeply on the physical legacy that will become the permanent symbol of Britain's attitude to the world's culture and environment in the latter stages of the age of the fossil-fuelled car.**

21.3.20 **The CBA recognises that the proposals for decommissioning the present surface A303, like the A344 and former carpark and visitor centre have and would go some way to restore original topography that was far less badly harmed than the present proposals in the 1960s onwards, within half a generation; the construction lifetime of the scheme (120 years) represents 4 generations and while it might be envisage that the proposals might become redundant – or more likely be seen as a mistake – within that time frame, it seems very unlikely that any reversal would go further than infilling cuttings and removing above ground embankments and structures, the legacy of structures as 21st century monuments would be permanent, just as the infinitely smaller 20th century visitor centre looks set to become.**

Highways England response

21.3.21 The Scheme will deliver benefits for the WHS by placing two miles of A303 in a tunnel and transforming the WHS landscape around Stonehenge. The Scheme is assessed in the Heritage Impact Assessment [APP-195] to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on three of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained. If the A303 ever needs to be decommissioned, future generations will decide how that should best be done.

21.3.22 **Design Life of Scheme:** The scheme would be designed in accordance with the highest category within Highways England’s Design Manual for Roads and Bridges BD 100/16 where the design working life of the bridges, tunnel portals, bored tunnels and the retaining walls is Category 5 (not less than 120 years).

21.3.23 The Category 5 design working life is defined as the “assumed period for which a structure or part of it is to be used for its intended purpose with anticipated maintenance but without major repair being necessary”. This however does not mean that the structure will cease to be serviceable after 120 years. It is a realistic expectation that major civil engineering structures that form part of important transport infrastructure would remain in use beyond their ‘design working life’.

21.3.24 **Decommissioning of the Scheme:** It is highly unlikely that the Scheme would be demolished after its design working life as the road would have become an integral part of nationally important infrastructure. Aspects of theoretical decommissioning are considered in Heritage Impact Assessment (HIA) (Environmental Statement Appendix 6.1 - Heritage Impact Assessment

[APP-195] Section 9.2, Impacts and effects of Scheme: overview: Theoretical decommissioning (paragraphs 9.2.14 to 9.2.25). Paragraph 9.2.16 explains how the tunnel and associated road infrastructure (both surface and underground components) may, theoretically, be decommissioned at some point in the future. During the detailed design stage, the Construction (Design and Management) (CDM) Regulations require the designer to consider decommissioning during the design of the scheme (CDM Regulation 9 (2) and Regulation 9 (3)). At present, there is insufficient information on the manner of any future decommissioning (given this is anticipated to be at least 120 years in the future), and both engineering and design technologies available and the regulatory environment will evolve over time. Paragraph 9.2.22 states that the hypothetical decommissioning of the Scheme might have a slight adverse short term impact upon the Outstanding Universal Value (OUV) of the World Heritage Site (WHS). Paragraph 9.2.24 states that in the long term, it is not anticipated that hypothetical decommissioning of the Scheme would have any additional significant long-term adverse impact upon the OUV of the WHS.

21.4 Cultural Heritage

Key Issue

21.4.1 **Points raised on the basis of preliminary overall assessment of the Deadline 1 archaeological reports, and their adequacy to inform the decision and the extent to which EIA requirements have been fulfilled: [added numbering for clarity]**

1. **Criticism of lack of named full range of competent experts in the Environmental Statement.**
2. **Insufficient consideration of the inherent limitations and uncertainties of evaluation methods applied.**
3. **Criticism of presumption of preserving archaeological remains in situ beneath construction work areas, no indication of analysis to forecast compression, crushing and distortion impacts.**
4. **No detailed consideration of the likely scale of problems and needs to prevent the effects arising from use of different types of machinery, the wheel pressure weight and speed of fully loaded trucks used to transport vast quantities of tunnelling spoil; nor other effects such as slewing of large tracked machines etc., or what damage could arise from installation of services for compounds.**
5. **The restoration of such areas to agricultural use is a further issue as subsoiling or deeper ploughing is not within the effective**

control of the project unless by formal agreements with landowners.

6. **The burial of archaeological remains beneath spoil or landscape mounding is a further negative effect that warrants more consideration in terms of potential areas and archaeology affected.**
7. **Criticism of the analysis of the future baseline as the results of the fieldwork are taken at face value and not put in the context of the history of discoveries within the WHS and its environs. As a result the assessment is dismissive of what has already been found and its relevance to OUV.**
8. **The CBA's provisional view is that the loss of archaeological remains within the WHS is a far more serious impact in terms of loss of OUV that the ES claims. A properly and more fully precautionary approach would place far greater weight on their contribution of OUV in terms of being saved for future generations when questions and research techniques will have advanced, thereby potentially offering even more for contributing to future understanding the substance and evolution of places, and of the people and cultures that made them.**

Highways England response

- 21.4.2 In terms of the archaeological reports submitted ahead of Deadline 1, and the extent to which the EIA Regulations have been complied with, the Environmental Statement is complete and robust and fully compliant with the EIA Regulations. A full and comprehensive programme of archaeological evaluation surveys was undertaken to inform the ES, including geophysical survey across all green field areas within the order limits and systematic trial trenching and plough zone artefact sampling, in accordance with an evaluation strategy agreed with HMAG and taking into account advice from the Scientific Committee. The results of those evaluations, together with previous archaeological work detailed in the ES, informed the conclusions in the ES and the HIA. The results of confirmatory survey and sampling work done after submission confirm the archaeological baseline, the approach to mitigation and assessment of effects presented in the ES and they confirm its findings.
9. In terms of named competent experts, as set out in section 1.5 of Chapter 1 of the Environmental Statement [APP-039], the EIA was undertaken by competent experts with the relevant and appropriate experience in their respective topics. The EIA technical leads responsible for the individual chapters are summarised at the start of each chapter and the professional qualifications and experience of each are given in Appendix 1.1. This is in accordance with the requirements of

the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations).

10. The assessment assumptions and limitations are set out in section 6.4 of the cultural heritage chapter of the ES [APP-044] and section 5.6.17 of the HIA [APP-195], in compliance with the requirements of the EIA Regulations to include details of difficulties encountered compiling the required information and the main uncertainties involved. It is considered that the limitations of the methods used have been given appropriate consideration.
11. It is considered that unacceptable impacts of the type referred to in the written representation would be avoided by the implementation of the measures in the Detailed Archaeological Mitigation Strategy (DAMS).
12. The draft DAMS submitted at Deadline 2 [REP2-038] identifies areas where protection of remains in situ is proposed. The DAMS will be developed further during Examination in consultation with HMAG/WCAS and the final DAMS will be a certified document, implementation of which will be secured as mentioned above by paragraph 5 of Schedule 2 to the draft development consent order [REP2-003]. Development of the DAMS will address the technical requirements to achieve the desired mitigation for the measures mentioned in the written representation.
13. (4) Section 4 of the draft DAMS identifies the approach to temporary haul roads and site compounds. Item MW-CH5 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) requires that the main works contractor will prepare a Method Statement setting out how it intends to preserve in situ sensitive archaeological remains and prevent deformation of topsoil/subsoil horizons (including no-dig solutions), and how the measures would be reversed following the end of construction (e.g., removal of temporary compounds).
14. Land which is currently in agricultural use, and which is used for temporary construction compounds by exercise of the powers of temporary possession in the DCO, will be returned to agriculture; the Applicant will have no control, over the use of such land thereafter and it is not therefore possible to restrict normal agricultural practices in these areas.
15. In terms of the burial of archaeological remains beneath spoil or landscape mounding, it is not considered that this would amount to a negative effect. The protection of archaeological remains in situ, where practicable, is a principal objective of the DAMS. Development of the DAMS will consider relevant guidance published by Historic England in order to further develop the approach and to define areas where this can be achieved, in consultation with HMAG and (where appropriate) WCAS.

16. Our approach to consideration of the future baseline is addressed in our response to 21.1.1.
- 21.4.3 The applicant does not accept that the assessment is dismissive of what has already been found and its relevance to OUV. Previous discoveries within the WHS and its environs are considered in ES Appendix 6.10 [APP-219] and Annex 4 of the HIA [APP-199]. With regard to the evaluation results, the detailed reports [REP-040 to REP2-046] consider the results in the context of the WHS and discoveries within its environs.
- 21.4.4 The Applicant does not accept that the loss of archaeological remains and the consequent impact on the OUV of the WHS has been underestimated. The assessment has considered the requirement to contribute to the understanding of and the presentation and transmittal to future generations of the cultural heritage of the WHS. The Applicant has identified in detail the extensive problems that are currently caused or exacerbated by the existing A303, and has further identified why the Scheme is vital in addressing those problems to the benefit of the region including the WHS itself. It is an unpersuasive position to assert that the Scheme should be prevented from being progressed in the face of a speculative argument that future technology may discover more information in this area of the WHS. This is particularly the case having regard to the comprehensiveness of the assessment undertaken and the mitigation measures in place in the Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038]. The application documents, in particular the Case for the Scheme [APP-294], have set out the need for the Scheme; it is neither appropriate nor a feasible approach to delay or prevent a development on the basis that there could potentially be better technologies in future. Taking that approach, no infrastructure would ever be delivered, despite the need for it. In any event, were future technologies to be developed, the Applicant has built into the Scheme via the DAMS the ability to allow for archaeological remains that are excavated as part of the Scheme works to be preserved in anticipation of further analysis.
- 21.4.5 The HIA and ES consider the value of known archaeology in terms of its contribution to OUV (see the HIA [APP-195] section 6.10.32 – 6.10.34 and ES baseline [APP-044, paras 6.6.13 - 6.6.52]). Criteria for determining the value of heritage assets follows Volume 11, Part 3, Annex 5, 6 and 7 of the Design Manual for Roads and Bridges (Highways Agency 2007). The HIA has been prepared following ICOMOS guidelines (https://www.icomos.org/world_heritage/HIA_20110201.pdf). The scope and approach of this assessment, which is reported in ES Appendix 6.1 [APP-195], was endorsed by UNESCO/ICOMOS in their report from their third advisory mission on the scheme early in 2018 (<https://whc.unesco.org/en/list/373/documents/>). The Applicant considers that the HIA has been carried out accurately and with a full appreciation and understanding of the importance of the WHS and its OUV (including the

contribution from archaeological remains). As a result, the Applicant does not accept that the harm to the OUV of the WHS has been underestimated.

- 21.4.6 The mitigation measures proposed in the DAMS take an appropriately precautionary approach, having full regard to the results of the assessments undertaken in the ES and the HIA, and informed by a comprehensive programme of archaeological evaluation surveys.
- 21.4.7 The Scheme supports the development of scientific and technical studies and research regarding the UK's cultural heritage. The development consent application for the Scheme is accompanied by what is, in terms of major highways projects, an unprecedented level of detail of investigation in accordance with an archaeological evaluation strategy developed in consultation with HMAG and with input from the Scientific Committee. This has comprised up-to-date geophysical survey of the full red line boundary, ploughzone artefact sampling across all areas evaluated, and trial trenching to augment the previous work to achieve an overall sample of up to 5% by area outside of the WHS and up to 10% by area within the WHS, and taking into account the emerging results of academic research programmes undertaken over the last decade. Indeed, the draft DAMS [REP2-038] requires that scientific and technical studies and research into the results of those investigations will continue for years to come (see section 8.2, Outline Publication & Dissemination Proposals of the DAMS).

Key Issue

- 21.4.8 **Article 4 of the World Heritage Convention:**
- “Each State Party to this Convention recognizes that the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage referred to in Articles 1 and 2 and situated on its territory, belongs primarily to that State. It will do all it can to this end, to the utmost of its own resources”.***

Highways England response

- 21.4.9 In full recognition of its obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972), the Government is making a substantial investment in funding a tunnel past Stonehenge to bring extensive benefits to the WHS. Compliance with UK Legislation and planning policies will be tested through the DCO process. The Applicant considers that the Scheme does not violate the World Heritage Convention, for the reasons set out in section 7.2 of the Case for the Scheme [APP-294] submitted with the application and in response to Written Question G.1.1 [REP2-021].
- 21.4.10 Article 4 of the WHC places a duty on each State Party as set out in the Written Representation.

- 21.4.11 Like any legal instrument, the WHC has to be read as a whole and Article 4 must be read alongside the wording of Article 5. Article 5 sets out the specific steps a State Party must take pursuant to the duty in Article 4.
- 21.4.12 Article 5 therefore establishes that how Article 4 is implemented in practice is up to each State Party. Each State Party must “endeavour”, “in so far as possible”, “and as appropriate for [the State Party’s] country” to take the steps set out in Article 5. Article 4 does not impose any specific action or binding commitment on a State Party. It is left to the State Party to determine the extent of the obligations and the mode of their performance. There is discretion as to what steps the State Party takes and “considerable latitude” as to their precise actions.
- 21.4.13 The UK has taken the steps required by Articles 4 and 5 by putting in place the UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets – namely, the UK’s national policy statements, NPPF, Planning Act 2008 provision, and established approach to assessment of impacts on heritage generally and the balancing of factors in decision making. The protection and conservation of world heritage sites is integrated into the comprehensive planning programme in the UK for nationally significant infrastructure projects (as required by the Article 5(a)), and the appropriate measures taken by the UK in legislation and policy surrounding planning decisions including the NPSNN for the protection, conservation, presentation and rehabilitation of world heritage sites (required by Article 5(d)) place great weight on their harm. It follows that the application of the planning balance envisaged in the NPSNN, by the Secretary of State, would be in accordance with Articles 4 and 5. The NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294] demonstrates that the Scheme complies with the requirements of the NPSNN with respect to the WHS. For further detail in terms of compliance with the World Heritage Convention, see the response to Written Question G.1.1 [REP2-021].
- 21.4.14 With respect to the specific impact of the scheme on the WHS, the Heritage Impact Assessment (HIA) [APP-195] submitted with the application assesses the impact of the proposed scheme on the attributes of the OUV, integrity and authenticity of the WHS. It also considers the alignment of the Scheme with the vision, aims and policies of the 2015 WHS Management Plan and the criteria for the site’s inscription as a WHS. The scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on 3 of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained, and it is clear that, in line with Articles 4 and 5 of the WHC, the Scheme – and any decision

to grant consent for it - would not put the UK in breach of the duty to protect and conserve the cultural and natural heritage of the WHS.

- 21.4.15 It follows from this, and from the Scheme's compliance with the NPSNN policies relevant to the provisions of the WHC, that deciding in favour of the Scheme would not lead the UK to a breach of its international obligations of the WHC.

Key Issue

- 21.4.16 **Does not accurately reflect the relevant policy framework of the National Policy Statement for National Networks (NPSNN 2014) and the WHS Management Plan (2015) NPS Test**
- 21.4.17 **The CBA has significant concerns that the ES coverage of Cultural Heritage effects does NOT adequately reflect the relevant policy framework of the National Policy Statement for National Networks (2014) and the WHS Management Plan (2015) which is the UKs commitment to its international obligations under the UNESCO WH Convention 1972. This is reflected in several shortcomings:**
17. **lack of clarity of the relative strength of the WHS management plan compared with NPSNN in respect of the WHS.**
 18. **flaws in the criteria used in assessment**
 19. **insufficient attention to limitations and uncertainties**
 20. **underestimating the significance of adverse effects tending to belittle harm to the OUV of the Stonehenge WHS and exaggerate benefits.**
- 21.4.18 **These are further explained in a detailed commentary on key policy provisions in Appendix D.**

Highways England response

- 21.4.19 The assessments with respect to cultural heritage in Chapter 6 of the Environmental Statement [APP-044], and the accompanying Heritage Impact Assessment (HIA), in ES Appendix 6.1 [APP-195] have been carried out in compliance with the relevant policy requirements.
- 21.4.20 With respect to the National Policy Statement for National Networks (NPSNN) requirements, NPSNN is concerned to avoid substantial harm to heritage assets, and includes requirements in relation to the balancing of less than substantial harm against the public benefit of the development. The assessment has been carried out having regard to the NPSNN requirements and the Scheme's compliance with the NPSNN requirements is demonstrated in the NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294]. The ES notes NPSNN considerations in respect of WHS in Table 6.1. The HIA [APP-195] assesses the impact of the proposed Scheme on the Attributes that convey the OUV of

the WHS, their Integrity and Authenticity, as well as the alignment of the Scheme with the vision, aims and policies of the 2015 WHS Management Plan and the criteria for the site's inscription as a WHS. The HIA and ES [APP-044] have considered the Stonehenge, Avebury and Associated Sites WHS Management Plan 2015, and the WHS Management plan is specifically considered as a relevant plan [APP-044, para. 6.2.6].

- 21.4.21 The HIA concludes that the overall effect on the OUV of the WHS would be slight beneficial and the OUV will be sustained by the construction of the Scheme. The HIA is a comprehensive assessment that has been prepared following ICOMOS guidelines (https://www.icomos.org/world_heritage/HIA_20110201.pdf). The scope and approach of this assessment is reported in ES Appendix 6.1 [APP-195], and was endorsed by UNESCO/ICOMOS in their report from their third advisory mission on the scheme early in 2018 (<https://whc.unesco.org/en/list/373/documents/>). The Applicant considers that the HIA has been carried out accurately and with a full appreciation and understanding of the importance of the WHS and its OUV. The Applicant does not accept that the assessments have underestimated the significance of adverse effects nor the harm to the OUV of the WHS.
- 21.4.22 In terms of compliance with the obligations under the World Heritage Convention, the UK has taken the steps required by Articles 4 and 5 of the convention by putting in place the UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets – namely, the UK's national policy statements, NPPF, Planning Act 2008 provision, and established approach to assessment of impacts on heritage generally and the balancing of factors in decision making. The protection and conservation of world heritage sites is integrated into the comprehensive planning programme in the UK for nationally significant infrastructure projects (as required by the Article 5(a)), and the appropriate measures taken by the UK in legislation and policy surrounding planning decisions including the NPSNN for the protection, conservation, presentation and rehabilitation of world heritage sites (required by Article 5(d)) place great weight on their harm. It follows that the application of the planning balance envisaged in the NPSNN, by the Secretary of State, would be in accordance with Articles 4 and 5. As noted above, the NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294] demonstrates that the Scheme complies with the requirements of the NPSNN with respect to the WHS. Further details are provided in relation to the World Heritage Convention and the Scheme's compliance with those requirements in response to Written Question G.1.1 [REP2-021].
- 21.4.23 In terms of assessment limitations and uncertainties, the assessment assumptions and limitations are set out in section 6.4 of cultural heritage chapter of the ES [APP-044] and section 5.6.17 of the HIA [APP-195], in compliance with the requirements of the EIA Regulations to include details of

difficulties encountered compiling the required information and the main uncertainties involved.

Key Issue

21.4.24 Preliminary overall assessment of the adequacy of Deadline 1 archaeological reports to inform the decision and the extent to which EIA requirements have been fulfilled:

- **Lack of Lidar, multi-spectral satellite imagery, soil chemistry, and ground penetrating radar.**
- [...]
- **Criticism of lack of information on sampling strategies etc., reliance on evaluation, extremely dismissive of the relevance to OUV of what HAS ALREADY been found. By not setting the results firmly in the history of remarkable discoveries within the WHS and within its environs, the conclusions appear to be extremely complacent.**
- [...]

Highways England response

21.4.25 Highways England acknowledges the Council for British Archaeology's (CBA) comments regarding the archaeological evaluation and survey reports [REP1-039 – REP1-056]. We note that comments are only preliminary therefore we await the CBA's further consideration of these aspects.

21.4.26 A comprehensive programme of archaeological evaluations, the scope of which was agreed with the Heritage Monitoring Advisory Group (HMAG) and endorsed by the Scientific Committee, has been completed within the scheme red line boundary, which includes land to be acquired temporarily and permanently, both within and outside of the WHS. As explained in response to 21.4.66 and 21.4.75, the programme of archaeological evaluation surveys was reported on in ES Chapter 6, Cultural Heritage [APP-044] and the Heritage Impact Assessment (HIA) [APP-195], and the conclusions of those assessments were informed by the results detailed in the evaluation reports as well as the previous archaeological work in the WHS. The cultural heritage assessment, reported in Chapter 6 of the ES [APP-044], provides detail of the archaeological evaluation surveys and assessments that have been undertaken to inform the design of the scheme and on which the cultural heritage assessment is based.

21.4.27 Within the WHS, the results of research surveys by Historic England and the Stonehenge Hidden Landscape Project have been considered in compiling the baseline for the ES, where results have been available. Existing Environment Agency LiDAR data and existing aerial photographs were reviewed against the 2011 updated National Mapping Programme plots, which themselves incorporated material plotted from LiDAR data. Ground penetrating radar surveys have been undertaken of the western portal and

- approaches, together with targeted GPR survey across the Scheme of specific locations of interest identified by detailed magnetometer survey.
- 21.4.28 The significance of what has already been found is considered in the HIA [APP-199] and ES baseline [APP-044, paras 6.6.13 - 6.6.52], applying the criteria for determining the value of heritage assets set out in Volume 11, Part 3, Annex 5, 6 and 7 of the Design Manual for Roads and Bridges (Highways Agency 2007). Non-designated isolated and discrete archaeological assets relevant to the OUV of the WHS are considered in the HIA [S. 6.10.32 – 6.10.34].
- 21.4.29 The HIA has been prepared following ICOMOS guidelines (https://www.icomos.org/world_heritage/HIA_20110201.pdf). The scope and approach of this assessment was endorsed by UNESCO/ICOMOS in their report from their third advisory mission on the scheme early in 2018 (<https://whc.unesco.org/en/list/373/documents/>). The Applicant considers that the HIA has been carried out accurately and with a full appreciation and understanding of the importance of the WHS and its OUV, and having appropriate regard to the previous archaeological work in the WHS. Full details of the engagement with ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.
- 21.4.30 The trial trench sample investigated was agreed with HMAG taking into account the sample previously investigated in connection with earlier iterations of the A303 improvement proposals. The target sample strategy applied sought to augment the previous trial trenching to achieve an overall sample of up to 5% by area within the WHS and up to 10% by area outside of the WHS. These parameters were set out in the Archaeological Evaluation Strategy Report (AESR) developed with input from the Scientific Committee and approved by HMAG.
- 21.4.31 As a result, the scheme has been designed in a way that has limited archaeological impacts as far as practicable, including within the WHS.
- 21.4.32 All archaeological evaluation programmes have been completed, and the results reported in the reports submitted to the Examination on 12 April, as promised at the Preliminary Meeting (see Examination Library Reference REP1-039 to REP1-056). As set out in Highways England's letter dated 19 April enclosing Deadline 1 submissions, there are three reports requested to be published by HMAG which are to be published at Deadline 3: two short technical reports relating to the Western Portal Approaches on charcoal and snails respectively, and an assessment of flint and tree throw distributions.

Key Issue

- 21.4.33 **Spatial clusters of assets that are not recognised in the WHS Management Plan. Their identification and rationale is outlined but not fully discussed or justified in relation to key issues of OUV and the evolution of the Stonehenge landscape (cf Q CH.1.8). A whole treatise could be written on this topic (indeed several have been), but the key**

point with regard to tests set by the WHS Management Plan and NSPNN, is that all current research indicates that the location and distribution of monuments through the landscape over time is the product of changing ideas and perceptions over millennia of prehistory, not static intentions to create the distributions and clusters that are perceived now – in this case often just for the convenience of assessment.

- 21.4.34 **An approach more firmly attuned to the OUV of the WHS as set out in the WHS Management Plan would examine how the setting and interrelationships of monuments contribute to OUV, and only then treat as groups those that have arisen from real interrelationships of function and locality (such as linear barrow cemeteries on ridge lines). This also needs to recognise that the monuments from which such clusters sprang typically had very different inter-relationships (such as the observation that all the long barrows in and adjacent to the WHS are oriented on one or other end of the Great Cursus, with one of the actually occupying the E end).**

Highways England response

- 21.4.35 The HIA was carried out in accordance with the methodology set out in the HIA Scoping Report, which was endorsed by the Heritage Monitoring and Advisory Group and UNESCO/ICOMOS [APP-195, section 3.3, paras 3.3.4-3.3.6 and REP1-008, Section 5.6]. The selection of the study area was guided by previous assessment work related to developments within the Stonehenge part of the WHS [APP-195, para. 5.10.9], and the scope of the HIA was discussed and agreed with HMAG and the WHS Coordination Unit.
- “The Asset Groups used in this HIA, their extents and their components were discussed and agreed with HMAG.” [APP-195, para. 5.10.10].
- 21.4.36 As noted in the Heritage Impact Assessment [APP-195], “Heritage assets have been grouped with reference to the Attributes of OUV in relation to their location (e.g. proximity and topography), date and inter-relationships (e.g. inter-visibility and grouping). This approach was endorsed in the 2015 Joint World Heritage Centre / ICOMOS Advisory Mission report (ICOMOS 2016, 10).” [APP-195, para. 5.10.8].
- 21.4.37 This method has regard for the setting of individual monuments and groups of monuments and for their overall context in archaeological and landscape terms. “The definition of Asset Groups associated with the WHS has been guided by previous assessment work related to developments within the WHS, including:
- a. ESs and / or HIAs for the Stonehenge Environmental Improvements Project (Wessex Archaeology 2009) and the new Stonehenge Visitor Centre and associated works (Chris Blandford Associates 2009; Chris Blandford Associates 2014; Chris Blandford Associates 2016).

Assessments undertaken at the option selection stage for the A303 Scheme (Highways England 2016a; Highways England 2016b).

Outline Assessments undertaken in relation to the A303 improvement by Historic England and the National Trust (Snashall and Young 2014; *ibid.* 2017).” [APP-195, para. 5.10.9].

Key Issue

- 21.4.38 **A further flaw in the approach is that no clear distinction is made between nationally important assets and internationally important ones – ie those that contribute to or have potential to contribute to the OUV of the WHS. This is an area where the relationship between the EIA and HIA lacks clarity.**

Highways England response

- 21.4.39 The ES and HIA consider and distinguish between nationally and internationally important heritage assets.
- 21.4.40 The ES follows Design Manual for Roads and Bridges (DMRB) Volume 11 Environmental Assessment, Section 3 Environmental Topics, Part 2 Cultural Heritage and the National Planning Policy Framework (NPPF) and National Policy Statement for National Networks (NPSNN) approach has been taken into account.
- 21.4.41 ES Chapter 6, Cultural Heritage, notes that “DMRB Volume 11.3.2, Annex 5 Archaeological Remains, Annex 6 Historic Buildings and Annex 7 Historic Landscape set out guidance on the criteria used for establishing the value of heritage assets comprising historic buildings, archaeological remains and historic landscape features.” [APP-044, para. 6.3.16].
- 21.4.42 In line with the NPPF and NPSNN approach, it is acknowledged that the WHS, Scheduled Monuments and Grade I and II* Listed Buildings are of the highest significance – and of National importance (High value); however, DMRB allows a distinction for internationally important cultural heritage assets to be of Very High value. All those assets that contribute to the OUV of the WHS are therefore assessed as of Very High value in the EIA and HIA. The approach to assessing the value of assets is set out in ES Chapter 6, Cultural Heritage Section 3 [APP-044] and Table 6.2, Criteria for determining the value of heritage assets [APP-044].

Key Issue

- 21.4.43 **The assessment baseline is taken as the ‘present situation’ (para 3.5.1), and specifically, *for the purposes of the EIA existing trees are treated as permanent landscape elements for the purpose of this Setting Assessment; whilst a different approach to existing trees in the landscape is taken in the Heritage Impact Assessment (see Appendix 6.1 5.3.29 – 5.3.30).* There is no discussion of why the baseline is**

different from the ‘bare earth baseline referred to in para 5.3.30-5.3.31 or what difference it makes, but it is a requirement of EIA that cumulative effects are considered, and that includes reasonably foreseeable change even if not yet formally approved. This potentially makes a significant difference, especially in respect of trees that even without a WHS woodland management policy cannot be regraded ‘permanent landscape elements’ (especially when they are relatively recent plantations). Quite apart from the issue that setting issues are not reliant on inter-visibility, this has direct implications for whether the assessment adequately informs how the value that heritage assets including their settings hold for this and future generations is to be judged. From the evidence presented this makes an especially big difference to the assessment at Vespasian’s Camp and Amesbury Park and the Wintebourne Stoke Crossroads Barrow suggesting that the significance of adverse effects have been underestimated

Highways England response

- 21.4.44 Environmental Statement Appendix 6.1 - Heritage Impact Assessment (HIA) [APP-195, paras 5.3.30-31] assumes a ‘bare earth’ baseline derived from the digital terrain model to assess changes in the settings of heritage assets that contribute to Attributes of Outstanding Universal Value (OUV). This excludes both buildings and woodland cover, as many of these modern woodland areas impact adversely on the OUV of the World Heritage Site (WHS), and the Stonehenge and Avebury WHS Woodland Strategy [Chris Blandford Associates 2015, summarised in the 2015 WHS Management Plan, Simmonds & Thomas 2015, para. 7.2.10; 8.5.21 – 8.5.24] advocates a general presumption against new or replacement planting where these would cause a negative impact on the Attributes of OUV. The setting of the Neolithic and Bronze Age monuments which express Attributes of OUV, in particular intervisibility, is not enhanced by modern woodland plantations. On the advice of HMAG and the Stonehenge and Avebury WHS Coordination Unit, a bare earth model was adopted in assessing their setting. Accordingly, the HIA excludes existing woodland cover in assessing Scheme impacts on Attributes of OUV. The assessment of changes in the settings of heritage assets that contribute to Attributes of OUV, and changes in views between assets, assumes a long-term ‘bare earth’ baseline derived from the digital terrain model. There is insufficient chronological, palaeoenvironmental and archaeological data to enable us to return to ‘an authentic prehistoric landscape’ (2015 WHS Management Plan, para. 8.3.15).
- 21.4.45 Unlike the HIA, the Zone of Theoretical Visibility (ZTV) used in the cultural heritage assessment (Environmental Statement Chapter 6 - Cultural Heritage [APP-044, para 3.5.1-2]) takes into account landscape artefacts such as trees, woodland and buildings. In the ES, existing trees and buildings are treated as permanent landscape elements in both the cultural heritage chapter and Environmental Statement Chapter 7 - Landscape and

Visual Effects [APP-045]. The Environmental Statement considers the setting of a wider range of heritage assets than the HIA, as it includes Middle Bronze Age and later archaeological remains and historic landscapes, and medieval and later built heritage assets, which do not express the Attributes of OUV [see APP-195, para. 5.10.29].

- 21.4.46 In the Environmental Statement, assets where the Scheme may have an impact upon setting have been identified based on the Scheme's ZTV modelling established by the Landscape and Visual Impact Assessment and site visits, and also considers physical and historical connectivity between heritage assets. In accordance with The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3 (Second Edition) (Historic England 2017), attributes of their setting are considered to include their physical surroundings, such as green space, trees and vegetation. The winter season is taken as the baseline setting for the Environmental Statement, enabling the 'worst-case' scenario of limited woodland screening to be presented. This is detailed further in Environmental Statement Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218].
- 21.4.47 In summary, a precautionary approach to the assessment has been taken in both the ES, which takes account of vegetation screening in its winter state, and in the HIA, which assumes a 'bare earth' baseline with no vegetation screening. This precautionary approach is evident in the assessment of impacts on the Winterbourne Stoke Crossroads Barrow Group; Vespasian's Camp and Amesbury Park which are not considered in the HIA as they do not contribute to the OUV of the WHS, but are considered in the ES.

Key Issue

- 21.4.48 **Overall, the CBA recognises the beneficial effect of significantly enhancing the setting of Stonehenge, and of other monuments in its vicinity, especially those close to the current A303. For this central part of the WHS and its world-famous central focal monument the removal of the A303 from the surface and opening up of that part of the WHS to greater visitor access would be an undoubted benefit of some magnitude. The scale of this benefit needs to be carefully judged: for example it would be less substantial than the closure of the A344 and closure, down-sizing and re landscaping of the old visitor centre and car park. It would be at the expense of the not insignificant 'view from the road', which for the vast majority of travellers travelling to the SW when traffic is not congested is a very widely recognised landmark moment (for some the sign of arriving in South West England).**

Highways England response

- 21.4.49 The Council for British Archaeology's Written Response notes that the beneficial effect of placing the road in tunnel "would be at the expense of the not insignificant 'view from the road', which for the vast majority of travellers

travelling to the SW when traffic is not congested is a very widely recognised landmark moment (for some the sign of arriving in South West England)”.

- 21.4.50 The tunnel is a fundamental part of the Scheme, designed to bring substantial benefits to the WHS. This inevitably means losing the view of Stonehenge from the A303, but the experience for visitors to the WHS would be considerably enhanced, and access would be readily and freely available via the new public right of way to be created along the old A303 through the WHS, accessible from Winterbourne Stoke, Amesbury and connecting rights of way, as well as via the Stonehenge visitor centre.
- 21.4.51 A principal aim of the Scheme, supporting the aims of the World Heritage Site (WHS) Management Plan 2015, is to remove the surface A303 and the sight and sound of traffic using it from much of the WHS landscape, thereby re-uniting Stonehenge with its surrounding monuments in their natural chalk downland setting.
- 21.4.52 Whilst the Stonehenge monument will not be visible from the A303 once the tunnel is built, there will be a significant opportunity for the public to view the Stonehenge monument from the enhanced public rights of way network, (as shown on the Rights of Way and Access Plans [APP-009]) notably the restricted byway being created on the line of the existing road. Visitors will continue to have free access by using the public rights of way that cross the WHS landscape and via the National Trust's right to roam policy. In terms of the reference to the closure of the A344 and the scale of the benefit to the Stonehenge monument of removing the A303 from the central part of the WHS, that benefit has been carefully considered and is assessed to be a very large beneficial effect, as set out in the Heritage Impact Assessment [APP-195].

Key Issue

- 21.4.53 **Impact interactions and their cumulative effect on major characteristics of the environment – especially those aspects that are afforded high level of protection or are especially sensitive and vulnerable to change**
- **impact interactions in respect of landscape and visual effects**
 - **hydrological interaction with waterlogged archaeological deposits at Blickmead; the Wilsford shaft not identified or assessed**

Highways England response

- 21.4.54 The combinations of impacts which were considered likely to result in a new or different likely significant effect, or an effect of greater significance than any one of the impacts on its own, have been assessed in section 15.3 of Environmental Statement Chapter 15 - Assessment of Cumulative Effects [APP-053, CH.1.23]
- 21.4.55 The HIA notes that “Cumulative impacts can arise from multiple effects of the same scheme, multiple effects of other schemes, or incremental effects

arising from a number of actions over time, on a heritage asset or Asset Group conveying Attributes of OUV.” [APP-195, para. 10.1.1]. “In selecting relevant potential for cumulative impacts, the HIA has had regard to those identified in the 2018 State of Conservation Report (DCMS 2018). The HIA has assessed the potential for cumulative impacts on the Attributes of the OUV of the WHS of committed developments [...]” [APP-195, para. 1.10.3]. “In addition, the potential combinations of impacts which are considered likely to affect a single receptor have also been assessed.” [APP-195, para. 5.5.7].

- 21.4.56 The assessment of effects on cultural heritage and identification of appropriate mitigation measures was undertaken drawing on data from other topics including Air Quality; Biodiversity; Geology and Soils; Landscape and Visual; Noise and Vibration; Road Drainage and the Water Environment; Material Assets and Waste; Traffic; People and Communities; Climate; and the highways and tunnel design (as confirmed at Environmental Statement Chapter 6 - Cultural Heritage, para 6.3.8 [APP-044], as well as at Chapter 15 – Assessment of Cumulative Effects, para 15.2.17). The construction phase of the Scheme was considered to have the greatest influence on impact interactions. It was considered that the combined construction phase visual, dust and noise impacts could interact to result in a greater significance of effect than each of the impacts acting in isolation. Visual, dust and noise effects on heritage receptors are considered within the assessment of construction and operational impacts and effects in Environmental Statement Chapter 6 – Cultural Heritage [APP-044], hence the reason that their combined effects are not dealt with in chapter 15. [CH.1.23].
- 21.4.57 The cultural heritage receptors were reviewed again for the purposes of the in combination assessment and it was concluded that combined effects did not elevate the overall effects on cultural heritage receptors into the combined effect significance definitions in Table 15.1 of Environmental Statement Chapter 15 - Assessment of Cumulative Effects [APP-053] [CH.1.23].
- 21.4.58 Potential operational in-combination impacts were identified for visitors to the World Heritage Site (WHS) (human receptors). These in-combination impacts include visual impacts (moderate) cultural heritage impacts (improved public access to WHS), and noise impacts (major reduction in operational traffic noise at Stonehenge), which are assessed to result in a Large beneficial effect as shown in Table 15.4 of Environmental Statement Chapter 15 - Assessment of Cumulative Effects [APP-053] [CH.1.23].

Blick Mead

- 21.4.59 The implications of the Scheme for the Blick Mead site have considered potential impacts on groundwater levels and flows at the site, including the influence of highway drainage on water levels, concluding that the drainage may be contributing some overland flow to the Blick Mead site, though only during times of heavy rainfall. The assessment shows that there will not be

any adverse effects on spring flows at Blick Mead, or the preservation of its archaeological remains. However, given the interest in the site, both from members of the public and heritage bodies, hydrological monitoring at Blick Mead will continue and will include monitoring of the small-scale groundwater environment, including in relation to water levels and water quality at shallow depths. Further investigation and monitoring will be undertaken and is the subject of ongoing discussion with Historic England, the land owner and other interested stakeholders. Monitoring is ongoing. Further information can be found in ES Chapter 11, Appendix 4, Annex 3 Blick Mead Tiered Assessment [APP-282], which was completed in accordance with Historic England's guidance.

- 21.4.60 The Scheme's potential impacts on groundwater levels and flows have been assessed and the assessment has shown that there will not be any adverse effect on groundwater levels at Blick Mead, or the preservation of its archaeological remains. Further information can be found in ES Chapter 11, Appendix 4, Annex 3, Blick Mead Tiered Assessment [AP P-282], which was completed in accordance with Historic England's guidance.
- 21.4.61 The Scheme alignment is optimised past Blick Mead, to avoid land-take and to keep the road at existing grade. [APP-044, para. 6.8.5].
- 21.4.62 Potential Scheme impacts near Blick Mead [Wiltshire Historic Environment Record MWI74473; MWI74449; EWI7131; EWI8052; EWI8064; EWI8473; UID 4032] are assessed in Table 1.2: Construction phase: permanent physical impacts – archaeological assets [APP-217, p. 5], Potential impacts from channel cleaning on the Avon floodplain, potentially disturbance of archaeological and ecofactual remains close to the known Blick Mead site and to similar environments close to the River Avon, would be mitigated by archaeological investigations undertaken in advance of minor clearance of exiting drainage. Following mitigation, it is assessed that this would result in no change to this High Value asset, resulting in a Neutral residual effect.

Wilsford Shaft

- 21.4.63 The pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft' (scheduled monument NHLE 1010833; Wiltshire Historic Environment Record MWI12519; UID 2016) is noted in ES Chapter 6 [APP-044].
- 21.4.64 Appendix 6.10: Previous archaeological and antiquarian investigations within the Stonehenge World Heritage Site and its environs [APP-219] notes that Wilsford 33a “was a pond barrow that was excavated between 1960 and 1962 by Paul Ashbee and Edwina Proudfoot, revealing the Wilsford Shaft, a cylindrical prehistoric shaft over 30m deep and only 2m in width. The bottom layers of its filling were waterlogged and preserved organic materials including rope, wool and the remains of wooden buckets (Darvill 2005, 10 and 143; Richards 1991, 38; Richards 2017, 141–142).” The shaft was fully excavated as was the practice at the time: “The bottom of the shaft was

reached in August 1962 and the fieldwork was completed shortly thereafter.” (Ashbee, Bell & Proudfoot, 1989, p.1). As an excavated asset, it reflects “Attribute 7, The influence of the remains of the Neolithic and Bronze Age funerary and ceremonial monuments and their landscape setting on architects, artists, historians, archaeologists and others.” [APP-196, para. 6.10.6].

21.4.65 The form of the excavated shaft survives as a buried feature, and has been assessed in accordance with the assessment criteria set out in Table 6.6 of the Environmental Statement [APP-044] as follows:

- Table 6.10: Summary of significant effects – construction (temporary) [APP-044] assesses that the visual and aural impact of the construction of main carriageway and western portal, haul roads and construction traffic/plant, result in a moderate impact on its setting. The resulting effect upon this Very High value asset during the construction phase is large adverse and temporary.
- Table 1.3: Construction phase: permanent – Asset Groups and discrete assets (setting) in Appendix 6.8, Summary of Non-Significant Effects [APP-217, p.8] assesses that changes due to the visual impact of roads and associated infrastructure (main carriageway; cutting approach to western portal; western portal; tunnel (removal of present A303 surface road)) result in a negligible impact on its setting. The resulting effect upon this Very High value asset during the construction phase is slight adverse and permanent.
- Table 6.12: Summary of significant effects – operation (permanent) [APP-044] notes that the tunnel and cutting approach would result in reduced impact of traffic which would have a positive influence upon the setting of the asset, resulting in a minor impact. The resulting effect upon this Very High value asset during the operational phase is assessed as moderate beneficial and permanent.

Key Issue

21.4.66 **The fieldwork reports presented do not cover the full scope of work carried out; nor are they fully integrated with previous evaluations relied upon to fill gaps. Although the coverage of geophysics is full, it is only reliable for the clearest linear features, with almost none of the significant small features (burials pits etc) encountered in trenching having been identified. The topsoil artefact recovery was much better at identifying non-monumental areas of prehistoric activity. Over the whole footprint of the scheme the density of trenching was very low, and though more intensive for the proposed road foot print, it is clear that vastly more archaeology related to non-monumentalised graves and living areas is likely to be present than has been uncovered to date.**

Highways England response

21.4.67 The development consent application for the Scheme is accompanied by an unprecedented level of detail of investigation of the area of the WHS covered by the Scheme in accordance with an archaeological evaluation strategy developed in consultation with HMAG and with input from the Scientific Committee. This has comprised up-to-date geophysical survey of the full red line boundary, ploughzone artefact sampling across all areas evaluated, and trial trenching to augment the previous work to achieve an overall sample of up to 5% by area outside of the WHS and up to 10% by area within the WHS, and taking into account the emerging results of academic research programmes undertaken over the last decade. Indeed, the draft Detailed Archaeology Mitigation Strategy (DAMS) [REP2-038] requires that scientific and technical studies and research into the results of those investigations will continue for years to come (see section 8.2, Outline Publication & Dissemination Proposals of the DAMS).

21.4.68 A full and comprehensive programme of archaeological evaluation surveys has been completed. As noted in ES Chapter 6, Cultural Heritage [APP-044], *"A comprehensive programme of archaeological field work has been undertaken to inform the assessment, both inside and outside the WHS. The scope of the field work programme within the WHS has been developed in consultation with HMAG and the Scientific Committee to reflect approaches employed by current academic research projects in the WHS. Outside the WHS, a similarly detailed approach combining detailed geophysical survey, sampling of artefacts in the plough zone and targeted trial trenching has been employed to ensure a consistent approach across the Scheme [...] The comprehensive programme of archaeological fieldwork has included detailed geophysical survey across the area defined by the Scheme boundary, surface artefact collection procedures including test pitting with accompanying sieving and sieving samples of the topsoil from intrusive trial trenching, as well as extensive trial trenching of the Scheme main line footprint and land take for landscaping and excavated material deposition"* [APP-044, paras. 6.6.13 - 6.6.14]. Archaeological evaluation was carried out in accordance with:

- An Archaeological Evaluation Strategy and Overarching Written Scheme of Investigation for Archaeological Evaluation developed in consultation with and approved by the Heritage Monitoring and Advisory Group (HMAG) and with input from the Scientific Committee of independent experts set up to advise the Scheme through HMAG; and
- Individual Site Specific Written Schemes of Investigation (SSWSIs) approved by HMAG.

"The majority of the land within the Scheme boundary has been evaluated by recent detailed archaeological geophysical surveys, either as part of academic projects or in support of the Scheme. This provides a robust baseline against which to assess the impact of the Scheme. Additional

evaluation fieldwork has been completed for sections of the Scheme within and adjacent to the WHS (eastern portal and approaches, western portal and approaches, new Longbarrow junction and approaches, and the Rollestone Corner improvement)" [APP-044, paras. 6.6.13 - 6.6.14].

- 21.4.69 Much of the Winterbourne Stoke bypass alignment was archaeologically evaluated for previous A303 improvement schemes [see ES Appendix 6.10 - Previous archaeological and antiquarian investigations within the Stonehenge World Heritage Site and its environs, [APP-219].
- 21.4.70 Fieldwork was undertaken between January and August 2018 and the results of that work were reported in paragraphs 6.6.13- 6.6.52 (fieldwork) and paragraphs 6.6.53 to 6.6.111, Appendix 6.2 [APP-211] and Figures 6.8 [APP-074] (baseline) of the Environmental Statement. The conclusions of the Environmental Statement were informed by those results, the non-intrusive archaeological geophysical survey of the entire Scheme boundary (referred to at ES paragraph 6.4.1(f) and Appendix 6.10 [APP-219]) and the results of historic surveys and fieldwork (referred to in ES paragraph 6.6.15 and summarised and listed at ES Appendix 6.10). This allowed a robust assessment of baseline (as referenced above), approach to mitigation (ES section 6.8) and likely significant effects (ES section 6.9).
- 21.4.71 Confirmatory surveys and sampling consisting of trial trenching on the Winterbourne Stoke Bypass, test pitting on one part of the Western Portal approach and geophysical surveys at Countess East and Amesbury Road were completed in October 2018.
- 21.4.72 The results of this confirmatory survey and sampling work were reviewed against the archaeological baseline, approach to mitigation and assessment of effects presented in the ES and they confirm its findings. No changes to the conclusions as to the likely significant effects of the Scheme were identified or were required. Archaeological Evaluation and Survey Reports were submitted to the Examination on 12 April 2019 [REP1-041 – REP1-056] and provide the detail behind the results and baseline already reported in paragraphs 6.6.13-6.6.52 and 6.6.53-6.6.111, Appendix 6.2 and Figure 6.8 respectively of the Environmental Statement, and also incorporate the results of the confirmatory surveys and sampling referred to above. The reports have been subject to detailed review and comment by HMAG.
- 21.4.73 The results of the 2018 archaeological evaluation surveys, confirmatory surveys and sampling work have been incorporated into the detail of mitigation and areas for preservation in situ, set out in the draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038]. The draft DAMS has been prepared in consultation with the HMAG, who will continue to be consulted as the DAMS is finalised prior to the end of the Examination.
- 21.4.74 It is clear from the above, that a comprehensive programme of archaeological evaluation has been undertaken, reflecting the sensitivity of the archaeology and its context. As a result, uncertainty as to the likely

archaeological findings of the archaeological mitigation works, that will be undertaken at the preliminary works phase prior to construction, has been substantially removed. In addition, the majority of archaeological works are being undertaken in the Preliminary Works phase to mitigate against the risk of unforeseen finds being located within the Main Works. Archaeological remains would be excavated and recorded during the Preliminary Works phase, in advance of construction, to avoid, as far as is practicable, previously unknown archaeological remains being uncovered during construction. In line with paragraph 5.1.10 of the draft DAMS, if unexpected finds (sites, artefacts, environmental remains or ecofacts, monuments or features) were made during the Preliminary Works or Main Works stages a site consultation meeting(s) would be convened between the Archaeological Contractor, HMAG / WCAS and the Technical Partners' Archaeologist to consider the significance of the finds. Depending on the outcome of the consultation meeting, an addendum to the Site Specific Written Scheme of Investigation or a new Site Specific Written Scheme of Investigation would be prepared by the Archaeological Contractor for approval by the Technical Partners' Archaeologist, in consultation with HMAG / WCAS.

Key Issue

- 21.4.75 **The likely scale of these losses is not fully reported in the assessment of effects presented in the ES (Chapter 6, section 6.9), nor in the Heritage Impact Assessment (section 11). This strongly reinforces the CBA's concern that those assessments substantially underestimate the harm to the OUV of the WHS and environs in respect to paragraph 2.3.10 and p.28 of the WHS Management Plan and what NSPNN para 5.124 refers to as the 'primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.'**

Highways England response

- 21.4.76 As stated above, a comprehensive programme of archaeological evaluation surveys has been completed, representing an unprecedented level of detail of investigation of the area of the WHS covered by the Scheme. This is reported on in ES Chapter 6, Cultural Heritage [APP-044], the conclusions of which were informed by the results detailed in the evaluation reports as well as the previous archaeological work in the WHS.
- 21.4.77 A comprehensive Heritage Impact Assessment has been prepared following ICOMOS guidelines (https://www.icomos.org/world_heritage/HIA_20110201.pdf). The scope and approach of this assessment, which is reported in ES Appendix 6.1 [APP-195], was endorsed by UNESCO/ICOMOS in their report from their third advisory mission on the scheme early in 2018 (<https://whc.unesco.org/en/list/373/documents/>). The Applicant considers that the HIA has been carried out accurately and with a full appreciation and

understanding of the importance of the WHS and its OUV. The Applicant does not accept that the harm to the OUV of the WHS has been underestimated. Full details of the engagement with ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.

Key Issue

- 21.4.78 **These results show more clearly that aspects of the setting of monuments that contribute to their significance and the OUV of the WHS would be harmed to a greater extent than recognised in the ES and HIA.**

Highways England response

- 21.4.79 The results give rise to no change in the assessments in the ES or the HIA.
- 21.4.80 As explained in response to 21.4.66 and 21.4.75, a comprehensive programme of archaeological evaluation surveys has been completed, and reported on in ES Chapter 6, Cultural Heritage [APP-044] and the Heritage Impact Assessment (HIA) [APP-195]. The conclusions of those assessments were informed by the results detailed in the evaluation reports as well as the previous archaeological work in the WHS.
- 21.4.81 The archaeological evaluation and survey reports provide the detail behind the results and baseline already reported in paragraphs 6.6.13-6.6.52 and 6.6.53-6.6.111, Appendix 6.2 and Figure 6.8 respectively of the Environmental Statement, and also incorporate the results of the confirmatory surveys and sampling on the Winterbourne Stoke Bypass, at Countess East and Amesbury Road. The results of this confirmatory survey and sampling work were reviewed against the archaeological baseline, approach to mitigation and assessment of effects presented in the Environmental Statement Chapter 6 - Cultural Heritage [APP-044] and Environmental Statement Appendix 6.2 - Archaeology Baseline Report [APP-211] as well as the HIA [APP-195] and they confirm their findings. No changes to the conclusions as to the likely significant effects of the Scheme or its impacts on the OUV of the WHS (which includes the setting of the monuments contributing to the significance and OUV of the WHS) were identified.

Key Issue

- 21.4.82 **The fieldwork results strongly substantiate the case for the WHS being extended W of the A360 – with significant implications, both in terms of the setting of the WHS as presently defined, and the monuments in the vicinity that contribute to its OUV. This also has major implications for alternative options and the potential future extent of the WHS if different solutions were found to deal with both the A303 and the A360.**

Highways England response

21.4.83 The implications of the results for the setting of the WHS as presently defined and monuments in the vicinity are assessed in the ES and HIA as set out above. In relation to any future extent of the WHS, the WHS inscription sets the boundaries of the site. Any change in the boundaries would be a matter for agreement with UNESCO. While this is outside the scope of the Scheme, the archaeological assessment has carefully considered the archaeology along the full length of the Scheme, whether inside or outside the current WHS boundaries, and as a result the proposed boundary review would not have an impact on the outcomes of the assessment. For further detail in this respect, see the response to Written Question CH.1.58 [REP2-025]. In relation to any implications for alternative options, please see ES Chapter 3.

Key Issues

- 21.4.84 **The present boundaries of the Stonehenge WHS conform broadly with the area defined by Colt Hoare almost two hundred years ago as the Stonehenge Environs. This reflection of past archaeological views valid in their time should not preclude incorporation of research results from the last two decades, nor the influences of evolving management and conservation policy for the Stonehenge landscape. In the light of new discoveries in the last two decades, there is a clear case for reviewing the WHS boundaries and grappling with the issues arising.**
- 21.4.85 **In respect of adverse effects the cumulative loss of archaeological sites and remains that contribute to OUV would be irreversible and in NSPNN terms would be substantial harm to significant parts of the internationally designated WHS (cf Q CH.1.37). The physical creation of the cutting earthworks, retaining walls, canopies and tunnel portals, together with the reconfigured A360 grade-separated junction as proposed would result in cumulatively very significant harm to the WHS OUV of the relationships between monuments and landscape, which as far as the Applicant's proposals indicate, would not be reversible in the foreseeable future. This especially serious for the Winterbourne Stoke Crossroads Barrows, where there are multiple cumulative effects, especially when considered from the kinetic experience of their presence in the landscape, the setting of the WHS, and the potential to revise the WHS boundary to extend west of the A360 (cf Q CH.1.41; CH.1.32; CH.1.35; CH.1.15; CH.1.6).**
- 21.4.86 **The ES cultural heritage baseline inadequately addresses the EIA requirement to consider the likely evolution of the site without the development, or considers this neutral. If delivering the WHS Management Plan sets the framework (including potential boundary changes) the expected evolving baseline would see more modest but potentially significant reduction of A303 problems.**

Highways England response

- 21.4.87 The WHS boundary review is currently being progressed by the Stonehenge and Avebury WHS Coordination Unit. The Stonehenge and Avebury WHS Coordination Unit was consulted during the preparation of the Heritage Impact Assessment (HIA) (6.3 Environmental Statement Appendix 6.1 - Heritage Impact Assessment) [APP-195] and shared their preliminary assessment of heritage assets and asset groups that may be included in a future boundary review, including assets currently situated outside the WHS, west of the A360 .
- 21.4.88 As asset groups beyond the WHS boundary were considered as part of the assessment, and are considered to contribute to the OUV of the WHS, the proposed boundary review would not have an impact on the outcomes of the assessment.
- 21.4.89 Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195], paragraph 5.10.2 outlines the reasons for including heritage assets or asset groups beyond the WHS boundary: *"The HIA Assessment Area comprises the whole of the Stonehenge part of the Stonehenge, Avebury and Associated Sites WHS and its setting. The HIA acknowledges that the effects of the Scheme may extend beyond the boundaries of the Stonehenge part of the WHS, and therefore also considers [...] Impacts on assets outside the boundaries of the WHS that may contribute to one or more Attributes of OUV [...] Impacts on assets outside the WHS boundary which have relationships with assets within the WHS expressing OUV [and] Impacts upon the character of the setting of the WHS that would impact on Attributes of OUV within the WHS"*.
- 21.4.90 Regarding which heritage assets and asset groups are included in the Scheme's HIA [APP-195] in relation to the boundary, paragraph 5.10.5 states that the HIA *"considers impacts upon both sites located with the current WHS boundary, and physically related archaeological features that contribute to OUV located outside the current boundary"*.
- 21.4.91 Regarding the boundary review process the HIA [APP-195] notes, at paragraph 5.10.4, that "A minor boundary review at the Stonehenge part of the WHS began in 2012, but is still in progress and will be reviewed following the preparation of a WHS Setting Assessment. It was agreed that monuments that were not visible from the immediate vicinity of the WHS and distant features should not be included. The review considers, having regard to the advice in the Management Plan, well-preserved Neolithic or Early Bronze Age sites nominated in the original statement of significance (e.g. Robin Hood's Ball, long barrows) but located beyond the present boundary, and physically related archaeological features that contribute to OUV. Mooted changes include:
- a. The removal of houses along Countess Road North (West) from within the boundary;

- b. The extension of the boundary to the north and west of the existing WHS boundary, including:
 - i. Scheduled enclosures, round barrows, long barrows and causewayed enclosure associated with Robin Hood's Ball;
 - ii. Scheduled barrows and section of linear boundary earthwork on Winterbourne Stoke Down;
 - iii. Scheduled barrows at Rollestone;
 - iv. Scheduled barrows and enclosure at Longbarrow Crossroads;
 - v. Scheduled barrows north of the Packway;
 - vi. Scheduled Knighton long barrow;
 - vii. Scheduled long barrow in Larkhill Camp; and
 - viii. Unscheduled barrows of the Net Down group.

21.4.92 Thus the applicant has taken very seriously its duty to identify those Asset Groups that may contribute to the OUV of the WHS that sit either partially outside or wholly outside the existing boundary of the WHS. These were identified at an early stage and confirmed, in consultation with the Heritage Monitoring and Advisory Group (HMAG) and the Stonehenge and Avebury WHS Coordination Unit, in order to consider the impacts of various options. It is therefore not considered that the Scheme would impact upon the potential to revise the WHS boundary to extend west of the A360.

21.4.93 The future baseline and assessment taking into consideration the future baseline scenario is fully compliant with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. It has been undertaken in accordance with PINS Advice Note 17 and is presented within the ES technical discipline chapters [APP-043 to APP-052] and ES Chapter 15 Assessment of Cumulative Effects [APP-053] (see in particular the explanation for the future baseline given at paragraph 15.2.19). The reasoning for why the future baseline does not include measures in the Management Plan is set out in response to 21.1.1.

21.4.94 The Scheme demonstrates compliance with the NPSNN, including the Government's strategic vision for the development of the national road network, wider policies for economic performance, environment, safety, technology, sustainable transport and accessibility, as well as journey reliability and the experience of road users. Where harm is generated by the construction or operation of the Scheme, it has been demonstrated through careful and comprehensive assessment that the substantial and long lasting benefits, such as improvements to the setting of Stonehenge and biodiversity net gain, as well as the extensive transportation, economic and community benefits, will outweigh the limited harm identified.

21.4.95 NPSNN is concerned to avoid substantial harm to heritage assets, and includes requirements in relation to the balancing of less than substantial

harm against the public benefit of the development. The Scheme's compliance with NPSNN is demonstrated in Appendix A of the Case for the Scheme and NPS accordance [APP-294]. In consideration of paragraph 5.131 of the NPS, Appendix A states:

- 21.4.96 "Section 6.12, Chapter 6 Cultural Heritage of the Environmental Statement (Application Document 6.1) concludes the assessment does not identify any instance of 'substantial harm' or total loss of significance to any designated asset. This includes the Stonehenge element of the Stonehenge, Avebury and Associated Sites WHS. In addition, Section 6.11, Chapter 6 Cultural Heritage of the Environmental Statement (Application Document 6.1) concludes that the Scheme is assessed to have a beneficial effect on the Attributes of OUV, Integrity and Authenticity of the WHS as a whole.
- 21.4.97 "Adverse effects including harm or loss to designated heritage assets are anticipated. Chapter 6 Cultural Heritage of the Environmental Statement (Application Document 6.1) identifies less than 'substantial harm' to the significance of heritage assets relating to negative changes to their setting, arising from the presence of the new road and its associated infrastructure, and/or from changes to the visual and aural impact of traffic during its operation. These effects are as per NPSNN Paragraph 5.134 of this Appendix. These instances of less than substantial harm are outweighed by the Scheme benefits as per NPSNN Paragraph 5.134 of this Appendix and it is therefore considered that this harm is justified on that basis."

Key Issues

- 21.4.98 **The mitigation strategy as drafted is flawed in not demonstrating that proposals for preservation in situ are deliverable, and in not providing contingencies for unexpected discoveries. The proposed sampling of deposits means that 99% of ploughzone artefacts and 60% to 80% of each main linear feature would be destroyed without recovering any artefacts, thereby calling in to question the need to maximise evidence to assist understanding.**

Highways England response

- 21.4.99 The Detailed Archaeological Mitigation Strategy (DAMS) [and accompanying Overarching Written Scheme of Investigation (OWSI) [REP2-038] set out the scope, guiding principles and methods for the planning and implementation of essential archaeological mitigation, including the procedure to be followed to investigate and protect unforeseen cultural heritage finds made during the course of the works. A draft of the DAMS and OWSI was submitted at Deadline 2 [REP2-038]. The DAMS will be developed further during Examination in consultation with the Heritage Monitoring and Advisory Group (HMAG) and Wiltshire County Archaeological Service (WCAS), with input from the Scientific Committee, with the intention of finalising the DAMS prior to close of Examination.

- 21.4.100 Development of the DAMS will address the technical requirements to achieve the desired preservation in situ. With regard to the excavation of archaeological remains, the sample sizes proposed in the draft DAMS are clearly stated to be minima, the sample to be excavated will be determined in the individual SSWSIs to be prepared in consultation with HMAG and, WCAS.
- 21.4.101 The DAMS contains additional detail on the scope of archaeological mitigation works and the process for sign-off of documentation including Site Specific Written Schemes of Investigation, Heritage Management Plans and Method Statements. These are required under the the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) to be prepared in consultation with HMAG/ Wiltshire Council prior to work commencing in that site or area of archaeological interest.
- 21.4.102 The majority of archaeological works are being undertaken in the Preliminary Works phase to mitigate against the risk of unforeseen finds being located within the Main Works. Archaeological remains would be excavated and recorded during the Preliminary Works phase, in advance of construction, to avoid, as far as is practicable, previously unknown archaeological remains being uncovered during construction. In line with paragraph 5.1.10 of the draft DAMS, if unexpected finds (sites, artefacts, environmental remains or ecofacts, monuments or features) were made during the Preliminary Works or Main Works stages a site consultation meeting(s) would be convened between the Archaeological Contractor, HMAG / WCAS and the Technical Partners' Archaeologist to consider the significance of the finds. Depending on the outcome of the consultation meeting, an addendum to the Site Specific Written Scheme of Investigation or a new Site Specific Written Scheme of Investigation would be prepared by the Archaeological Contractor for approval by the Technical Partners' Archaeologist, in consultation with HMAG / WCAS.

21.5 Socio-economic issues

Key Issue

- 21.5.1 **Justification for the proposed scheme over other options is unsound, including its unique, highly selective and logically-flawed reliance on a controversial heritage monetisation study.**
- 21.5.2 **The whole approach appears to have started from the wrong premise: far from being a heritage led scheme, the whole approach can be seen as:**
- **Assuming (consciously or not) that a tunnel is the default starting point because of past history**
 - **Adopting as a fundamental goal maximisation of economic growth (ie minimising journey time and delays) by adopting the most direct**

strategic route option (ie through/under the WHS rather than round it)

- **Interpreting WHS and national heritage policy as only needing to achieve a bare net balance of enhancement over harm to OUV, not avoid harm and maximise enhancement of OUV.**

21.5.3 Having found that to achieve such a net balance involves a uniquely long tunnel (by UK standards) at enormous cost, the only way to justify this is by applying the sticking plaster value for money booster of a controversial heritage monetisation assessment that is neither standard practice nor ever used for any other scheme. There clearly are exceptional circumstances in terms of the possible costs and value for money issues arising from removal (or partial removal) of a road from an internationally designated landscape. But in the light of the history of the scheme and the fits-and-starts escalation of official view towards, but not reached the 1995 planning conference consensus, there is no need to ascertain by one-off questionable contingent valuation study what good public value for money is. IF there really is no cheaper alternative to removing the road entirely from the WHS, then doing so by bearing the cost of a long bored tunnel is, by virtue of meeting UK international treaty obligations and national policy targets good value for money (as was already realised in 1995) – especially in the context of the proposals under active consideration to avoid harm to the nationally protected landscape of the Peak District National Park a tunnel six times as long (see below).

Highways England response

- 21.5.4** The approach to the calculation of monetised environmental benefits is based on guidance issued by HM Treasury, the Department for Transport and the Department for Environment Food and Rural Affairs. There are well-understood limitations to the valuation of landscape benefits and so these estimates are not incorporated into the benefit cost ratio – instead they help to form a qualitative impression of the relative scale of landscape impacts compared to other impacts that are included in the benefit-cost ratio. The approach to the contingent valuation of the heritage impacts of the Scheme (Appendix H of Appendix D to the Combined Modelling and Appraisal Report [APP-299] is based on best-practice techniques. It has been carefully quality assured and independently peer-reviewed so is considered the most robust estimate available. These approaches are consistent with published guidance and represent the most appropriate way to capture the value of these important benefits and make sure they are fully accounted for in the judgement of the Scheme's Value for Money.
- 21.5.5** The valuation study of cultural heritage benefits sought to value changes in tranquillity, visual amenity and landscape severance associated with removing the road from the WHS. At the time of undertaking the research,

the precise design and location of tunnel portals was yet to be determined. The survey therefore focused on the removal of the A303 and provided only limited information on precise alignment and design aspects of the tunnel. The appraisal process aims to capture only the change in values as a result of the intervention and not the overall values. In this case the contingent valuation was designed to elicit responses that were focussed on the impact of removing the road from the landscape; to that end it is neutral on the mechanism by which the road is removed – the results are valid for any scheme which delivers the same improvements to landscape, noise intrusion and visual amenity and are therefore not related to alternatives and not predicated on a tunnel solution.

- 21.5.6 It is important to note that the work around the contingent valuation report (CVR) was primarily relevant to the Department for Transport's (DfT) investment decision in the Scheme, not the planning merits of the Scheme.
- 21.5.7 The CVR does not assess benefits to the economy of the Scheme. Instead it interprets benefits to society in order to express them in an economic framework. Contingent valuation is a tool / mechanism to compare factors that are not able to be easily balanced (i.e. social welfare related benefits), because they are not measured in a common unit.
- 21.5.8 The purpose of the CVR in the context of the A303 was to monetise the significant benefits resulting from the cultural heritage improvements delivered by the Scheme. Monetising those benefits allowed them to be incorporated alongside other costs and benefits in the assessment of the benefit cost ratio (BCR) for the Scheme, in order to determine whether the scheme offered value for money (VfM) and ultimately inform the Government decision to invest in the Scheme.
- 21.5.9 In the context of the planning / DCO decision, the BCR and VfM are not planning considerations. However, the information underlying the assessment of BCR of the Scheme, as noted in paragraphs 4.3 and 4.5 of the National Networks NPS, is. In this case, that would be the heritage chapter of the ES and the Heritage Impact Assessment, rather than the monetary results of the CVR. BCR and VfM considerations require as many factors as possible being balanced to be converted to the same unit of measurement (i.e. monetary units) in order to be compared. A planning decision as to whether to grant the DCO balances those same factors, however, those factors are measured in their own units, which are different for each factor. In other words, no conversion / monetisation is first required in order to undertake the planning balancing exercise; it is a qualitative exercise.
- 21.5.10 It follows that the valuation of heritage benefits in monetary units is not primarily relevant to the decision on whether to grant development consent of the Scheme, because those cultural heritage benefits do not need to be monetised in order to be taken into account in the planning balance. The

valuation in the CVR was relevant only to DfT's investment decision, which is not a planning consideration.

22 Wiltshire Council (REP2-045, REP2a-002 and REP2a-003)

22.1 Cultural Heritage

Key Issue

- 22.1.1 **The Council has some concerns, the most significant of which is the potential adverse impact of the Scheme on the setting of monuments in the western part of the WHS. The Council is concerned at the impact the proposed Scheme has on the relationship both visual and physical between monument groups and to the integrity of the WHS landscape, impacting on OUV attributes 3, 5 and 6, and considers further mitigation is required. Where adverse impacts are identified, these should be either avoided or mitigated in line with the policy framework.**

Highways England response

- 22.1.2 See response to 22.1.26 below regarding the setting of monuments in the western part of the WHS.
- 22.1.3 The locations of the eastern and western portals in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account.
- 22.1.4 Further westwards extensions of the tunnel were ruled out because of topographical and technical constraints, and because they would not deliver sufficient additional benefits to justify the additional cost. Highways England have designed a scheme that removes the surface A303, and the accompanying sight and sound of traffic on it from a large proportion of the WHS enabling beneficial change to the setting of many monuments and asset groups that contribute to the OUV of the WHS, particularly within the central part of the WHS surrounding Stonehenge. The Scheme has been sensitively designed with the use of a 2 mile long tunnel, retained deep road cuttings, essential chalk grassland mitigation to enable landscape integration, a 150m long Green Bridge 4 to enable visual and physical landscape connectivity and public access, canopies and hidden tunnel portals within the WHS landscape. Further detail with respect to a westward tunnel extension is set out in response to Written Question AL.1.29 [REP2-024].
- 22.1.5 The Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the scheme will have a slight adverse effect on two of those attributes (Attributes 2 and 3), it will have a beneficial effect on the remaining five (being a slight beneficial effect on 3 of the attributes (Attributes 5, 6 and 7), a large beneficial effect on one (Attribute 4), and a very large beneficial effect on one (Attribute 1). This conclusion also takes

into account that the Scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained.

- 22.1.6 Highways England will continue to work with Wiltshire Council to alleviate their concerns and consult with them during the development of the detailed design.

Key Issue

- 22.1.7 **The Council does have some concerns, the most significant of which is the potential adverse impact of the Scheme on the setting of monuments in the western part of the WHS.**
- 22.1.8 **Wiltshire Council is also concerned to ensure that when the DAMS is agreed and approved as part of the Examination process, that it is robust and comprehensive. The nature and level of mitigation measures it contains must meet all of the Council's requirements and be appropriate in relation of the significance of known and potential archaeological features both inside and outside the WHS. The process adopted for securing the archaeological requirements and to the discharging of the requirements must be robust.**

Highways England response

- 22.1.9 See response to 22.1.1 above.

The draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] sets out the structured, iterative detailed archaeological mitigation strategy. The DAMS is being developed in consultation with the Heritage Monitoring Advisory Group (which includes Wiltshire Council) and the Scientific Committee. It will be finalised prior to the end of the Examination, and will be a certified document, secured by Requirement 5 of Schedule 2 of the draft development consent order [REP2-003]. The DAMS is rooted in a heritage research-led framework [REP2-038; Section 2].

- 22.1.10 Section 7 of the draft DAMS [REP2-038], submitted at Deadline 2, sets out the monitoring, communications and sign-off of archaeological works procedures including consultation with HMAG (which includes Wiltshire Council) and Wiltshire Council Archaeology Service (WCAS).

Key Issue

- 22.1.11 **Wiltshire Council has given some initial preliminary comments on the draft DAMS. However, there are many further detailed comments and requirements that need to be incorporated into the document before it can be approved. There are many outstanding issues, which need to be addressed:**

- **Currently mitigation measures are not extensive enough and, for example they should include the whole of the road line both inside and outside the WHS;**
- **That there is an agreed robust strategy for the preservation in situ or full excavation of archaeological features prior to deposition of tunnel arisings on Parsonage Down East;**
- **That a robust methodology is agreed for further assessment and mitigation of artefacts in the topsoil in areas to be excavated;**
- **That a robust strategy for sampling natural features such as tree throws is agreed;**
- **That the strategy includes all impacts of the Scheme including drainage, services,**
- **landscaping, haul roads, spoil storage areas, compounds, as well as portals and the main road line;**
- **That there is a robust contingency policy in place to deal with unexpected discoveries which are significant and will require further mitigation;**
- **That the Council agrees and approves all the detailed mitigation measures for the areas set out in Appendix C and D.**

22.1.12 It is essential that the Council is fully engaged with the further development of the DAMS and that the document is secured as part of any consent given to the Scheme, meets all of the Council's requirements and applies the highest standards of mitigation possible in this internationally significant landscape.

Highways England response

22.1.13 The draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] sets out the structured, iterative detailed archaeological mitigation strategy. The DAMS is being developed in consultation with the Heritage Monitoring Advisory Group (which includes Wiltshire Council) and the Scientific Committee. It will be finalised prior to the end of the Examination and is secured by Requirement 5 of Schedule 2 of the draft development consent order [REP2-003]. The DAMS is rooted in a heritage research-led framework [REP2-038; Section 2].

22.1.14 As stated in the draft DAMS [REP2-038, paragraph 1.2.2]:

“The Scheme passes through a landscape of high archaeological significance, both inside and outside the WHS. Accordingly, the intention of the Strategy is to apply the highest practicable standards of mitigation, employing innovative approaches to address a question-based research strategy that places the significance of the archaeological resource at the centre of decision-making both at design and implementation phases.”

22.1.15 We are consulting with Wiltshire Council and other members of HMAG in developing the DAMS further in order to finalise the document by the end of examination.

Key Issue

- 22.1.16 **The Council's archaeologists have reviewed the EIA chapter on Cultural Heritage (Chapter 6) and associated appendices. It is understood that the Scheme has been carefully designed to minimise direct impacts on areas of known archaeological features. Overall the EIA is detailed and comprehensive.**
- 22.1.17 **An outstanding concern is that the archaeological field evaluation was only completed after this document was submitted to the ExA. Since then, the fieldwork has been finished and the reports published. Consequently, some of this chapter and the associated figures and plans will need to be amended (e.g. 6.6 which does not include findings from the latest phases of evaluation of the western bypass). The Council's view is that an Addendum to the cultural heritage chapters is required, which considers the more recent findings from the evaluation fieldwork and reports.**
- 22.1.18 **There is also high potential for further archaeological remains to be present in the Scheme area than identified during the evaluation programme. This is especially true of smaller discreet earlier prehistoric remains, which do not show up well in geophysical survey results and are difficult to find in trial trenching, such as cremation burials and pits. This situation is not adequately reflected in the relevant paragraphs on assumptions and limitations (6.4.1 f). Therefore, the mitigation programme needs to focus not just on the areas of known assets but also areas of further potential remains. The Council's professional judgement is that the whole of the road cutting and area for the proposed new Longbarrow Junction falls into this category.**

Highways England response

- 22.1.19 A comprehensive programme of archaeological field work was undertaken to inform the environmental impact assessment, including geophysical survey across all green field areas within the order limits and a high percentage of trial trenching and plough zone artefact sampling. The archaeological evaluation and survey reports were submitted to the Examination on 12 April, as promised at the Preliminary Meeting [REP1-039 – REP1-056].
- 22.1.20 Whilst the results of the archaeological evaluation programmes were reported in the reports submitted on 12 April, it is incorrect to state that the archaeological field evaluation was only completed after the ES was submitted. Fieldwork was undertaken between January and August 2018 and the results of that work were reported in paragraphs 6.6.13- 6.6.52

(fieldwork) and paragraphs 6.6.53 to 6.6.111, Appendix 6.2 [APP-211] and Figures 6.8 [APP-074] (baseline) of the Environmental Statement. The conclusions of the Environmental Statement were informed by those results, the non-intrusive archaeological geophysical survey of the entire Scheme boundary (referred to at ES paragraph 6.4.1(f) and Appendix 6.10 [APP-219]) and the results of historic surveys and fieldwork (referred to in ES paragraph 6.6.15 and summarised and listed at ES Appendix 6.10), allowing a robust assessment of baseline (as referenced above), approach to mitigation (ES section 6.8) and likely significant effects (ES section 6.9).

- 22.1.21 Figure 6.6 of Environmental Statement Chapter 6 [APP-044] sets out the cultural heritage asset groups. These have not changed following the publication of the archaeological evaluation reports.
- 22.1.22 No addendum to the Environmental Statement will be provided, as the results reported in the Environmental Statement are not changed as a result of the archaeological evaluation and survey reports, as set out above.
- 22.1.23 The draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038], takes account of the full and comprehensive archaeological evaluation findings, which followed a staged and iterative approach. The DAMS sets out the structured, iterative detailed archaeological mitigation strategy. The DAMS is being developed in consultation with the Heritage Monitoring Advisory Group (which includes Wiltshire Council) and the Scientific Committee. It will be finalised prior to the end of the Examination and is secured by Requirement 5 of Schedule 2 of the draft development consent order [REP2-003]. The DAMS is rooted in a heritage research-led framework [REP2-038; Section 2].
- 22.1.24 Archaeological considerations have been afforded the highest priority throughout the development of the Scheme, informing the choice of preferred route and influencing the design of the Scheme.
- 22.1.25 The majority of archaeological works are being undertaken in the Preliminary Works phase to mitigate against the risk of unforeseen finds being located within the Main Works. Archaeological remains would be excavated and recorded during the Preliminary Works phase, in advance of construction, to avoid, as far as is practicable, previously unknown archaeological remains being uncovered during construction. In line with paragraph 5.1.10 of the draft DAMS, if unexpected finds (sites, artefacts, environmental remains or ecofacts, monuments or features) were made during the Preliminary Works or Main Works stages a site consultation meeting(s) would be convened between the Archaeological Contractor, HMAG / WCAS and the Technical Partners' Archaeologist to consider the significance of the finds. Depending on the outcome of the consultation meeting, an addendum to the Site Specific Written Scheme of Investigation or a new Site Specific Written Scheme of Investigation would be prepared by the Archaeological Contractor for approval by the Technical Partners' Archaeologist, in consultation with HMAG / WCAS.

Key Issue

- 22.1.26 **Looking at the summary of anticipated impacts in Table 1, the Council is especially concerned with the potential slight adverse impact on Asset Group (AG) 13, the Diamond Group. Additionally, there is concern about the adverse impact on AG 12, the Winterbourne Stoke Group and AG 19, Normanton Down. These groups have highly significant Neolithic long barrows all of which display attributes of OUV. The impact of the Scheme on the Winterbourne Stoke Group is shown as being moderate beneficial. The Council's view is that this should be assessed as slight adverse as in the Diamond Group. This is backed up by our interpretation of the relevant photo montages and figures in the Landscape Chapter.**
- 22.1.27 **The Council is concerned at the impact the proposed Scheme has on the relationship both visual and physical between monument groups and to the integrity of the WHS landscape, impacting on OUV attributes 3, 5 and 6, and considers further mitigation is required. Where adverse impacts are identified, these should be either avoided or mitigated in line with the policy framework.**

Highways England response

- 22.1.28 Highways England met with WCAS on the 12 December 2018 to discuss the Statement of Common Ground and review the photomontages and CGIs that were submitted with the ES Chapter 6, Appendix 6.9 [APP-218] and explained the views in more detail in order to try to alleviate Wiltshire Council's concerns and correct any misunderstandings.
- 22.1.29 With reference to AG12 Winterbourne Stoke Crossroads Barrows, Highways England disagree with Wiltshire Council's conclusion that the impacts from the Scheme on this asset group should be assessed as slight adverse as both the A303 and the A360, including the existing Longbarrow Roundabout, will be removed from immediately adjacent to the asset group. The A303 will move 150m to the south and be built in cutting to remove the sight and sound of traffic from immediately adjacent to the asset group. The benefits of this are demonstrated by the photomontages and CGIs presented in the ES Chapter 6, Appendix 6.9 [APP-218] (Figure 4, Figure 5 and Figure 7).
- 22.1.30 With regards to AG13 Diamond Group, the A360 currently bisects the group and the A303 additionally severs the group from AG12 Winterbourne Stoke Crossroads Barrows to the north. The Scheme design removes traffic and severance from within the asset group by realigning the A360 and Longbarrow junction further to the west. Green Bridge No. 4 maintains visual and physical landscape connectivity with AG12 Winterbourne Stoke Crossroads Barrows to the north and access between the two groups via new NMU routes, and this combined with the essential chalk grassland mitigation, improves the visitor's ability to appreciate the setting, in the context of reduced views and sounds of traffic.

- 22.1.31 Regarding AG19 Normanton Down Barrows, the Scheme would remove the existing A303 surface road to the north of the asset group, which severs its relationship with Stonehenge as well as many other asset groups to the north of the A303, including AG12 Winterbourne Stoke Crossroads Barrows. The Scheme would restore the setting of much of the AG19 Normanton Down Barrows, its sense of place, and visitors' ability to appreciate them within a seamless landscape, noting that long distance views from the northern end of the asset group will include minor intrusion from the western approach cutting and Green Bridge No. 4. Amongst other benefits of the restored setting of AG19 Normanton Down Barrows, there would be enhanced access, enabling an uninterrupted traverse between Stonehenge and the Normanton Down Barrows along Byways 11 and 12. The removal of the visual and audible impacts of traffic would be beneficial to the setting of the asset group as a whole. Views from numerous individual monuments within the asset group would be improved, and compromised sightlines restored. These include key views, including those between the Sun Barrow and Stonehenge, and between Stonehenge and the core of the Normanton Down asset group. From the core of the group, traffic would not be visible, while traffic noise would be significantly reduced.
- 22.1.32 Highways England disagree with Wiltshire Council's stance regarding the need for further mitigation, and consider that the Scheme complies with the policy framework.
- 22.1.33 Along with considerations of cost, the location and design of the tunnel portals have been optimised in terms of the natural topography of the area, impact within the WHS and the extent of benefit that will be secured by one of the key aims of the Scheme which is to remove the sight and sound of the A303 traffic from much of the WHS landscape. With accompanying mitigation, the assessments show that the preferred solution is a 2-miles (3.3km) long tunnel extending between portals located adjacent to the existing A303 to the east of The Avenue and to the west of Normanton Down.
- 22.1.34 The Preferred Route Announcement (PRA) by the Secretary of State in September 2017 was based on a 2.9km long twin bored tunnel. The western portal was located south of the existing A303 and northwest of Normanton Gorse and the eastern portal to the north of the A303 and east of the Avenue. Since the PRA, during the Scheme development, and in response to consultation responses, the applicant has amended the scheme to extend the tunnel. Two changes were made to the location of the western portal which resulted in a 300m extension to the tunnel:
- the end of the bored tunnel was moved 100m west to avoid impact on a scheduled barrow (NHLE No. 1010832 – Bowl barrow south of the A303 and north west of Normanton Gorse) that contributes to the OUV of the WHS; and

- a 200m cut-and-cover extension, or canopy, was added for improvement in landscape and visual connectivity and tranquillity within the WHS.
- 22.1.35 At the eastern end, a cut-and-cover extension of 85m has been added to suit the topography for improvement in landscape and visual connectivity and tranquillity within the WHS.
- 22.1.36 Further westwards extensions of the tunnel were ruled out because of topographical and technical constraints, and because they would not deliver sufficient additional benefits to justify the additional cost.
- 22.1.37 Highways England have designed a scheme that removes the surface A303, and the accompanying sight and sound of traffic on it from a large proportion of the WHS enabling beneficial change to the setting of many monuments and asset groups that contribute to the OUV of the WHS, particularly within the central part of the WHS surrounding Stonehenge. The Scheme has been sensitively designed with the use of a 2 mile long tunnel, retained deep road cuttings, essential chalk grassland mitigation to enable landscape integration, a 150m long Green Bridge No. 4 to enable visual and physical landscape connectivity and public access, canopies and hidden tunnel portals within the WHS landscape.
- 22.1.38 The Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the scheme will have a slight adverse effect on two of those attributes (Attributes 2 and 3), it will have a beneficial effect on the remaining five (being a slight beneficial effect on 3 of the attributes (Attributes 5, 6 and 7), a large beneficial effect on one (Attribute 4), and a very large beneficial effect on one (Attribute 1). This conclusion also takes into account that the scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained.
- 22.1.39 Highways England will, however, continue to work with Wiltshire Council to alleviate their concerns, and consult with them during the development of the detailed design.

Key Issue

- 22.1.40 **Although the proposed removal of the A303 from the surface will bring many benefits to the centre of the WHS, the western portal and dual carriageway in cutting will harm the setting of key monuments and their interrelationship in the western part of the WHS. With the current Scheme, an opportunity has been missed to extend the tunnel within the WHS thereby minimising the impact on the OUV. A longer tunnel would be better aligned with Policy 3c in the WHS Management Plan.**

Highways England response

- 22.1.41 The locations of the eastern and western portals in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost. Further detail of the longer tunnel alternative can be found in Written Question AL.1.29 [REP2-024].
- 22.1.42 See also response to 22.1.26.

Key Issue

- 22.1.43 **Oatlands Hill, on the west part of the Scheme just outside the WHS, is a sensitive part of the Scheme in terms of buried archaeology and potential landscape impacts. The EIA acknowledges the Scheme is likely to have a moderate adverse impact on the landscape here. This is the location of the proposed new junction and dumbbell roundabout. The archaeological evaluation identified evidence of Bronze Age and Iron Age settlement including a C-shaped enclosure. Currently the double roundabout infrastructure is proposed to be located on top of this. Although the archaeological remains here are outside the WHS and likely not to be of national significance, the Council would like to have seen, a slight redesign in the layout of the new infrastructure here to minimise impact on these remains, preserving as much of them as possible.**
- 22.1.44 **It is understood that since our Relevant Representation, HE have considered three options for moving the position of the southern dumbbell of the proposed new junction but have found that these compromise other issues such as cost and projected traffic flows. Whilst the Council does not object to the Scheme on the ground of direct impact on these archaeological remains, further options should be explored with HE.**

Highways England response

- 22.1.45 Alternative layouts for Longbarrow junction, and associated variations of these, were considered to avoid a direct impact to the C-Shaped enclosure. The shortlisted options produced from that process were further assessed, as summarised within the response to Wiltshire Council's Relevant Representation [AS-026] (Chapter 19 - RR-2365) [AS-026] and recorded under "Matters Under Discussion in Relation to Cultural heritage" in the Wiltshire Council Statement of Common Ground [REP2-018], as well as Chapter 3 of the ES [APP-041]. However, all alternative options were rejected for a variety of reasons, most notably; direct impacts on land take within the WHS, increased visual impacts from the WHS, potential

implications to road safety and driver behaviour with an increased likelihood of rat running using local roads.

Key Issue

- 22.1.46 **At present, the Council considers that the Scheme is not wholly compliant with all the policies contained within the WHS Management Plan (2015).**
- 22.1.47 **Policy 1a of the Stonehenge and Avebury WHS Management Plan 2015 states the**
- 22.1.48 **‘Government departments, agencies and other statutory bodies responsible for making and implementing national policies and for undertaking activities that may impact on the WHS and its environs should recognise the importance of the WHS and its need for special treatment and a unified approach to sustain its OUV’.**
- 22.1.49 **Additionally, Policy 3c states the priority to “Maintain and enhance the setting of monuments and sites in the landscape and other interrelationships and astronomical alignments with particular attention given to achieving an appropriate landscape setting for the monuments and the WHS itself”.**

Highways England response

- 22.1.50 The Environmental Impact Assessment (EIA) is fully compliant with the relevant overarching and topic specific legislation and policy. The overarching legislative and policy context of the EIA is set out in ES Chapter 1, Introduction [APP-039]. The topic specific legislative and policy context is set out in the Legislative and Policy Framework sections of each topic chapter [APP-043 to APP-053].
- 22.1.51 In full recognition of its obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972) (the World Heritage Convention), the Government is making a substantial investment in funding a tunnel past Stonehenge to bring extensive benefits to the WHS. The application has been prepared (and the consultation on it undertaken) with due regard to the obligations under the World Heritage Convention. The protection and conservation of World Heritage Sites, in line with the World Heritage Convention, is integrated into the comprehensive UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets. As a result, great weight is given to harm to World Heritage Sites. The application by the Secretary of State of the planning balance envisaged by this framework and, in particular, the NPSNN is in accordance with the WHC.
- 22.1.52 The Heritage Impact Assessment (HIA), as set out in ES Appendix 6.1, HIA [APP-195], considers the implications of the Scheme in the context of the OUV and the Authenticity and Integrity of the WHS.

- 22.1.53 In relation to Policy 1a, the Scheme is assessed to have a Slight Beneficial effect on OUV, and therefore the OUV of the WHS would be sustained as set out in Section 12.4 of the HIA. This takes into account that of the seven attributes of OUV for the WHS, whilst the Scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on 3 of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the Scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. As a result of all the measures contained within the HIA, the Scheme will meet its objective to conserve and enhance the WHS and make it easier to reach and explore.
- 22.1.54 In relation to Policy 3c, the Scheme has been carefully designed in order to improve the setting of many heritage assets and asset groups in the central part of the WHS. The removal of the existing A303 surface road, which currently has a major adverse impact on the OUV of the WHS, from a large part of the WHS landscape will result in extensive benefits for the WHS, including beneficial effects on the setting of many heritage assets within the WHS through significant reductions in (a) traffic noise, as set out in ES Chapter 9 [APP-047], Section 9.9, and illustrated in Figure 9.4 [APP-167]; and (b) visual intrusion, as set out in ES Chapter 7 [APP-045], Section 7.9. Archaeoastronomical aspects are also considered in the Heritage Impact Assessment, set out in the Environmental Statement, Chapter 6, Cultural Heritage, Appendix 6.1, Section 6.15 [APP-195] and Annex 5 [APP-200], which highlights the astronomical aspects that contribute to the Outstanding Universal Value of the WHS. These are all considered and assessed in the Heritage Impact Assessment with reference to the Scheme, including the location of the eastern portal and its entrance. With regards to Attribute 4 of OUV of the WHS, the design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy, the Heritage Impact Assessment concludes that the Scheme would result in a Large Beneficial Effect (ES Chapter 6, Cultural Heritage, Appendix 6.1, paragraphs 9.4.24-9.4.28) [APP-195].

Key Issue

- 22.1.55 **Wiltshire Council's LIR Appendix B contains a list of suggested requirements (in summary form, final wording to be agreed). For archaeology and cultural heritage, it details three requirements that it views as essential to be attached to any grant of consent for the Scheme to be adequately mitigated. Wiltshire Council will need to be involved in monitoring and assessing the quality of the archaeological mitigation works. It is advised that, as is the case with planning applications, the local authority is charged with approving and authorising the discharge of the archaeological / cultural heritage requirements.**

Highways England response

- 22.1.56 A response to Wiltshire Council's Local Impact Report and its requirements has been issued separately by Highways England.
- 22.1.57 As stated in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) e.g. PW-CH1 and MW-CH1 for HMPs], HMAG (which includes Wiltshire Council) and WCAS (in some cases) will be consulted on before Highways England as 'the Authority' approves plans and strategies relating to archaeological mitigation (Heritage Management Plan, SSWSI, archaeological method statements). The consultation provided for in the OEMP will ensure that the views of HMAG and WCAS (where appropriate) are taken into account in finalising the documentation, prior to Highways England's approval. There is therefore no requirement for any external approval by Wiltshire Council.
- 22.1.58 The OEMP [APP-187, MW-CH7] allows for monitoring arrangements for designated and non-designated heritage assets to be prepared in consultation with HMAG (for sites within the WHS) and WCAS (for sites outside of the WHS) and approved by The Authority prior to works commencing.
- 22.1.59 Section 7 of the draft DAMS [REP2-038], submitted at Deadline 2, sets out the monitoring, communications and sign-off of archaeological works procedures including consultation with HMAG and WCAS. The DAMS is being developed in consultation with the HMAG and the Scientific Committee. It will be finalised prior to the end of the Examination, and will be a certified document, secured by Requirement 5 of Schedule 2 of the draft development consent order [REP2-003].

22.2 Biodiversity, ecology and biodiversity

Key Issue

- 22.2.1 **There is scope for the development of best practice in the creation of chalk grassland from the tunnel spoil.**

Highways England response

- 22.2.2 Highways England agree and the illustrative landscape and ecological proposals, indicated on the Environmental Masterplan [APP-059], include extensive areas of chalk grassland, including the proposed tunnel disposal site at land east of Parsonage Down. Item MW-BIO2 of the Outline Environmental Management Plan (compliance with which is secured by the requirement contained in paragraph 4 of Schedule 2 to the draft development consent order [REP-003] provides that "The main works contractor shall establish the new habitats identified within the Environmental Masterplan (ES Figure 2.5) within the Order limits".

- 22.2.3 A detailed Landscape Scheme would be prepared in accordance with the requirements set out in the [APP-267]. Requirement 8 in Schedule 2 to the draft development consent order [REP2-003] requires before the commencement of any part of the Scheme, the written approval of the Secretary of State, in consultation with the local planning authority, of a landscape scheme for that part of the Scheme. Section 5.6 of the Outline Landscape and Ecology Management Plan (OLEMP) [APP-267] indicates how the chalk grassland could be created on land to the east of Parsonage Down. The detailed Landscaping Scheme must be based on the mitigation measures included in the environmental statement, which would include the OLEMP.

22.3 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

- 22.3.1 **It is very important that land acquired by HE for the provision of roads intended to be transferred to the Council are transferred in full by way of a formal process, so that the Council is fully aware of exactly the boundary of the asset for which it will take responsibility under the provisions of the DCO, as well as full information on the design of the asset, including all structural detail, street lighting (if applicable), road drainage and associated easements (if applicable), street furniture etc., and all underground and above ground apparatus (energy supply lines, drainage etc.). Handover drawings will be required, which can be held for future reference within the Council's Highway Records.**

Highways England response

- 22.3.2 Highways England is currently discussing a legal agreement with Wiltshire Council which is anticipated to deal with 'handover' arrangements for both new and improved local roads and de-trunked roads. This will include the extent and scope of these assets.

Key Issue

- 22.3.3 **Confirmation of the extent and scope of the Scheme elements for which Wiltshire Council will be maintenance authority, will be confirmed alongside the DCO process.**

Highways England response

- 22.3.4 Highways England is currently discussing a legal agreement with Wiltshire Council which is anticipated to deal with 'handover' arrangements for both new and improved local roads and de-trunked roads. This will include the extent and scope of these assets.

Key Issue

22.3.5 **This is referred to in the draft DCO, 4.3 the Book of Reference and the Land Plans (2.2), the imposition of restrictive covenants on ground works on land above the tunnel. The Council has concerns over this and needs to have detailed agreement drawn up as it may restrict the ability to undertake archaeological investigations in a core part of the WHS. An alternative approach to this restriction should be agreed before the end of the Examination process.**

Highways England response

22.3.6 As noted in the Statement of Reasons [APP-023], restrictions are required above the tunnel in order to secure protection of the tunnel from potentially conflicting future development and works that might jeopardise the structural integrity of the tunnel.

22.3.7 The proposed Scheme would provide powers to impose restrictions which may affect future archaeological research above the tunnel route, in order to protect the structural integrity of the tunnel. There are no restrictions intended to be placed on future archaeological research elsewhere. It is expected that the restrictions will vary along the length of the tunnel, depending upon the depth of the tunnel below the surface. The detail of the restriction is under discussion, but as currently drafted would restrict excavations relating to future archaeological research below 0.6m in areas where the tunnel is shallow, and below 1.2m in areas where the tunnel is deeper. The restriction would not prevent excavations from being undertaken below this depth but would require a promoter of future archaeological research to consult with Highways England in such cases in order to determine the extent to which that activity might have the potential to affect the structural integrity of the tunnel.

22.3.8 In response to the concerns raised by Wiltshire Council and HMAG that such restrictive covenants could impose an unacceptable restriction on future archaeological research, Highways England has identified that the level of restriction can be varied along the tunnel route based on the relative depth of the tunnel from ground surface. Where the tunnel is shallow (i.e. at the tunnel portals and at Stonehenge Bottom), any covenants imposed would need to involve a greater level of restriction, with a lighter restriction possible over the remainder of the route.

22.3.9 The terms of the restriction are still under discussion with the landowners and heritage partners. The current proposal is that restrictive covenants will be required over land above and adjacent to the tunnel. These activities would include:

- a. Development which would require planning permission, deep foundations, piling or influence existing ground conditions.
- b. Changes in ground weight loading (either increasing or decreasing) such as:

- xiii. Any excavation (including boring and future archaeological research) below a depth of 1.2m in the area shown in light blue and below a depth of 0.6m in the area shown in dark blue in Appendix A of the Response to Written Questions for Cultural Heritage [REP2-025];
 - xiv. Any additional loading as a result of building work or storage;
 - xv. Use by any vehicles of greater weight than for standard road use vehicles; or
 - xvi. Any new tree planting or removal.
- 22.3.10 Where archaeological research is identified requiring activity restricted by the above proposed terms (such as by requiring excavations deeper than 0.6m or 1.2m, depending on the location), the restrictive covenants would require consultation with Highways England in order to analyse on a case by case basis and determine to what extent the proposed archaeological works may be permitted.
- 22.3.11 It is therefore not the intention of the restriction to compromise and potentially prevent both future archaeological research within the WHS, and also works necessary to the conservation and protection of sites and monuments that convey its attributes of OUV, but to create a mechanism to allow archaeological research to continue, but also allow Highways England the ability to protect the integrity of the tunnel.

Key Issue

- 22.3.12 **Further details from HE are required on measures to divert the Esso pipeline.**

Highways England response

- 22.3.13 Esso have indicated that the measures to divert their pipeline will comprise the laying of a heavy-duty pipe approximately 23m to the east and parallel to the existing pipeline over a length of approximately 1040m. The diversion will extend for approximately 160m south, and 880m north of the re-aligned A303. The existing pipeline will be removed over this length. A protective slab, located below ground level, will be constructed to protect the diverted pipeline over the width of the new A303 highway and temporary protective slabs, also located below ground level will be constructed to protect the existing pipeline during the construction of the works.
- 22.3.14 The final extent of diversionary works will be determined by Esso's own detailed design.

22.4 Draft Development Consent Order

Key Issue

- 22.4.1 **The Council will seek appropriate payment of the costs of administering the Scheme through a Planning Performance Agreement or the DCO.**

Highways England response

- 22.4.2 Highways England and Wiltshire Council are currently discussing putting in place a Planning Performance Agreement (“PPA”). The precise scope of the PPA will be agreed as part of those discussions.

Key Issue

- 22.4.3 **The Council has made a number of comments relating to the process of consultation, discharging of requirements and undertaking of monitoring activities within the various sections of this report. These should be considered as principals for how HE should engage with the Council and the Council’s responsibilities for the Scheme in general. These principles are not limited to the particular service area in which, they are first described.**

Highways England response

- 22.4.4 The Applicant has updated the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) to set out how it will consult with key stakeholders, including Wiltshire Council, on aspects of the detailed design of the Scheme. The Applicant has also updated Schedule 2 (requirements) of the draft development consent order [REP2-003], to clarify its duties in respect of consultation on the matters to be submitted for the approval of the Secretary of State under the requirements. Taken together, the Applicant is confident that appropriate provision is made for consultation with Wiltshire Council and other key stakeholders.

Key Issue

- 22.4.5 **Agreement is being sought with HE, through a separate legal agreement, to cover a number of transport related issues as outlined above. Mitigation measures to address traffic impacts in the centre of Amesbury are also under discussion for inclusion.**

Highways England response

- 22.4.6 The Applicant and Wiltshire Council intend to complete a legal agreement prior to the close of the examination that would regulate issues relating to the maintenance of highways created or altered by the Scheme and co-

operation between the highway authorities on interactions between their respective networks during the operation of the Scheme.

Key Issue

- 22.4.7 **The Council understand that the TMP is a document (one of many) to be produced by the works contractor(s) responsible for the Scheme. The Council is seeking changes to the OEMP which will secure a position for the Council to be consulted on the various Plans to be prepared by the contractor(s). If such consultation is secured by changes to the OEMP, then there will be opportunities for the Council to bring matters of concern to the attention of HE before such Plans are approved by them or by any other approving body. The REAC Tables should include, for example, a requirement for pre and post works condition surveys and for the regional diversion measures to be provided to advise at a distance of Stonehenge area delays.**

Highways England response

- 22.4.8 As a starting point, it should be noted that the obligation to produce the Traffic Management Plan (TMP) is secured by the requirement contained in paragraph 9 of Schedule 2 to the draft development consent order [REP2-003].development consent order [REP2-003]. This must be then submitted to the Secretary of State for approval, in consultation with the local highway authority.
- 22.4.9 In addition, item MW-TRA2 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) builds on this DCO requirement and requires the contractor to consult various bodies when preparing the TMP, including Wiltshire Council.
- 22.4.10 As such, Wiltshire Council will therefore be consulted and have the opportunity to advise on the TMP's content. Compliance with the OEMP is secured via Requirement 4 of the draft development consent order [REP2-003].development consent order [REP2-003]. Further to this, the Applicant refers to the response to 22.4.11 which provides details of cooperation between the relevant highways authorities and TMP requirements.

Key Issue

- 22.4.11 **Changes to the draft DCO and the OEMP will be sought to adequately address the need for consultation and approvals of matters which affect the local road network. This includes further detail within the REAC tables to address areas of concern, i.e. traffic management, a pre and post works condition survey and for regional diversion measures to be provided. The Council also requires enforceable measures to be included to deter haulage sub-contractors using unsuitable routes.**

Highways England response

22.4.12 The Applicant and Wiltshire Council intend to complete a legal agreement prior to the close of the examination that would regulate issues relating to the maintenance of highways created or altered by the Scheme and co-operation between the highway authorities on interactions between their respective networks during the operation of the Scheme. In respect of construction traffic, the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), reference MW-TRA2 sets out the measures that the Traffic Management Plan must cover and this includes “a programme of traffic management measures to be implemented and details of traffic management proposals for the works on or adjacent to public roads”. The Traffic Management Plan is secured by requirement 9 and must be approved by the Secretary of State following consultation with Wiltshire Council, prior to the commencement of any part of the Scheme.

Key Issue

- 22.4.13 **Clarification is required on the hours of work for the construction phase, and on the definition of “summer” for summer earthworks outside the specific chainages.**
- 22.4.14 **There is some concern as to the adequacy of the coverage of the 6.3 Environmental Statement Appendices 2.2 Outline Environmental Management Plan in relation to some areas of Record of Environmental Actions and Commitments (REAC) tables at 3.2a and 3.2b. For example, the Core Working Hours are set at 07:30 – 18:00 Monday to Friday and 07:30 –13:00 Saturday, which appear to be inconsistent with TR010025 7.4 Transport Assessment assumption in relation to normal working hours for establishing hourly construction traffic impacts, which states at 9.3.3, it is assumed that deliveries will be scheduled during a 12- hour period (7am to 7pm) 6 days a week.**
- 22.4.15 **It is axiomatic that the DCO stipulations, having legal force, will prevail. Given there are discrepancies between the draft DCO and the Transport Assessment, it is important that a clear understanding on the matter of site working hours is established before the DCO is finalised. The assumptions are important because they could impact on overall Scheme programme, especially where surplus material from the necessary portal excavations at the eastern end of the tunnels is to be transported by road to the proposed spoil holding area near Longbarrow.**
- 22.4.16 **The Council draws this issue to the attention of the Panel with a view to ensuring that there are not downstream issues arising from misunderstandings, and to confirm that the hours stated in the final DCO are, indeed, as intended by HE.**

Highways England response

- 22.4.17 With regard to Preliminary Works, core working hours are set out in PW-G4 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) and are 07:30-18:00 Monday to Friday and 07:30-13:00 Saturday throughout the year.
- 22.4.18 With regard to the Main works, core working hours (for all works except tunnelling and earthworks) are set out in MW-G12 of the OEMP and are 07:00-19:00 Monday to Friday and 07:00-13:00 Saturday.
- 22.4.19 Extended hours for earthworks in summer ('summer' being defined as British Summer Time i.e. late March to late October - to be clarified within the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) are 07:00-22:00 Monday to Saturday. At other times of the year the main works core working hours apply to earthworks.
- 22.4.20 However, the above main works core working hours, and main works extended summer hours for earthworks, are reduced to site-specific working hours of 07:30-18:00 Monday to Friday and 07:30-13:00 Saturday (all year round) for all works within Chainage 3520 to Chainage 4180 and Chainage 11300 to Chainage 12400 i.e. Winterbourne Stoke and Amesbury, as set out in MW-G13 of the OEMP.
- 22.4.21 Compliance with the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) is secured by way of the requirement contained in paragraph 4 of Schedule 2 to the draft development consent order [REP2-003].development consent order [REP2-003]. As such, it is a legal requirement that construction of the scheme will take place within the working hours as set out in the OEMP [APP-187].
- 22.4.22 Once the Tunnel Boring Machine (TBM) commences boring, it may need to be continuously operational to prevent ground closure and the TBM becoming trapped within the bored passage. This, therefore may require the TBM and ancillary works, such as slurry treatment and supply of materials, to be operational on a 24 hours 7 days/week basis, as described within item MW-G12 of the OEMP [APP-187].
- 22.4.23 These hours were used for the purpose of the relevant non-traffic related assessments in the ES, notably noise and vibration [APP-047].
- 22.4.24 The Transport Assessment, paragraph 9.3.3 [APP-297], explains the simplified interpretation of construction hours used in the assessment and took a precautionary approach to the assessment of construction traffic by including an additional 30% allowance of construction traffic to provide a robust assessment of the potential impacts.

22.5 Flood risk, groundwater protection, geology and land contamination

Key Issue

22.5.1 Further details from HE are required on contaminated land.

Highways England response

22.5.2 Discussions aimed to close out any remaining issues on contaminated land are recorded in sections 3.25 to 3.26 inclusive, of the Statement of Common Ground with Wiltshire Council submitted at Deadline 2 [REP2-018].

Key Issue

22.5.3 **The design of the revised culvert and modelling outputs for the surface water (pluvial) model is required. Information on ownership, maintenance regime and responsibility for the culvert, including the risk of blockage, is also required. The remaining actions from the peer review will need to be addressed.**

Highways England response

22.5.4 Subsequent to review of Wiltshire Council's Relevant Representation, an updated proposal to convey and discharge the flood waters has been developed, as noted in the updated Road Drainage Strategy submitted at Deadline 2 [REP2-009].

22.5.5 Specific outcomes of the assessment using the pluvial hydraulic model, which also fully address peer review comments, will be presented within the updated Flood Risk Assessment to be submitted at Deadline 3.

Key Issue

22.5.6 **There is an increase in flood risk due to the proposed Scheme. In order to generate confidence in the approach and outputs, the following points should be addressed**

- a. **Sensibility / verification check of Depth-Duration-Frequency (DDF) modelling from Flood Estimation Handbook (FEH) with local rainfall data (15-minute data should be available) which could affect design inputs to the model.**
- b. **Further discussion and sensitivity testing of the initial soil moisture content (Cini) value to be utilised in the project is required as the value is based on baseline catchment descriptors only.**

Highways England response

22.5.7 To provide the requested confidence and checking, additional hydraulic modelling has been carried out and is reported in the updated pluvial

hydraulic modelling report which is an annex to the updated Flood Risk Assessment (FRA) to be submitted to the Examination at Deadline 3. The updated FRA concludes there would be reduced flood risk to local critical infrastructure and no increase in flood risk to any properties due to the proposed Scheme.

- 22.5.8 Regarding the points at (a), Flood Estimation Handbook (FES) Vol 2, Section 12.2 states that local rainfall data should not be used in comparison with DDF rainfall model outputs. Specifically, this states that 'where users have access to rainfall records of a more realistic length (even 50-100 years), it is recommended in most cases that local data analyses should not be used to adjust FEH rainfall frequency results'. The reason that this advice differs for that given in flood frequency estimation is that rainfall is a much more spatially consistent variable than river flow, affected less by local features. The addition of local rainfall records is therefore much less likely to significantly improve an estimate than the addition of local flow records.
- 22.5.9 Highways England has advised Wiltshire Council of this guidance in ongoing discussions and engagement.
- 22.5.10 With reference to (b) above, Section 2.4 of the updated pluvial hydraulic modelling report to be submitted to the Examination at Deadline 3 as an annex to the updated Flood Risk Assessment demonstrates that the peer review comments have been fully addressed.

Key Issue

- 22.5.11 **Furthermore, there are several queries and items that are required to be answered or addressed from the hydraulics study:**
- a. **The Triangular Irregular Networks (TINS) utilised to define the option topography should be better integrated with the underlying Light Detection and Ranging (LIDAR). There appears to be a 1m difference / step at the interface of the baseline Digital Terrain Model (DTM) and the Scheme.**
 - c. **The model should be run for a longer simulation time as water levels are still rising at the current end-time of 10 hours. It will be important to test other storm durations, culvert sizes (and model simulation length), to optimise the Scheme.**
 - d. **The study does not consider the risk of blockage of the proposed culvert.**
 - e. **The proposals need to confirm who will own the culvert, who will be responsible for maintenance, and what the maintenance regime will be.**
 - f. **The proposals need to evaluate the resulting depth of flooding and flood hazard adjacent / across / downstream of the B3083 post Scheme.**

Highways England response

- 22.5.12 With reference to (a), (b), (c), (d) and (e), these queries have all been addressed within the updated pluvial modelling report as an appendix to the updated Flood Risk Assessment to be submitted at Deadline 3. Applicable Section numbers are as follows:
- a. Section 3.3
 - b. Section 4.2, Section 3.7.8-3.7.9
 - c. Section 3.9, Table 3.2
 - d. Road Drainage Strategy document (Environmental Statement- Appendix 11.3).
 - e. Section 4.4

Key Issue

- 22.5.13 **There is little in the way of cross referencing to the surface water (pluvial) study or road drainage strategy within the documentation, the findings of the groundwater study will have a direct impact on the other two studies.**
- 22.5.14 **In order to focus the approach and outputs, the following points should be addressed:**
- a. **The model would preferably be run for the full 1965-2016 run time for each of the revised baseline runs (the baseline runs with the revised calibration, the wet climate change run and the dry climate change run) and thorough comparisons made with the original Wessex basin model output and with observation / gauge data. The short period runs would be checked against these and output from the full runs used as starting heads for the short runs.**
 - b. **Provide clarification of how the climate change approach is consistent with that used in other flood risk assessments (and ensure they are consistent).**
 - c. **Use monitoring data comparisons to inform caveats to be applied to the use of absolute levels for flood levels or in Scheme design. The model is likely to be more reliable to predicting changes in heads (and flows) rather than absolute levels. Modelling absolute levels in extreme events would particularly hold uncertainty. The predicted position of the water table in terms of depth below ground should be used with a degree of caution.**
- 22.5.15 **Highways England have submitted additional groundwater reports following the preliminary meeting. Wiltshire Council has instructed Atkins to review these and will provide comments to the ExA by 10th May at Deadline 2a. The additional reports may address the points raised above.**

Highways England response

- 22.5.16 These items are in the Written Representations from Wiltshire Council (Items 123 and 124). Item 125 states that HE have submitted additional groundwater reports following the preliminary meeting. Wiltshire Council has instructed Atkins to review these and will provide comments to the ExA by 10th May at Deadline 2a. These comments have now been submitted as the Wiltshire Council Addendum to Written Representation [REP2a-002] and will be responded to as part of Deadline 3.
- 22.5.17 The Addendum confirms that item a) has been addressed and states that "Although not all of these specific runs have been carried out, the supplementary model runs do test the revised model over the full run period and test the sensitivity to starting heads. The results provide confidence that the modelling approach is valid."
- 22.5.18 The remaining comments in relation to a) and b) are carried through in the Addendum. Please see the separate response to the Addendum.
- 22.5.19 Item c). It is agreed that there is more confidence in a model's ability to simulate changes in heads (and flows) than in modelling absolute levels so changes have been used to assess impacts. With regard to flood levels, the existing and predicted modelled water levels below ground level are illustrated in Figure 3.10 of Appendix 11.4 [APP-282] and Figure 4.2 of Annex 1 [APP-282]. There is a predicted change in parts of Stonehenge Bottom valley, as shown in Figure 4.3 (Annex 1) which illustrates that the modelled change is in areas where there are no flooding concerns. Modelled peak simulated groundwater levels have been provided to the drainage design team for their drainage design. This is described in the drainage strategy appendix [APP-284]. Areas at risk of groundwater flooding have also been provided to flood modellers and geotechnical teams to assist in the design.

Key Issue

- 22.5.20 **There has been significant progress in addressing the issues raised in relation to the road drainage strategy. However, there are remaining points to be addressed to give confidence in the approach and outputs:**
- a. **There is no confirmation to flood risk posed to the proposed drainage treatment areas (DTAs). This should be checked for both impact on the Scheme and impact on surrounding land etc. It is likely that detailed design will impact on existing overland flow routes.**
 - b. **It is unclear what happens when the pond base blinds with sediment and infiltration is restricted, or where the design event is exceeded. Confirmation of the exceedance routes is required.**

- c. Provision of modelling outputs for the land drainage system (and culvert) demonstrating no detriment post development. d) Justification of the climate change allowances.**

Highways England response

22.5.21 In response to the above:

- a. The updated Flood Risk Assessment to be issued at Deadline 3 considers locations where road drainage features coincide with overland flow of water. These have been identified at Parsonage Down (paragraph 8.3.1). At these locations the effect of road drainage features has been assessed through hydraulic modelling and no mitigation is assessed as being required. For example, in the area east of Parsonage Down a road drainage pond will be located within close proximity to a surface water flow pathway through the valley. This drainage pond is included within the hydraulic model and the assessment is detailed within the updated Pluvial Hydraulic Modelling Report - Annex 1 Part B of the FRA to be submitted at Deadline 3. Results presented within Section 4 of that Annex do not demonstrate an adverse impact upon existing overland flow, and there is therefore no need for mitigation in relation to the impact the road drainage feature has on overland flows at this location. Plan drawings showing the existing and proposed overland flow routes in the vicinity of the Infiltration Basins will be shared with Wiltshire Council, hopefully by the week ending 31st May 2019.

The risk of sedimentation and blinding of the base has been considered within the preliminary design for the basins. Because of this and other risk issues, design guidance (The SuDS Manual 2015 (CIRIA C753)), recommends applying a factor of safety (level of resilience in the design) of 10 to the discharge infiltration rate when undertaking detailed design. At this preliminary design stage a factor of safety of 20 was applied, thus ensuring suitable resilience within the preliminary design. The risk of sedimentation of the base is one of the key considerations when undertaking the detailed design. Information regarding the inspection and maintenance regime for a range of SuDS features is provided in section 8 of the updated Road Drainage Strategy [REP2-009]. The overflow routes from the infiltration basins will be shown on the drawings to be shared with Wiltshire Council.

- b. The hydraulic model and the assessment of the culvert and land drainage system is detailed within the update Pluvial Hydraulic Modelling Report- Annex 1 Part B of the FRA to be issued at Deadline 3.
- c. The National Policy Statement for National Networks (NPSNN) requires that the potential impacts of climate change using the latest UK Climate Projections available should be taken into account and appropriate

mitigation or adaptation measures identified which cover the estimated lifetime of the new infrastructure. Highways England has complied with this requirement in the following manner.

For the road drainage design, Design Manual for Roads and Bridges (DMRB) guidance in document HD33 Design of Highway Drainage Systems on taking account of climate change was applied to manage the predicted rainfall that would be experienced by the road catchment. HD33 guidance requires the design solution to incorporate a 20% uplift in peak rainfall intensity and a sensitivity test with a 40% uplift in peak rainfall intensity, to enable an understanding of the range of impact between climate change risk scenarios. For this Scheme, it was determined that a more conservative approach was appropriate, due to the stage of design and the need to ensure sufficient land was included within the Red Line Boundary to accommodate the necessary road drainage features. Therefore, it was decided to adopt a precautionary approach and apply a 30% uplift in peak rainfall intensity as the design value, along with the 40% sensitivity test. The sensitivity testing showed that there would be no flooding from the Scheme with 40% uplift in climate change applied, as outlined in the results of the ES (Appendix 11.5, Flood Risk Assessment sections 7-9, [APP-284]).

Key Issue

- 22.5.22 **The tunnel construction method, and associated dewatering requirements, are not confirmed. The Council proposes that a tunnel construction method that minimises the need for dewatering is specified. Any dewatering method must have the facility to be stopped during periods of high rainfall or flood risk and have a full risk assessment approved by the EA and Wiltshire Council.**

Highways England response

- 22.5.23 A closed-face Tunnel Boring Machine (TBM) is considered to be the best option for tunnelling in the chalk geology found in this location as it provides greater control on settlement without the need for dewatering; this is referenced in the Environmental Statement (ES) Chapter 2 The Proposed Scheme, section 2.4.33 [APP-040].
- 22.5.24 Based on the current design and construction methods the requirement for dewatering is limited (ES Chapter 11, paragraphs 11.8.3i, 11.9.7b [APP-049]). Notwithstanding this, as noted in paragraph 2.4.34 of Chapter 2 of the Environmental Statement [APP-040], the highly variable nature of the groundwater levels means that it is possible that temporary and localised groundwater control could be required for the construction of the tunnel portal slab to launch the tunnel boring machine and also for some cross-passages for mechanical and electrical services at Stonehenge Bottom when groundwater levels are exceptionally high.

- 22.5.25 If required, the extent and duration of groundwater control would be minimised. Should the final design or construction methods require abstraction of groundwater or surface water, the Statement of Common Ground with the Environment Agency [REP2-012] states under Matters Agreed that the assessment of risk and identification of any required mitigation measures will be achieved through the Outline Environmental Management Plan (OEMP) [APP-187] (MW-WAT8) and whichever regulatory regime is ultimately agreed.
- 22.5.26 In the Statement of Common Ground with Wiltshire Council [REP2-018] under “Matters Under Discussion”, Item 3.29.7, it is confirmed that the need for dewatering will be minimised as far as reasonably practicable. The current proposal is to use tunnel construction techniques (such as the use of Tunnel Boring Machines) that limit the requirement for dewatering during construction. As agreed in the Statement of Common Ground with the Environment Agency [REP2-012] under “Matters Agreed”, the assessment of risk and identification of any required mitigation measures will be achieved through the Outline Environmental Management Plan (OEMP) [APP-187] (MW-WAT8) and whichever regulatory regime is ultimately agreed.

Key Issue

- 22.5.27 **The detailed Construction Environmental Management Plans (CEMPs) will be prepared by the preliminary and main works contractors once appointed. It is essential that the Council is consulted, and given sufficient time, for the preparation of the detailed CEMPs, to ensure that flood risk is managed adequately during the construction period. This would include all activities including vehicle movements, the location of construction roads, the placement of arisings and exceedance flow paths.**

Highways England response

- 22.5.28 The Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) item MW-G5 states:
- “The main works contractor shall prepare a CEMP, in accordance with this OEMP, prior to the commencement of the relevant project phase.*
- “In preparing the CEMP, the main works contractor shall consult with Wiltshire Council and the Environment Agency.”*
- 22.5.29 The OEMP contains outline measures to address flood risk which will be expanded upon by the appointed contractor(s) in their detailed CEMPS. The OEMP is secured by requirement 4 of the draft development consent order [REP2-003].
- 22.5.30 Further to this, as stated within the Written Question response to item DCO.1.66, an amendment is being made to the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is

- submitted at Deadline 3) which will apply these consultation obligations to the Preliminary Works CEMPs. Consultation with Wiltshire Council on both the main works CEMP and preliminary works CEMPs is therefore secured by the OEMP and requirement 4 of the draft development consent order [REP2-003].
- 22.5.31 In relation to land drainage, consultation with the planning authority is secured by Requirement 10 of the draft development consent order [REP2-003].
- 22.5.32 On the basis of the above, the following items are recorded as “Agreed” in the Wiltshire Council Statement of Common Ground submitted at Deadline 2 [REP2-018]:
- 22.5.33 **Item 3.28.3:** “Highways England will continue to engage with Wiltshire Council as the detailed design is developed. Wiltshire Council will be consulted on the relevant aspects of the CEMP(s) when they are developed by the Contractor(s) based on the OEMP”
- 22.5.34 **Item 3.28.4 :** “Regular liaison with Wiltshire Council will continue. It is noted that Wiltshire Council will be consulted on the detailed drainage design pursuant to requirement 10 of the draft DCO.”

22.6 Landscape and Visual

Key Issue

- 22.6.1 **Further details from HE are required on the potential impact of artificial light from floodlights on the local amenity**

Highways England response

- 22.6.2 Impacts from the lighting within compounds and working areas are set out in APP-045 paragraph 7.9.115 with paragraph 7.9.123 concluding that there would be a slight adverse effect to the character of the night sky.
- 22.6.3 In respect of further detail, this matter is addressed in existing DCO Requirements.
- 22.6.4 Item MW-G29 of the Outline Environmental Management Plan [(OEMP) [APP-187]] (a revised version of which is submitted at Deadline 3) provides a number of requirements for site lighting, including the avoidance of disturbance of nearby residents.
- 22.6.5 These will be reflected in the Construction Environmental Management Plan which must be prepared in accordance with the OEMP (as per item MW-G5 of the OEMP). Compliance with the OEMP is secured pursuant to requirement 4 of Schedule 2 of the DCO [REP2-003draft development consent order [REP2-003].

Key Issue

- 22.6.6 **The proposed green bridge no. 4 may not be sufficient, subject to further submissions, to mitigate potential adverse visual impacts on key monument groups with attributes of OUV, i.e. the Winterbourne Stoke, Diamond Group and Normanton Down Group. Further detailed information has been requested that clearly demonstrates where the dual carriageway will be visible from in the WHS landscape and beyond.**

Highways England response

- 22.6.7 Taking into consideration similar feedback received from the statutory consultation undertaken in February - April 2018, in relation to the impacts of the Scheme at the western end of the WHS, the suggestion of a wider bridge was adopted for the scheme that is the subject of the DCO application. Green Bridge No. 4 was widened to approximately 150 metres and was the subject of the supplementary consultation undertaken in July and August 2018 and summarised in Chapter 6 of the Consultation Report [APP-026]. The wider bridge will provide greater physical and visual connectivity between the northern and southern parts of the WHS, including between the Winterbourne Stoke Crossroads Barrows and the Diamond Group in this western part of the WHS, with heritage, landscape and biodiversity benefits, details of which can be found in the respective ES Chapters: Chapter 6, Cultural Heritage [APP-044], Chapter 7; Landscape and Visual [APP-045]; and Chapter 8, Biodiversity [APP-046].
- 22.6.8 The Scheme has been developed to reduce the visual intrusion of new highway sections within the WHS and between monuments and monument groups (ES Chapter 6, Cultural Heritage, Section 6.8, paragraph 6.8.5) [APP-044]. Additionally, important viewpoints for understanding the OUV of the WHS were discussed and agreed with HMAG (ES Chapter 6, Cultural Heritage, Appendix 6.1, paragraphs 5.3.38 – 5.3.40) [APP-044], as were the location and form of Green Bridge No. 4, which will replicate the existing topography.
- 22.6.9 Further detailed information has been provided via the updated Statement of Common Ground between Wiltshire Council and The Applicant, [REP2-018].

Key Issue

- 22.6.10 **Significant adverse landscape and visual residual effects remain in the River Till Valley, Byway WST04 and at Countess Farm. There may be opportunities to reduce the time of the efficacy of mitigation through advance planting or using larger nursery stock at these locations and at Lord's Walk. Refer to LIR for further information.**

Highways England response

- 22.6.11 Wiltshire Council (WC) is correct in saying that the Landscape and Visual Impact Assessment (LVIA) [APP-045] concluded that there would be Significant Adverse residual (at Year 15) for the local landscape character area within the River Till Valley, for recreational users of Byway WST 04 with close range views of the River Till viaduct and at Countess Farm for views of the flyover, as set out in Table 7.13 of [APP-045]. However, it is important to recognise that such impacts would be localised.
- 22.6.12 At this time and stage of planning and delivery, no detailed programs or schedules of phasing of the earthworks to allow early planting have been put in place, as set out in Written Question LV.1.5 [REP-033].
- 22.6.13 At the River Till Valley, advance planting, suggested by WCC, would not be possible on the approach embankments due requiring the embankments to be constructed in the first instance. Advance planting within the valley floor and beyond the area of construction was discounted during the iterative design phases, due to restricted land take within the floodplain and the need to maintain an open valley floor.
- 22.6.14 At Countess Roundabout, the Landscape and Visual Impact Assessment [APP-045] included for the implementation of semi-mature trees being planted for the year 1 assessment [as set out in [APP-045, Table 7.5]. However advance planting, as suggested by Wiltshire Council WC, would not be possible on the embankments or adjacent to the slip roads due to construction constraints of needing to implement the flyover prior to planting.
- 22.6.15 Additionally, the use of off-site planting at Countess Farm has been agreed with the National Trust and discussions are on-going as set out in the Applicants response to Written Question CH.1.47 [REP2-025].
- 22.6.16 The detail of all proposed landscaping would be developed as part of the detailed design of the Scheme. Requirement 8 in Schedule 2 to the draft development consent order [REP2-003], requires before the commencement of any part of the Scheme, the written approval of the Secretary of State, in consultation with the local planning authority, of a landscape scheme for that part of the Scheme.

22.7 Traffic and Transport

Key Issue

- 22.7.1 **During construction of the Scheme, the TA forecasts that the inevitable additional delays on the A303, particularly at the Countess junction area, will cause additional diverting traffic onto other routes both to the north and south of the A303. This diverted traffic must not be locally obstructed by on-highway parking associated with solstice and oatland**

events, or pedestrian movements associated with parked vehicles put in jeopardy by passing traffic. This is a particular concern on most of the local roads where pedestrian provision is not available (no footways, and sometimes unusable verges) e.g. A360, B3086, Packway (part).

- 22.7.2 It is the Council's view that a Traffic Regulation Order (TRO) should be provided for in the DCO having the effect of limiting parking on defined roads over a period extending to about a week either side of both equinoxes and both solstices (about two months per year). At the time of preparation of these written representations, the view of HE on this matter has not been fully explored, and the Council is developing its position on the matter.

Highways England response

- 22.7.3 This issue is under discussion with Wiltshire Council (ref Issue 3.5.9 of the Statement of Common Ground with Wiltshire Council submitted at Deadline 2 [REP2-018]) and progress will be reported in future updates to the Statement of Common Ground.
- 22.7.4 Measures to address this matter will be agreed with Wiltshire Council and included in the separate legal agreement referred to in 22.4.5 above.

Key Issue

- 22.7.5 There appear to be some inconsistencies within the Draft DCO at Schedule 9 Part 1 in relation to the description of the length of the new and improved A303 trunk road. The length is described as 11.7km and 11.6km, and the cumulative length of the descriptive parts appears to be 11.51km.

Highways England response

- 22.7.6 The correct total length of the new road as referred to in Part 1 of Schedule 9 of the draft development consent order [REP2-003], is 11.6km. This length is from Chainage 0+800 in the west to Chainage 12+400 in the east. Chainages can be seen on the Engineering Section Drawings (Plans and Profile) [APP-010]. The length of 11.7km was a typographic error and will be updated in a revised Schedule 9.
- 22.7.7 Article 2(4) of the draft development consent order [REP2-003] clarifies that all distances stated in the draft development consent order are approximations. Consequently the addition of the constituent parts in Schedule 9 will lead to minor inaccuracies arising from rounding of the individual distances. Nonetheless, the Applicant will review Schedule 9 and update Schedule 9 as appropriate.

Key Issue

- 22.7.8 **The Council proposes that a covenant be included within a legal agreement with HE to secure the provision of full details, including 'as constructed' drawings, so that its Highway Records, and asset register can be properly updated for maintenance and budgeting purposes. It is understood that HE concur on this point.**

Highways England response

- 22.7.9 Highways England is currently discussing a legal agreement with Wiltshire Council which is anticipated to deal with 'handover' arrangements for both new and improved local roads and de-trunked roads.

Key Issue

- 22.7.10 **The Council considers that a TRO should be provided for in the DCO to limit parking on defined roads for a period either side of summer and winter equinoxes and solstices.**

Highways England response

- 22.7.11 This issue is under discussion with Wiltshire Council (ref Issue 3.5.9 of the Statement of Common Ground with Wiltshire Council submitted at Deadline 2 [REP2-018]) and progress will be reported in future updates to the Statement of Common Ground.

Key Issue

- 22.7.12 **It is understood that the traffic signals at the Countess and Longbarrow junctions might also be used in connection with the closure of the westbound merge slip road at Countess and the eastbound merge slip road at Longbarrow during such times as the tunnel(s) need to be closed. It is unclear how these might work, together with the need to divert A303 traffic onto Countess or Longbarrow junctions in order to effect tunnel closures.**

Highways England response

- 22.7.13 This matter is the subject of issue reference 3.5.3 outlined within the Statement of Common Ground with Wiltshire Council submitted at Deadline 2 [REP2-018] and Relevant Representations Report [AS-026] (reference number: RR-2365). The matter continues to be under discussion. The detailed operational plans to support tunnel closures will be developed and approved at the subsequent design stage as part of the role of the Tunnel Design Safety and Consultation Group (TDSCG) of which Wiltshire Council is a member. The plan for tunnel closures will not only need to consider how the tunnel closure barriers are operated, but how other operational controls and procedures such as the traffic signal operations at Countess and

Longbarrow roundabouts respond to provide an effective whole of network solution.

Key Issue

- 22.7.14 **The Countess roundabout includes a new pedestrian and cycle route between Countess Road North and Countess Road (South). It is unclear whether or not the merge slip road closures (for tunnel events) will affect the crossing near the nose of the slip road.**

Highways England response

- 22.7.15 The precise form of non-motorised user (NMU) crossing will be confirmed during detailed design. The facility will include signalised road crossings to provide safe crossing points for pedestrians and cyclists, preserving north/south connectivity along the A345 and enabling pedestrians and cyclists to pass beneath the A303 flyover above as stated in the Environmental Statement Chapter 2: The Proposed Scheme [APP-040], paragraph 2.3.24.
- 22.7.16 Based on the preliminary design, the signal control to stop traffic entering the tunnel will be through the application of Advanced Motorway Indicators (AMIs), traffic signals and a tunnel closure barrier, which will be located near the start of the Countess roundabout westbound merge slip road.
- 22.7.17 Based on the above, to ensure the required visibility to the proposed AMIs and signalised traffic signals can be achieved, their locations will be accurately located during the detailed design stage.

Key Issue

- 22.7.18 **Layby on A303 to West of Scotland Lodge Farm**

The Council has agreed with HE that, as the successor authority responsible for this part of the A303 (but see below in relation to the De-trunking drawings) it would prefer the area to revert to highway verge and be mounded so as to discourage use as a parking area. The Council envisages no operational needs for the retention of the land as carriageway. The layby is part of the existing highway, and is not proposed to be downgraded to a lower form of highway, such as a public right of way. Under the provisions of Highways Act 1980, s96, a highway authority is allowed to lay out verges for planting trees etc. It is envisaged that this is what will be done with the layby. However, the layby is not included on drawing 01 of the de-trunking plans referred to in the draft DCO (see TR010025-000167-2-12-etrunkingPlans.pdf. – Plan 1 of 2). It is clear that the highway is not intended to be retained as trunk road, so the Council believes the area of the layby should be shown hatched for the complete width of the highway to the east of Point A (to the west of which the A303 is proposed to be stopped up

and replaced with a byway open to all traffic). It is clearly not the intention that the byway should run on the line of the existing layby.

Highways England response

- 22.7.19 Following confirmation by Wiltshire Council that the lay-by is no longer required by them for operational reasons, Highways England intends to close this lay-by, re-profile it to prevent access, re-seed it and return it to a grassed verge. This is recorded in the Wiltshire Council Statement of Common Ground submitted at Deadline 2 [REP2-018], section 3.5 'Matters Under Discussion in relation to Highways Design', issue reference 3.5.2. Highways England is reviewing the appropriate means of taking this forward.

Key Issue

- 22.7.20 **The existing Allington Track is subject to the national speed limit. Traffic collision data indicates that there have been 4 slight and 1 serious personal injury collisions during the years 2014-2018. This is not considered to be unusual for the type of road. However, the road is forecast to be subject to higher levels of traffic as a result of the Scheme, and the speed limit should be reviewed for the existing road in due course, as and when changes in the use of the road are better understood.**

Highways England response

- 22.7.21 As included in the Wiltshire Council Statement of Common Ground (REP2-018), issue reference 3.5.5, the proposed horizontal alignment for the new Allington Track link (shown on Sheet 11 of the Traffic Regulation Measures Plans (Speed Limits) [APP-013]) includes two bends, of 90 degrees (to the west) and 35 degrees (to the east). This design has been agreed with Wiltshire Council. The speed limit has therefore been reduced to reflect the design. The appropriateness of the speed limit included in the Scheme at this location remains under discussion.

Key Issue

- 22.7.22 **It is considered that the new length of road connecting with Equinox Drive should be subject to a speed limit consistent with the existing road. It is considered that a speed limit of 30 mph on the road does not match with the standard of road to be provided or the parameters used as limit criteria.**

Highways England response

- 22.7.23 Discussions have been held with the Wiltshire Police Traffic Management Officer; the feedback received was that there were 'no issues' with the 30mph speed limit proposal for Allington Track. The appropriateness of the speed limit included in the Scheme at this location remains under discussion.

Key Issue

- 22.7.24 Because the Allington Track becomes a more attractive route between the A338 and the Solstice Park area of Amesbury, it is concerned that it might, as a consequence, attract a greater number of large vehicles (e.g. those seeking access from the A338 to Solstice Park), who are those which would currently perhaps be reluctant to use the existing A303 junction at its northern end rather than travelling via Parkhouse junction. The Council therefore seeks to address this uncertainty by making provision within a legal agreement for payment to be made to the Council to make a weight restriction and / or speed limit order in the event use of the road by large vehicles becomes an issue requiring intervention, or a speed limit is deemed appropriate.
- 22.7.25 The Council also wishes to have some traffic calming measures imposed on the road to address perceived issues with additional traffic, by introducing increased travel times for users, thereby helping to discourage its use as a short cut.

Highways England response

- 22.7.26 Wiltshire Council Statement of Common Ground submitted at Deadline 2 [REP2-018] issue reference 3.5.15 includes:

“The parties agree that matters relating to the highways that Wiltshire Council would become liable to maintain, as a result of the Scheme, are capable of being resolved through the terms of a legal agreement between the parties. The parties intend to conclude such an agreement before the close of the examination.” Discussions between the parties will continue on the precise terms of the agreement. While traffic calming on Allington Track is not referenced, if considered appropriate following these discussions, these measures will be included in the agreement.

Key Issue

- 22.7.27 Similar issues around the setting of local speed limits apply to the proposed works to re-prioritise traffic movement at the Rolleston Crossroads (where a 40 mph speed limit is considered by the Council to be inappropriate; rather the bend should be managed by way of local warning signs) and on the de-trunked A303 between its western and the Longbarrow Crossroads (where Wiltshire Council considered that the proposed speed limits are partially inappropriate). Here it is considered that the proposed 30 mph speed limit within the village is correct, subject to its adjustment to terminate the 30 mph limits at the extremity of the continuous built frontage; but the 40 mph speed limit between the village 30 mph speed limit and the Longbarrow junction is considered to be too low, given the nature of the alignment, lack of frontage development, accesses and side road junctions, as well as the carriageway width, which will encourage higher speeds.

Highways England response

- 22.7.28 Discussions are continuing between the parties on the appropriateness of the 40mph speed limit included in the Scheme and shown on sheet 13, in respect of the re-aligned Rollestone Cross Junction, and in respect of the length of the existing A303 to be de—trunked as shown on sheets 3, 4 and 5, of the Traffic Regulation Measures Plans (Speed Limits) [APP-013].

Key Issue

- 22.7.29 **The Classification of Roads Plan (TR010025-000168-2-13-ClassificationOfRoadPlans.pdf) shows, inter alia, proposals to classify those parts of the de-trunked A303 between Longbarrow junction and its western extremity west of Scotland Lodge Farm. The plan shows the de-trunked section to the west of the south side B3083 junction as classified unnumbered road. The Council does not agree that this length of road has a material significance in relation to its function, and should be shown on the plan as an unclassified road (a ‘D’ road).**
- 22.7.30 **There are implications resulting from the classification of roads. For example, new access proposals on unclassified roads do not require planning permission; a rational approach to numbering in this circumstance might avoid unnecessary future complications.**

Highways England response

- 22.7.31 The classification of the western extremity of the de-trunked A303 is currently under discussion as recorded in the Wiltshire Council Statement of Common Ground submitted at Deadline 2 [REP2-018] issue reference 3.5.6: “Highways England considers the ‘C’ classification for the 595 metre length of the existing A303 (to be de-trunked), as shown dashed orange on the Classification of Roads Plan [APP-016] (see Inset 1) to be appropriate but acknowledges that Wiltshire Council will become the highway authority responsible for the maintenance of this stretch of road once it has been de-trunked. Highways England and Wiltshire Council are discussing the appropriateness of the classification proposed by the Scheme”.

Key Issue

- 22.7.32 **The de-trunking drawings for the Scheme (TR010025-000167-2-12-DetrunkingPlans.pdf) indicate that it is not proposed that the existing circulatory part of the roundabout is to be de-trunked. This would represent, in the Authority’s view, an unusual circumstance, because the circulatory carriageway will effectively become part of the A345 route. It is normal practice, at similar grade separated junctions, for HE controlled highway to have a boundary at a point near the roundabout end of the slip roads. Wiltshire Council does not object to the circulatory part of Countess junction being retained as vested with HE.**

However, the position is required to be explicit rather than implicit, as does the future responsibility for the control of the traffic signals.

- 22.7.33 In relation to the Longbarrow junction, the Roads Classifications drawings (TR010025-000168-2-13-ClassificationOfRoadPlans.pdf) shows the roundabouts and overbridge highways between the two roundabouts coloured blue; part of the A360. It appears there is some inconsistency between the two junctions, hence the need for clarification, and possible amendment of the de-trunking drawing and the roads classification drawing in relation to Countess junction.

Highways England response

- 22.7.34 The question of whether or not the circulatory carriageway of Countess junction should be de-trunked is currently under discussion as recorded in the Wiltshire Council Statement of Common Ground submitted at Deadline 2 [REP2-018] issue reference 3.5.4:

“Highways England confirms that the De-trunking Plans [APP-015] do not show the existing Countess Roundabout as being de-trunked and as such the responsibility to maintain the circulatory carriageway would remain with Highways England. Highways England is considering Wiltshire Council's concerns in respect of this matter which remains under discussion.”

- 22.7.35 The classification of the sliproads, roundabouts and overbridge highways between the two roundabouts of Longbarrow junction is currently under discussion as recorded in the Wiltshire Council Statement of Common Ground submitted at Deadline 2 [REP2-018] issue reference 3.5.15:

“Schedule 9 to the draft DCO [APP-020] and the Classification of Roads Plan [APP-016] must be read alongside article 47 of the draft DCO. The roads described in Part 2 of Schedule 9, the slip roads between the A303 and the new Longbarrow junction, will become a trunk road by virtue of article 47(1)(a). The roads described in Part 3 of Schedule 9, comprising the links between the existing A360 and the new Longbarrow junction, the circulatory carriageways of the northern and southern roundabouts, and the link between the two carriageways carried by Green Bridge No.3 over the existing A303, will be classified as the A360 by virtue of article 47(1)(b) of the draft DCO.

“This is shown in Inset 2 on the Classification of Roads Plan. As noted above, roads that are not trunk roads must be completed to the reasonable satisfaction of the local highway authority which would then become responsible for their maintenance, by virtue of article 9(1).

“The responsibility for maintaining the highway surface of the A360 carried over the A303 trunk road by Green Bridge No.3 would fall to the local highway authority, although the structure of Green Bridge No. 3 would be maintained by Highways England, by virtue of Article 9(6).

“The parties agree that matters relating to the highways that Wiltshire Council would become liable to maintain, as a result of the Scheme, are capable of being resolved through the terms of a legal agreement between the parties. The parties intend to conclude such an agreement before the close of the examination.”

Key Issue

- 22.7.36 **HE have indicated that lighting will not be provided because of concerns about light pollution in the vicinity of the WHS; HE provide in their design proposals for traffic signals to control this junction to address safety concerns as a result of no night-time lighting. It is not clear whether these are to be night time only signals or full-time, or, indeed part time during daylight hours. The Panel will need to consider whether the provision of traffic signals, with constantly changing coloured lights (with a horizontal aspect, as opposed to a downward vertical aspect for street lighting, and therefore visible from a material distance, and necessarily visible from at least the design speed stopping sight distance, in this case 295m for the trunk road approaches and 215m for the A360 and the road connecting with Winterbourne Stoke), represent an acceptable alternative to street lighting. Current standards for street lighting, and the use of flat glass cut-off lanterns, which can preclude light above the horizontal plane, has little impact remote of its immediate location.**

Highways England response

- 22.7.37 A key objective of the Scheme is to 'help conserve and enhance the WHS'. Therefore to protect the visual impact on the WHS, and obtrusive lighting within the surrounding rural environment there will not be any lighting along the open road inside or outside the WHS. No standard road lighting is proposed on the A303 or at the roundabout at Longbarrow junction. This is secured by items D-CH8-12 inclusive of the Outline Environmental Management Plan (OEMP), an updated (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).
- 22.7.38 The roundabouts at Longbarrow junction will be signal controlled to ensure safe use of the junction providing safe crossing of the A360 (south) for non-motorised users. The proposal to include traffic lights will make the stop lines more prominent for road users and will combat the potential conflict with Walkers, Cyclists, Horse Riders (WCHs) and slow-moving vehicles.
- 22.7.39 The ES Chapter 2 (2.3.11) [APP-040] states that the traffic lights could be used during both day and night. The traffic signal design and management of light spill will be undertaken during the detailed design stage. Measures such as traffic signal hoods and other methods to focus the directional nature of light from the signal head will be put in place. Over 70% of the potential traffic signal sites at Longbarrow roundabout do not face in an easterly or north easterly direction, and the signal head aspects themselves provide a

directional source of light which will minimise visibility outside of the intended viewing angles. Signal dimming facilities are also available within the controller for reduced light /dark periods.

- 22.7.40 The design of the Longbarrow junction has been carefully developed to secure an optimum balance over its layout, location, efficiency of operation and safety, with minimised environmental impact.

Key Issue

- 22.7.41 **The Council is concerned to ensure that there is agreement on a treatment for the decommissioned A303. The currently proposed 4m wide bound surface would not be compatible with the aims and policies of the WHS Management Plan nor its vision of a tranquil, rural landscape. The same issues apply to any new access routes or rights of way within the WHS established as part of the Scheme. The same careful design approach is required for the green bridges, tunnel portals and for road signage and fencing within the WHS.**

Highways England response

- 22.7.42 As stated at Table 6.7 of Environmental Statement Chapter 6 [APP-044], the principle is agreed with Wiltshire Council to downgrade the route of the existing A303 to a restricted byway. As per Environmental Statement Chapter 2 - The Proposed Scheme [APP-040, 2.3.56d], scheme assumptions had to be made in terms of design in order to undertake the EIA and the HIA. As per [APP-040], 2.3.56e. Highways England is submitting an updated OEMP for Deadline 3 that contains additional design commitments, design principles and a mechanism for consultation with heritage stakeholders (including Wiltshire Council) on elements of the detailed design of the Scheme within the World Heritage Site.

Key Issue

- 22.7.43 **The Council requires that conditions for approval by the Local Planning Authority (LPA) are in place for all design details.**

Highways England response

- 22.7.44 As a nationally-significant infrastructure project relating to the strategic road network, Highways England is of the view that it would be inappropriate for Wiltshire Council to have an approval function over the design of Scheme. However, Highways England recognise and value the input that Wiltshire Council could provide in respect of the development of the detailed design of aspects of the Scheme. An updated version of the OEMP has been submitted for Deadline 3 that includes further design commitments, design principles and a robust mechanism for consulting heritage stakeholders (including Wiltshire Council) on aspects of the detailed design of the Scheme within the World Heritage Site. The implementation of the OEMP is secured

by Requirement 4 of Schedule 2 of the draft development consent order [REP2-003].

- 22.7.45 In addition, Highways England and Wiltshire Council are progressing a legal agreement that would address matters arising from highways created or altered by the Scheme over which Wiltshire Council is, or would become, the highway authority.

Key Issue

- 22.7.46 **Under DCO Article 7, the limits of deviation of the tunnel are set out as a deviation of up to 200m westwards. This is a matter of concern as it is a significant variation in terms of the very careful location of the eastern and western portals in relation to topography and significant archaeological remains. The Council seeks clarification of this issue and requires further consultation in the case that the deviation is invoked.**

Highways England response

- 22.7.47 The Tunnel Limits of Deviation (LOD) are considered necessary to facilitate the safe construction of the TBM bored tunnel by allowing some realignment of the location of the temporary drive and reception portals at the western and eastern end of the tunnel should this be necessary by the contractor. Further information is included in Highways England's response to Written Question CH.1.57 [REP2-025].
- 22.7.48 The Environmental Statement Chapter 6 [APP-044] and the Environmental Statement Appendix 6.1 - Heritage Impact Assessment (HIA) [APP-195] considered the worst case scenario for the Scheme and the results of the archaeological evaluations for the western portal and approaches and the eastern portal and approaches prior to submission of the DCO application.
- 22.7.49 With regards to the limits of deviation for the points of commencement /termination of Work Nos. 1E, 1F and 1G as set out in article 7(7) of the DCO:
- 22.7.50 **Work No.1E**
- Article 7(7) allows for the cut and cover section of the tunnel to commence 200 metres westwards from the location shown by the "bow-tie" on the Works Plans [App-008] and by a nominal 1m eastwards from that position. The 200m deviation westwards would allow for the point of commencement of Work No.1F (the bored tunnel and associated works) to also deviate westwards by the same amount, should it be required during the detailed design.
- 22.7.51 The exercise of this limit of deviation would allow archaeological remains, that would otherwise be archaeologically excavated and recorded prior to construction of the Scheme (which positions the western portal tunnel face at chainage 7400), to be preserved in situ. The nominal 1m deviation of the

point of termination of Work No.1E eastwards would only increase the footprint slightly for the western portal and would not physically impact archaeological remains that are known to contribute to the OUV of the WHS. The significant effects reported in the Environmental Statement Chapter 6 [APP-044] and the conclusions reached in the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] are therefore the same whether the limits of deviation are used or not.

22.7.52 Should the maximum westerly deviation of 200m be required by the detailed design for both Work No.1E and Work No.1F then this would benefit the setting of five isolated designated heritage assets that contribute to the OUV of the WHS and lying to the south of the A303. This includes:

- Bowl barrow south of the A303 and north-west of Normanton Gorse (NHLE 1010832);
- Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft' (NHLE 1010833);
- Bowl barrow 400m west of Normanton Gorse (NHLE 1010831);
- Bowl barrow 350m south-west of Normanton Gorse (NHLE 1013812); and
- Linear boundary within Normanton Gorse (NHLE 1010838)

22.7.53 The above benefits would result in Slight Beneficial (and therefore non-significant effects) and therefore the conclusions reached in the Environmental Statement Chapter 6 [APP-044] and the overall conclusions reached in the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] are the same whether the limits of deviation are used or not.

22.7.54 **Work No.1F**

Article 7(7) allows for the points of commencement and termination of Work No.1F (the bored tunnel and associated works) to deviate from the "bow-ties" shown on the Works Plans by up to 200m westwards and 30m eastwards respectively. It also permits the point of commencement of Work No.1F to deviate by a nominal 1m eastwards and the point of termination to deviate by a nominal 1m westwards.

22.7.55 The same considerations as those discussed in respect of Work No. 1E above apply to westward deviation of the point of commencement of Work No.1F. Regarding the 30m eastwards deviation of the point of termination of Work No.1F this would allow archaeological remains, that would otherwise be archaeologically excavated and recorded prior to construction of the Scheme (which positions the eastern portal tunnel face at chainage 10400), to be preserved in situ. The nominal 1m deviation westwards of the point of termination of Work No.1F would only increase the footprint slightly for the eastern portal and would not physically impact archaeological remains that

are known to contribute to the OUV of the WHS. The significant effects reported in the Environmental Statement Chapter 6 [APP-044] and the conclusions reached in the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] are therefore the same whether the limits of deviation are used or not.

22.7.56 **Work No.1G**

Article 7(7) allows the points of commencement and termination of Work No.1G to deviate eastwards from the "bow-tie" shown on the Works Plans by up to 30m and by up to 1m westwards. This is considered in response to 1F above.

Key Issue

22.7.57 **An example of the Council's concerns is in relation to the B3083, in particular the section between the A303 and Shrewton. This road offers a direct access to an area of the proposed works involving a secondary works compound to serve the construction of one of the Scheme's significant structures – the River Till bridge. For works associated traffic with a trip end to the north of the area, the obvious shortest route to the site might be via Shrewton, likewise from the A303 the Winterbourne Stoke junction would offer the obvious link to the site.**

Highways England response

22.7.58 Details of compounds' access and egress routes will be developed as part of the Traffic Management Plan (TMP) required by paragraph 9 of Schedule 2 of the draft development consent order [REP2-003] to be developed in consultation with Wilshire Council. Further details of what issues this traffic management plan will deal with are set out in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) Items MW-TRA1 to TRA11, which is secured through paragraph 4 of Schedule 2 to the draft development consent order [REP2-003].

22.7.59 It is noted that OEMP item MW-TRA4 includes the following commitment regarding the Site Access Plan:

“The main works contractor shall develop a Site Access Plan (to be included within the TMP) identifying site access and egress routes that may be used by the main works contractor and the mechanisms for how they can be varied. The main works contractor shall keep site access / egress points clear at all times and will design and construct site access / egress points to a suitable standard to enable the smooth access / egress of vehicles in a forward direction to limit disruption to road users due to use of the access points.”

22.7.60 The main access to the proposed construction compound near the B3083 would be through site from the haul road shown on ES figure 2.7 “Illustrative Construction Layout including Compounds and Haul Routes” [APP-061] rather than from the B3083. OEMP item MW-TRA7 includes the following commitment regarding the Haul routes:

“The main works contractor shall provide haul routes through the works for use by construction vehicles. Site access points shall be positioned where possible to enable the use of haul routes to be maximised throughout the works, rather than using public roads. Traffic management measures will be provided by the main works contractor where the crossing of public roads is required.”

Key Issue

- 22.7.61 **The obvious consequence for construction traffic is that, within the DCO working hours’ restrictions, many of the lorry movements would be during times of day when congestion occurs. There would be a clear incentive for sub-contractors engaged on the Scheme to seek to take an alternative i.e. through Amesbury centre or along The Packway, to maximise the efficiency of their operations in terms of tonnage moved per day. It would be perverse to agree to such routes being used for construction traffic, not least because the point of the Scheme is to provide capacity on the A303 and to relieve other routes from being used by trunk road traffic.**
- 22.7.62 **Whilst a Traffic Management Plan is a requirement (Requirement 9) of the draft development consent order, there is nothing in the draft development consent order or the OEMP to say where responsibility lies to ensure unapproved routes are avoided. In Table 2.1 of the OEMP (TR010025-000340-6.3_ES-Appendix_2.2_OEMP.pdf), there is no reference in the responsibilities of the Traffic Control Officer to ensure approved routes only are used by construction traffic. Table 3.2b, MW-TRA2 sets out those measures to be included in the TMP. There is no specific reference to the need to avoid use by construction traffic of The Packway or other alternative routes between the east and Longbarrow areas of the site.**

Highways England response

- 22.7.63 This issue is under discussion with Wiltshire Council and progress will be reported in future updates to the Statement of Common Ground.
- 22.7.64 A revision is being made to the OEMP [APP-187], submitted at Deadline 3. This will include an amendment to Table 2.1 which will require the Traffic Officer to be responsible for ensuring contractors are aware of the approved routes to be used by construction traffic and to monitor compliance with those routes. An amendment to item MW-TRA5 will also be made, such that reference to the use of ‘main’ roads be changed to read ‘principal’. It is

considered that this change will have the effect of being able to regulate use of Class 2 roads or below, thereby addressing concerns about use of e.g. the B3083 or Packway by construction related traffic.

22.7.65 The Council would be able to enforce compliance with this TMP as local planning authority pursuant to section 161 of the Planning Act 2008.

22.7.66 When developing the TMP, the main works contractor will be obliged to consider and monitor the impact on both strategic and local road networks. OEMP item MW-TRA11 includes the following commitment regarding the monitoring of traffic management measures:

The main works contractor shall monitor traffic management schemes, traffic levels on roads and site accesses and public roads adjacent to access points to maintain their effectiveness and condition throughout the works and to provide for the safety of traffic, the public and construction staff during traffic management works.

Key Issue

22.7.67 **Traffic Management Plan**

The Council would expect any consultation to be meaningful and proportionate in the context of the matters upon which it is consulted. The Council also expects that any comments made by the Council in consultation on this Scheme will be fully and conscientiously considered in line with the Supreme Court case of R (on the application of Moseley (in substitution of Stirling Deceased)) (AP) (Appellant) v London Borough of Haringey (Respondent) [2014] UKSC 56, where Lord Wilson endorses the requirements of procedural fairness which will inform the manner in which consultation is undertaken; one of the criteria includes that the product of consultation must be conscientiously taken into account.

22.7.68 **The Council must approve the design, construction details and specification for all diverted and new sections of PROW maintainable by the Highway Authority prior to commencement of works (along with any commuted sums).**

Highways England response

22.7.69 In carrying out consultation required through the draft development consent order, if granted, the Applicant would observe its legal duties in relation to carrying out fair and lawful consultation.

Key Issue

22.7.70 **The Council must approve the design, construction details and specification for all diverted and new sections of PROW maintainable by the Highway Authority prior to commencement of works (along with any commuted sums).**

Highways England response

22.7.71 Highways England is currently discussing a legal agreement with Wiltshire Council which is anticipated to deal with 'handover' arrangements for both new and improved local roads and de-trunked roads. This will include the extent and scope of these assets. This agreement will set out the arrangements for the Council to engage with the design, construction details and specification for all all diverted and new sections of PROW maintainable by them. This is additional to the requirements to consult with Wiltshire Council on PRoW matters set out in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).

Key Issue

22.7.72 **Where temporary diversions or closures of public rights of way are necessary during the construction phase, the construction details of alternative routes to be provided must be agreed in advance with the Council as Highways Authority.**

Highways England response

22.7.73 The Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) sets out in Table 3.2b under MW-G32 an obligation to co-ordinate activities and under MW-TRA1, MW-TRA2 and MW-TRA10 a requirement to implement traffic management measures, consult with Wiltshire Council when developing the Travel Management Plan and provide alternative appropriate and accessible routes. Furthermore, article 11 of the dDCO requires the Applicant to obtain street authority consent (who would be Wiltshire Council) for the temporary diversion or closures of any 'street'; the definition of which includes a 'highway', which therefore includes PRoWs.

Key Issue

22.7.74 **Detailed proposals for the rights of way and access changes are required including surfacing, width, signage and waymarking, structures to provide access to non-motorised users and motorised vehicles, private means of access, boundary fencing / hedging, fencing of Green Bridges against drops, and verge treatment. Further information on junction layouts, proposed routes and stopping-up proposals is also required.**

22.7.75 **Design and construction details for the new sections of public rights of way have yet to be made available by HE. The Council notes that the ExA requires HE to have provided design details for public rights of way by Deadline 2, on 3rd May 2019. The Council will wait until it has received this information before expressing its view on whether HE's expressed proposal within the SoCG, to resolve matters relating to the**

highways that Wiltshire Council would become liable to maintain as a result of the Scheme, are capable of being resolved through the terms of a legal agreement between HE and the Council; the agreement to be concluded before the close of the Examination. Such an agreement will need to provide for the payment to the Council of agreed commuted sums.

Highways England response

- 22.7.76 All the new public rights of way (PRoW) proposed along the length of the Scheme would be constructed in a way that will make them fit for all the uses permitted by their designated status. Exact cross-sectional details and construction materials would be determined as part of the Scheme's detailed design process and would be sensitive to the landscapes through which the rights of way would pass. It is envisaged that the new public rights of way along the de-trunked A303 and other stopped-up highways will be completed after the new and improved A303 is open to traffic. Further clarification is provided within the PRoW report submitted at Deadline 2 [REP2-040] and the update to the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) includes further design commitments, design principles to guide the detailed design and a robust stakeholder consultation mechanism to consult stakeholders, including Wiltshire Council, on aspects of the detailed design within the World Heritage Site.
- 22.7.77 At this stage it is envisaged that fences along public rights of way would be provided to prevent access onto private land, grazed grassland or the highway, or to provide a buffer zone to the retained cutting between Longbarrow junction and the western tunnel entrance. Kent Carriage Gaps would be provided at access points to restricted byways, preventing entry by mechanically propelled vehicles. Equestrian gates would be provided at access points to bridleways and pedestrian gates would be provided at access points to footpaths. This is subject to detailed design of these matters and discussions with Wiltshire Council. Within the World Heritage Site, the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) reference D-CH14, requires the provision of fencing and surfacing to be developed in consultation with the National Trust, Historic England, English Heritage and Wiltshire Council.
- 22.7.78 Highways England is currently discussing a legal agreement with Wiltshire Council which is anticipated to deal with 'handover' arrangements for both new and improved local roads and de-trunked roads.

Key Issue

- 22.7.79 **An unresolved matter is the severed link between BOAT AMES11 and AMES12 for motorised users. This creates a breach of Wiltshire Council's statutory duty under s.130 Highways Act 1980 to prevent, as far as possible, the stopping-up of highway rights, with the lack of any**

mitigation measures. The Council considers the effects of the severance of the link for motorised vehicles to require the making of a traffic regulation order to prohibit driving of motorised vehicles to be included within the DCO.

- 22.7.80 The Council wishes for a prohibition of driving order to be placed on certain public rights of way within the Stonehenge part of the Stonehenge and Avebury WHS to restrict motorised vehicles, other than motorcycles, to preserve the maintainable surface against what the Council sees as the inevitable increase in traffic when the existing surface of the A303 is downgraded.
- 22.7.81 This applies to the following public rights of way (PROW) within the WHS and listed below:
- a. Amesbury Byway Open to All Traffic 11
 - b. Wilsford cum Lake Byway Open to All Traffic 2
 - c. Wilsford cum Lake Public Footpath 3
 - d. Durrington Byway Open to All Traffic 10
 - e. Amesbury Byway Open to All Traffic 12
 - f. Wilsford cum Lake Byway Open to All Traffic 1
 - g. Berwick St. James Byway Open to All Traffic 11
 - h. Woodford Byway Open to All Traffic 16.
- 22.7.82 NB: a) and b) together form a single continuous route and are commonly, for convenience, collectively referred to as 'Byway 11'. d), e), f), g) and h) together form a single continuous route and are commonly, for convenience, collectively referred to as 'Byway 12'.
- 22.7.83 A Plan showing the above byways within the Stonehenge WHS is attached at Appendix C.1 and marked 2019/RB1.
- 22.7.84 Should the proposed prohibition of driving order on byways 11 and 12 be made, but not to include the driving of motorcycles, it will be necessary to also make a Traffic Regulation Order to permit the driving of motorcycles by the public on the section of the former A303 between the entrances to Byways 11 and 12, in order to retain an unbroken route.
- 22.7.85 Note from Case Officer: Please refer to Written Rep for more detailed description on the justifications and also some additional very helpful details.

Highways England response

- 22.7.86 Highways England acknowledges the consideration by Wiltshire Council of its duties under section 130 Highways Act 1980 and notes that Wiltshire

Council has recently sought its own powers to close byways 11 and 12 under an Experimental Traffic Order.

22.7.87 In relation to the change in status of the existing A303, the Applicant notes that section 130 states:

- i. It is the duty of the highway authority to assert and protect the rights of the public to the use and enjoyment of any highway for which they are the highway authority, including any roadside waste which forms part of it.
- ii. Any council may assert and protect the rights of the public to the use and enjoyment of any highway in their area for which they are not the highway authority, including any roadside waste which forms part of it.
- iii. 3. Without prejudice to subsections (1) and (2) above, it is the duty of a council who are a highway authority to prevent, as far as possible, the stopping up or obstruction of—
 - a. the highways for which they are the highway authority, and
 - b. any highway for which they are not the highway authority, if, in their opinion, the stopping up or obstruction of that highway would be prejudicial to the interests of their area.

22.7.88 There is no reference to 'mitigation measures' within this wording. The concern is therefore relevant to the references in paragraphs (2) and (3) to Wiltshire Council's duties with regards to 'highway in the area for which they are not the highway authority', which is currently the case for the existing A303. Here, Wiltshire Council may prevent 'as far as possible' any stopping up or obstruction that 'would be prejudicial to the interests of their area'.

22.7.89 Highways England notes:

- as the proposal is being brought forward as part of the DCO proposals, Wiltshire's engagement in the Examination is 'as far as possible' that the Council will be able to meet their duties under section 130; and
- neither Wiltshire Council (nor any other party) has claimed that the proposals would be 'prejudicial to the interests of their area' (particularly in light of Wiltshire Council having previously brought forward the Experimental Traffic Order for byways 11 and 12).

22.7.90 The extinguishment of rights to vehicular users proposed through the DCO therefore does not form a risk to Wiltshire Council's duties under section 130(1) or (3) of the Highways Act 1980. Nor does it oblige Wiltshire to exercise the discretionary powers which section 130(2) provides.

22.7.91 The proposals brought forward effectively change the existing A303 at this location from a highway open to all traffic to a restricted byway. "Byway (open to all traffic) 11" (made up of components a) and b) as stated) will be stopped up close the existing A303 and a new restricted byway created in its place. This will have the effect of creating a cul-de-sac for mechanically

propelled vehicles travelling north. All other users will be able to travel between “Byway 11” and the restricted byway created along the A303. As defined in the DCO, 'restricted byway' has the same meaning as in Part 2 of the Countryside and Rights of Way Act 2000, which, at section 48(4) defines a restricted byway as facilitating rights for persons on foot, horseback or leading a horse and for vehicles other than mechanically propelled vehicles.

This change therefore means that a prohibition of driving restriction is not required, either within the DCO or to be brought forward by Wiltshire Council.

“Byway (open to all traffic) 12” (made up of components d), e), f), g) and h) as stated) remains unaffected by the scheme proposals.

Wiltshire Council would remain the highway and traffic authority for byways 11 and 12 and for the new restricted byway that would replace the existing A303, and the Scheme does not impede Wiltshire Council in the lawful exercise of its functions to prohibit driving (except for motorcycles if it so desired) on AMES 11 and 12, or to permit motorcycles on the restricted byway, should it choose to do so.

22.8 Waste and Materials Management

Key Issue

- 22.8.1 **An assessment of the air quality implications of transportation of tunnel arising (if required) should be conducted prior to any off-site disposal. This should identify any potential impacts on residents in proximity to the proposed haulage routes, including locations within AQMAs, and identify appropriate measures to mitigate any potentially significant impacts.**

Highways England response

- 22.8.2 A requirement is not needed. This is because off-site disposal is not proposed as part of the Scheme. On site disposal is secured pursuant to paragraph 8 of Schedule 2 to the draft development consent order [REP2-003], which requires approval of the landscaping for the Scheme, of which the spreading of on-site excavated material east of Parsonage Down forms a part. This is also recorded in the Wiltshire Council Statement of Common Ground Paragraph 3.11.2 as issued at Deadline 2 [REP2-018].

23 Environment Agency

23.1 General and cross-topic questions

Key Issue

Additional Requirements – CEMP and HEMP

- 23.1.1 **Other than Requirement 4 (3) (Outline Environmental Management Plan) in Part 1, Schedule 2 of the draft DCO, there does not appear to be any other requirement in the draft DCO to ensure a CEMP and HEMP are produced and implemented. We consider that more specific mention of these plans should be included in the DCO.**
- 23.1.2 **We would wish to be consulted on the CEMP and HEMP, and included as a consultee in any Requirements for these.**

Highways England response

- 23.1.3 The Applicant considers that Requirement 4 (3) is not the only securing mechanism for the draft development consent order [REP2-003], to ensure a CEMP and HEMP are produced and implemented. The Applicant would clarify that 4 (3) is the securing mechanism for the publication of the CEMP and HEMP in “an electronic form suitable for inspection by members of the public”. The Applicant would clarify that the securing mechanism for the production of the CEMP in consultation with the Environment Agency (as set out in item MW-G5 of the Outline Environmental Management Plan (OEMP) [APP-187], (a revised version of which is submitted at Deadline 3) as well as all other management plans, is secured through the OEMP, in 4 (1), for the main works, and, for the preliminary works, 4 (2). The Applicant considers that this is sufficient and that no further mention is required.
- 23.1.4 The Applicant agrees that the Environment Agency can be included as a consultee in the development of the HEMP. Item MWG11 of the OEMP has been updated to include the requirement for the Environmental Agency to be consulted on the development of the HEMP. The updated OEMP is submitted to the Examination at Deadline 3.

23.2 Flood risk, groundwater protection, geology and land contamination

Key Issue

Groundwater and Contaminated Land - Impact of tunnel

- 23.2.1 **The Environmental Statement and further work received since submission of the DCO application provide confidence that the scheme is unlikely to have a significant impact on groundwater levels and flows.**

23.2.2 **The ground investigation carried out to date and proposed vertical alignment of the tunnel suggests that the scheme may partially intercept known preferential flow horizons, namely the Whitway Rock. It is less likely to intercept the deeper Chalk Rock. However, it is vital that assessment of the degree to which these or any other horizons identified during future ground investigation may be blocked is repeated should the alignment change from that proposed at the DCO application stage.**

Highways England response

23.2.3 The EA's confirmed confidence that the Scheme is unlikely to have a significant impact on groundwater levels and flows is welcomed and noted.

23.2.4 The Whitway Rock has been shown on Figure 2 in the report 'Stage 4 – Implications of 2018 Ground Investigations to the Groundwater Risk Assessment' [AS-017] in the area of tunnel alignment, where it would be anticipated to be found if present. However this geological unit has not been identified as being present in the study area from any of the Applicant's investigations and from review of other relevant geological investigations provided by the EA. It was therefore not marked as present in the ES [APP-049] submitted in October 2018.

23.2.5 Subsequent to that submission, in later ongoing discussions with the EA they requested that this geological unit be added into the Groundwater Risk Assessment as a precautionary measure to assess any potential groundwater implications should its actual presence be established during tunnel construction. The 'Stage 4 – Implications of 2018 Ground Investigations to the Groundwater Risk Assessment' report [AS-017] highlights that this geological unit is not mapped as being present in the study area and the assessment is a hypothetical one, the results of which showed no significant effect if blocked.

23.2.6 In the HE-EA SoCG [REP2-012] submitted at Deadline 2: the EA acknowledge that the level of detail provided for the Scheme's design and for the consequent assessment of environmental risks is appropriate for its DCO application stage, and; it is agreed that the EA will be consulted on the relevant aspects of detailed design, construction methods, CEMPs and any subsequent risk assessment and mitigation measures, as set out in each case in the Requirements and protective provisions in the draft development consent order [REP2-003], and the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) in the application documents.

Key Issue

Groundwater and Contaminated Land – Drainage

23.2.7 **In principle the EA are supportive of the proposed use of Sustainable Drainage Systems (SuDS) to dispose of highway runoff and**

acknowledge that the scheme has the potential to provide improvement over the current provisions along this stretch of the A303.

- 23.2.8 **However, there is contain insufficient detail regarding the drainage system and in particular the likely effectiveness of the treatment systems in dealing with contaminants in the runoff prior to discharge to ensure that the scheme does not result in merely concentrating contaminants into specific areas. Furthermore, it must be demonstrated that adequate storage capacity is included in the drainage system to contain likely volumes of liquid resulting from the reasonable worst- case spill incident e.g. spilled liquid contaminant, fire-fighting runoff, surface water and groundwater ingress during a specified rainfall event**

Highways England response

- 23.2.9 The EA acknowledge that the level of detail provided for the Scheme's design and for the consequent assessment of environmental risks is appropriate for its DCO application stage.
- 23.2.10 As required by the Outline Environmental Management Plan (OEMP item MW-G5) [APP-187], (a revised version of which is submitted at Deadline 3) the EA will also be consulted as the Construction Environmental Management Plan (CEMP) is developed by the contractor, including the contents of the Water Management Plan and in relation to pollution control.
- 23.2.11 The road drainage for the scheme will be designed, constructed and maintained to Design Manual for Roads and Bridges (DMRB) standards. Spillage containment will be provided within the detailed design of the systems and the containment volume confirmed following consultation with the Environment Agency in line with requirements of design standard DMRB Volume 4 Section 2 Part 1 HA103 Vegetative Treatment Systems for Highway Runoff Clause 4.15. Paragraph 2.2 of the Road Drainage Strategy [APP-281] outlines the key drainage design standards.
- 23.2.12 The wording of Schedule 1, and requirement 3 of Schedule 2 of the draft development consent order [REP2-003], require that any changes do not lead to materially new or materially worse adverse effects than those reported in the Environmental Statement [APP-040 – APP-054].

Key Issue

- 23.2.13 **Groundwater and Contaminated Land – Drainage**
- 23.2.14 **We do not consider that the minimum required environmental protection measures stated in DMRB HD45 are appropriate and consider that measures in excess of these are likely to be required, in line with paragraph 2.10 of HD33/16 of the DMRB.**

Highways England response

- 23.2.15 HE and the EA have agreed as set out in the Statement of Common Ground that this Scheme may need to exceed that required by HD45 should the level or nature of the environmental risk change, as allowed for within HD33/16 paragraph 2.10.
- 23.2.16 A requirement to exceed HD45 has not yet been established between the parties. That would be a matter for the detailed design stage, on which it has been agreed between the parties that the EA will be consulted.

Key Issue

- 23.2.17 **We request that the Environment Agency are included as a consultee on Requirement 10 in Draft DCO.**

Highways England response

- 23.2.18 The Environment Agency have been included as a consultee on Requirement 10 in the version of the draft development consent order [REP2-003] submitted at Deadline 2.

Key Issue

Groundwater and Contaminated Land – Contaminated Land

- 23.2.19 **To ensure that risks from possible contamination that may be disturbed at these historic sites are adequately managed we would request that there is a formal pre-commencement requirement for investigation and assessment as we would recommend for developments under the Town and Country Planning Act.**
- 23.2.20 **MW-GEO1 of the OEMP requires the main contractor to assess risks to human health from contamination disturbed during the works; we request that this assessment is extended to consider risks to controlled waters.**

Highways England response

- 23.2.21 As set out in Chapter 10 of the Environmental Statement (paragraph 10.8.2), [APP-048] since the Environmental Statement submission a package of ground investigation referred to as Phase 7 has been scoped by Highways England to provide geotechnical, hydrogeological and geo-environmental information in order to contribute to detailed design. This scope includes exploratory holes and geo-environmental testing along the route alignment specifically targeting key potentially contaminated sites including the former RAF Oatlands Hill, former RAF Stonehenge and current Countess filling station as well as providing more general spatial coverage. These investigations would precede construction and in the event that contamination was discovered, remediation options and strategies would be developed in liaison with the EA. This is pursuant to the process set out by

the DCO requirement at Schedule 2 paragraph 7 of the draft development consent order [REP2-003], and would comply with any pre-commencement requirement.

- 23.2.22 Highways England is in agreement with the Environment Agency that the requirements placed on the main contractor in MW-GEO1 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) should be extended to include controlled waters. The CIRIA C741 4th Edition 'Environmental Good Practice' document referred to in MW-GEO1 contains measures to assess and control risk to controlled waters as well as human health. However, MW-GEO8 of the OEMP does also place requirements on the main contractor with respect to contaminated land and controlled waters and provides measures to control risk to controlled waters from construction on or adjacent to land affected by contamination therefore fully addressing the matters raised.

Key Issue

Groundwater and Contaminated Land – Construction

- 23.2.23 **To date, no assessment has been made of the likely impacts on groundwater quality or quantity during construction of the scheme, particularly the tunnel section. Due to the hydrogeological properties of the area, dewatering has the potential to cause significant and widespread impacts.**
- 23.2.24 **Should dewatering be necessary, further risk assessment will be required and an abstraction licence may be required. The discharge associated with any dewatering will require separate risk assessment and may require an environmental permit.**
- 23.2.25 **The EA and Wiltshire Council should be consulted early in the planning of any dewatering scheme to ensure that impacts are acceptable and any necessary permits can be granted.**
- 23.2.26 **EA request that EA are also consulted during the preparation of the Water Management Plan.**

Highways England response

- 23.2.27 The EA will be consulted on the relevant aspects of construction methods, CEMPs (including the Water Management Plan) and any subsequent risk assessment and mitigation measures, as set out in each case in the Requirements and protective provisions in the draft development consent order [REP2-003] and the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) in the application documents.
- 23.2.28 The assessment of risk and identification of any required mitigation measures will be achieved through the OEMP (MW-WAT8).

23.2.29 Highways England will ensure that both the Environment Agency and Wiltshire Council are kept informed on this matter as the appropriate regulatory authorities.

Key Issue

Flood risk management

23.2.30 **The final Flood Risk Assessment should demonstrate the following:**

23.2.31 **No increase in flood risk to third parties as a result of the permanent works and temporary works associated with the construction of the scheme; and**

23.2.32 **Any loss of fluvial floodplain storage (River Avon and River Till) as a result of the proposed scheme to be fully compensated for, and where possible some betterment offered.**

23.2.33 **EA wish to highlight that at the time of writing, based on the findings of the applicants' assessment of fluvial flood risk to date, there is nothing to indicate that these requirements cannot be achieved.**

Highways England response

23.2.34 The cumulative impact of the Scheme on the River Till and River Avon floodplains has been highlighted and discussed within the Flood Risk Assessment [APP-283]. Any small increases in flood risk are localised and located within existing floodplains and do not affect vulnerable receptors. Any need for storage requirements arising from this, if required, shall be discussed prior to detailed design stage. Any progress on these matters will be recorded via the respective statement of common ground. The updated FRA is submitted at Deadline 3.

Key Issue

Fisheries and biodiversity – Protected Species

23.2.35 **Mitigation and enhancements for otter should be for both the permanent and temporary works. The applicant will need to ensure that fencing in the river valleys do not hinder safe and preferred passage and allow access to both existing and new woodland habitat.**

Highways England response

23.2.36 Mitigation measures for the protection of otter during the preliminary works are set out in the Outline Environmental Management Plan [APP-187] (a revised version of which is submitted at Deadline 3) in PW-BIO8. Mitigation for otter and other protected species during the main works is included under MW-BIO1 of the OEMP [APP-187] (compliance with the OEMP is secured through the requirement in paragraph 4 of Schedule 2 to the draft development consent order [REP2-003]). The mitigation for protected species will be the responsibility of the Ecological Clerk of Works, as stated

in Table 2.1 of the OEMP. More specifically, as stated in MW-BIO3 in the OEMP, *the main works contractor shall provide, where reasonably practicable and when water is flowing, allowance for the passage of otters along one or both banks of the River Till within the temporary works arrangements.* In addition, mitigation for otter and other protected species would be achieved through the requirement contained in paragraph 6 of Schedule 2 to the draft development consent order [REP2-003], and the OEMP MW-BIO2 which requires the contractor to establish and manage the habitats indicated on the Environmental Masterplan. In the Statement of Common Ground between Highways England and the Environment Agency (item 3.8) *“It is agreed that the mitigation measures outlined in the OEMP (item MW-BIO3 of table 3.2b) are appropriate. The EA will be consulted on the relevant aspects of detailed design, construction methods, CEMPs and any subsequent risk assessment and mitigation measures, as set out in each case in the Requirements and protective provisions in the draft DCO and the Outline Environmental Management Plan in the application documents”.*

Key Issue

Fisheries and biodiversity – Fisheries impacts from Piling

- 23.2.37 **In relation to paragraph 8.8.25 I) in the Biodiversity Chapter of the ES: “To avoid impacts on fish in the River Till, any piling works will be carried out using low vibration methods and will be excluded from within 8m of the river (as a minimum).” We would request that works should be carried out whilst there is no residual flow within the channel. If the river is flowing, soft start techniques should also be used to minimise disturbance.**

Highways England response

- 23.2.38 As set out in the Statement of Common Ground between Highways England and the Environment Agency (item 3.6) it is agreed that *“No impacts on fish are predicted in the ES. The risk assessment and mitigation measures for fish are appropriate and secured through item MW-BIO3 of table 3.2b of the OEMP [APP-187]. Whilst low noise and low vibration piling has already been agreed the EA will be consulted as the detailed design and construction methods for the Till viaduct are developed.”*

Key Issue

Fisheries and biodiversity - Enhancement

- 23.2.39 **EA consider that there should be a greater commitment through the DCO for the development of enhancements of the scheme to deliver wetland habitats and improved river conditions. Suggested Requirement:**

- 23.2.40 **“(1) No part of the authorised development is to commence until an Environmental Enhancement Plan has been submitted to and approved in writing by the Secretary of State, following consultation with the planning authority, the Environment Agency and Natural England.**
- 23.2.41 **(2) The Environmental Enhancement Plan must be implemented in accordance with the approved details referred to in sub-paragraph (1).”**

Highways England response

- 23.2.42 A key objectives of the Scheme is to “Improve biodiversity and provide a positive legacy for nearby communities”, which aligns closely with many of the core themes of the Government’s 25 Year Environment Plan (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf), notably those in relation to: thriving plants and wildlife; and enhancing beauty, heritage, and engagement with the natural environment. The Scheme will deliver many environmental benefits including for biodiversity and ecological connectivity, as well as for the world heritage site and local people and visitors to the area.
- 23.2.43 In considering in more detail the Scheme's objective of improving biodiversity, this is being achieved in a number of ways, including: placing the A303 in a 2-mile long tunnel in the WHS and therefore connecting habitats within much of the WHS; extending the chalk grassland adjacent to the Parsonage Down NNR; providing four green bridges; and delivering a mosaic of high- quality habitat through the landscape scale approach to ecological mitigation. The principles of this mitigation are set out in the Outline Landscape and Ecology Management Plan ('OLEMP') [APP-267]. Under requirement 8 of Schedule 2 of the draft development consent order [REP2-003], Highways England will be required to submit a detailed landscaping scheme, which is required to be on the basis of the mitigation measures set out in the ES, which includes the OLEMP.
- 23.2.44 The ecological impact assessment, reported in ES Chapter 8, Biodiversity [APP-046], has concluded that the net gain of chalk grassland, an ecologically valuable habitat type, and the provision of greater ecological connectivity would result in a significant beneficial effect for biodiversity. Full details of the biodiversity gains can be found in the ES Chapter 8 [APP-046], Section 8, 8.8.14 – 8.8.21, 8.9.65 – 8.9.66, and Table 8.14, Habitat losses and gains associated with the Scheme.
- 23.2.45 Further enhancement/restoration opportunities, such as those that may relate to wetland habitats and improved river conditions, fall outside of the scope of the Scheme and its DCO. However, Highways England is working with the relevant stakeholders, including the Environment Agency and Natural England, to identify opportunities for additional legacy benefits like this to be pursued by other means.

- 23.2.46 In relation to the water environment, however, the magnitude of impacts from the operational Scheme's Road Drainage Strategy (compliance with which is secured pursuant to schedule 2, paragraph 10 of the draft development consent order [REP2-003]), has been assessed as a moderately beneficial residual effect for water quality in the River Avon as a result of improved treatment and prevention of pollution from road runoff, compared with the current situation, as summarised in Table 11.10 of ES Chapter 11 [APP-049]. The Environment Agency agree that this benefit is likely, which has been recorded in the Statement of Common Ground.
- 23.2.47 As such, Highways England does not consider the suggested requirement to be appropriate for inclusion in the DCO and, indeed, considers it does not meet the relevant tests for requirements set out in the NNNPS (para 4.9) – in particular, it is not 'necessary' to make the development acceptable in planning terms.

Key Issue

Fisheries and biodiversity – Invasive Species

- 23.2.48 **EA will require the applicant to undertake full survey and control plan prior to preliminary works for review by the relevant bodies. The plan should include:**
- a. **long term management and ultimate removal of any invasive-non-native species (where feasible);**
 - b. **in accordance with best practice;**
 - c. **commitment that any management is applicable during operation;**
 - d. **survey of site once operational and periodically thereafter;**
 - e. **commitment to residual treatment; and**
 - f. **general biosecurity principles.**

Highways England response

- 23.2.49 In the Statement of Common Ground between Highways England and the Environment Agency (item 3.9)

“It is agreed that the risk of spreading non-native species has been adequately assessed as part of the Habitats Regulations Assessment and this is an appropriate method to also address the WFD Compliance Assessment’s requirement.

It is agreed that appropriate management of the risk from non-native species is secured through item MW-BIO5 of the OEMP. The EA will be consulted on the development of the CEMPs.”

Key Issue

Waste and materials management

23.2.50 **EA support the overall approach to waste and materials. We also support the scheme's construction and excavated materials commitments.**

Highways England response

23.2.51 Noted and supporting confirmation welcomed.

Key Issue

23.2.52 **The EA do not give consent to the disapplication of Section 24 of the Water Resources Act 1991. Reference to such legislation should be removed in the next iteration of the draft DCO.**

23.2.53 **The EA are potentially prepared to give consent to the disapplication of legislation listed in Article 3 (1) (f) and (g) subject to the adoption of our preferred protective provisions and receipt of more detailed information about the flood risk activities the applicant intends to undertake.**

23.2.54 **The protective provisions currently included in Schedule 11 are not agreed as the applicant has not used the Environment Agency's preferred protective provisions.**

Highways England response

23.2.55 The draft development consent order [REP2-003] submitted at Deadline 2 removed the disapplication of section 24 Water Resources Act 1991.

23.2.56 Since submission of the Application Highways England has been engaging with the EA in relation to the drafting of the Protective Provisions. Most recently the EA provided Highways England with a revised draft of their standard protective provisions. The amendments to the EA's standard provisions are currently under review by Highways England and will be discussed with the EA in due course.

23.2.57 The Applicant considers that Requirement 4 (3) is not the only securing mechanism for the draft development consent order [REP2-003] to ensure a CEMP and HEMP are produced and implemented. The Applicant would clarify that 4 (3) is the securing mechanism for the publication of the CEMP and HEMP in "an electronic form suitable for inspection by members of the public". The Applicant would clarify that the securing mechanism for the production of the CEMP in consultation with the Environment Agency (as set out in item MW-G5 of the OEMP [APP-187]) as well as all other management plans, is secured through the OEMP, in 4 (1), for the main works, and, for the preliminary works, 4 (2). The Applicant considers that this is sufficient and that no further mention is required.

23.2.58 The Applicant agrees that the Environment Agency can be included as a consultee in the development of the HEMP. Item MWG11 of the OEMP has been updated to include the requirement for the Environmental Agency to be

consulted on the development of the HEMP. The updated OEMP is submitted to the Examination at Deadline 3.

24 Stonehenge and Avebury WHS (REP2-139)

24.1 Alternatives

Key Issue

Consideration of Alternatives

- i. **The obligation to protect the WHS and its OUV makes it inadvisable to proceed with the scheme in its current form unless adequate mitigation can be designed, evidenced and delivered across the whole WHS. This would need to be agreed as part of the DCO process**
- ii. **If this proves impossible, harm should be avoided through reconsideration of a longer bored tunnel taking the portals to beyond the WHS boundary and away from the most significant elements of its setting.**
- iii. **A more detailed consideration of a surface route bypassing the WHS could also be revisited such as F10 which bypassed the WHS to the south of the WHS. F10 although scoring very favourably for Cultural Heritage against the Client Scheme Requirements and Highways England WebTAG assessment was not taken forward to consultation as it scored less favourably in relation to other criteria.**
- iv. **The submission documentation appears to provide inadequate consideration of alternatives and justification for the current proposal. Alternative options were dismissed on cost grounds as set out in 3.3.61 of the EIA. It is unclear whether the importance and value of protecting OUV was correctly weighted in coming to this conclusion.**

Highways England response

(i) Mitigation

- 24.1.1 Highways England is fully aware of its obligations with respect to the WHS and its OUV, and the application has been prepared with due regard to the obligations under the World Heritage Convention. In full recognition of its obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972) (the World Heritage Convention) the Government is making a substantial investment in funding a tunnel past Stonehenge to bring extensive benefits to the WHS.
- 24.1.2 The protection and conservation of World Heritage Sites, in line with the World Heritage Convention, is integrated into the comprehensive UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets. As a result, great weight is given to harm to World Heritage Sites. The application by the Secretary of State of the planning balance envisaged by this framework and, in particular, the NPSNN is in accordance with the World Heritage Convention. Further detail is provided in relation to the obligations under the World Heritage Convention

and how they're complied with in response to Written Question G.1.1 [REP2-021].

- 24.1.3 The Heritage Impact Assessment (HIA) [APP-195] assesses the impact of the proposed Scheme on the Attributes that convey the OUV of the WHS, their Integrity and Authenticity, as well as the alignment of the Scheme with the vision, aims and policies of the 2015 WHS Management Plan and the criteria for the site's inscription as a WHS. The HIA concludes that the overall effect on the OUV of the WHS would be slight beneficial and the OUV will be sustained by the construction of the Scheme.
- 24.1.4 The tunnel is a fundamental part of the Scheme, designed to bring substantial benefits to the WHS.
- 24.1.5 Highways England considers adequate design measures and mitigation is in place for the Scheme. In terms of the design, along with considerations of cost, the location and design of the tunnel portals have been optimised in terms of the natural topography of the area, impact within the WHS and the extent of benefit that will be secured by one of the key aims of the Scheme which is to remove the sight and sound of the A303 traffic from much of the WHS landscape. With accompanying mitigation, the assessments show that the preferred solution is a 2-mile (3.3km) long tunnel extending between portals located adjacent to the existing A303 to the east of The Avenue and to the west of Normanton Down. The Preferred Route Announcement (PRA) by the Secretary of State in September 2017 was based on a 2.9km long twin bored tunnel. The western portal was located south of existing A303 and northwest of Normanton Gorse and the eastern portal to the north of the A303 and east of the Avenue. Since the PRA, during the Scheme development, and in response to consultation responses, the applicant has amended the Scheme to extend the tunnel. Two changes were made to the location of the western portal which resulted in a 300m extension to the tunnel:
- the end of the bored tunnel was moved 100m west to avoid impact on a scheduled barrow (NHLE No. 1010832 – Bowl barrow south of the A303 and north west of Normanton Gorse) that contributes to the OUV of the WHS; and
 - a 200m cut-and-cover extension, or canopy, was added for improvement in landscape and visual connectivity and tranquillity within the WHS.
- 24.1.6 At the eastern end a cut-and-cover extension of 85m has been added to suit topography for improvement in landscape and visual connectivity and tranquillity within the WHS.
- 24.1.7 Further westwards extensions of the tunnel were ruled out because of topographical and technical constraints, and because they would not deliver sufficient additional benefits to justify the additional cost.

(ii) Longer bored tunnel extension to beyond the WHS boundary

- 24.1.8 The locations of the eastern and western portals in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost.
- 24.1.9 The proposed tunnel length and length of any alternative tunnel design is dictated by the need to identify optimum portal locations having regard to a range of matters including environmental, technical and economic considerations.
- 24.1.10 Tunnel boring can only commence and finish when the depth of ground cover above the crown of the tunnel bore is a minimum of half the diameter of the bore or approximately 7m. For this reason, it is necessary to commence and finish the bores at the upward /downward faces of hills and to maintain a minimum depth of cover of 7m along the entire length of the tunnel. A minimum depth to crown level of 7m requires a depth to road level, or depth of approach cut, of minimum 16m. Locating the portal on suitable slopes has the benefit of minimising the length and depth of this approach cut to the portal. The depth of the cut can be further reduced by extending the tunnel using cut and cover construction. This enables the depth of the cut at the tunnel mouth to be reduced to 10-11 metres.
- 24.1.11 The option to extend the bored tunnel beyond the WHS boundary would position the western portal at the first viable location for commencement of the tunnel. This location can be seen on the longitudinal section on sheet 5 of the Engineering Section Drawings Plan and Profiles [APP-010] where, at chainage 5+600, the existing ground levels begin to come down to meet the proposed A303 road level. This would place the western portal immediately west of the current proposed location of Green Bridge Three. This option would have a major impact on the location and layout of Longbarrow junction which would require a total redesign in a location further from the existing A360 and closer to Winterbourne Stoke. This option would result in a total tunnel length of 4.885km.
- 24.1.12 The option to extend the bored tunnel was rejected because consideration of the balance of benefits and disbenefits would not justify the significant additional cost, estimated at £578 million, over and above the cost of the Proposed Scheme. The additional construction period above that of the Proposed Scheme is estimated at 24 months. This allows for the proportionate increases in the duration of the additional length of tunnel boring, additional cross passages, additional tunnel lining and road bed construction and additional mechanical and electrical fit out work associated with the longer tunnel (for detail refer to Highways England's response to Written Question AL.1.30 [REP2-024]).

24.1.13 The benefits and disbenefits are discussed below.

Traffic and operational issues

24.1.14 Extending the bored tunnel would result in a much shorter distance between the tunnel portal and Longbarrow junction, and the location of the Longbarrow junction would have to be moved further west. In the Proposed Scheme, the maintenance cross-over points (where traffic would be able to cross the central reserve of the dual carriageway to use one bore of the tunnel as single carriageway while the other bore is closed for maintenance) are located within the junction outside the WHS. This allows the traffic to undertake the crossover manoeuvre in advance of the tunnel approach and portal area. Reducing the distance between the tunnel portal and the junction would result in disruption to smooth traffic flow close to the tunnel portal and increase the risk of collisions and incidents in this area. This relocated Longbarrow junction would need to fit between the western portal and the River Till Viaduct. The combination of these two constraints would require the use of a compact, and consequently lower capacity, junction which would not be compliant with standards for the volumes of traffic which would be using the A303.

24.1.15 The relocated junction would also lead to complications with connectivity to the existing A360, increasing journey times and likely displacing traffic on to the local road network. The A360 itself would be retained in its current position to avoid traffic rat running via unsuitable local roads through nearby communities. This would remove the benefit to the WHS of removing traffic immediately beside the Winterbourne Stoke Crossroads Barrow Group.

Construction and Civil Engineering Issues

24.1.16 The additional tunnel length would require inclusion of lay-bys and would include a vehicular cross-over in the tunnel, in addition to increasing the number of emergency evacuation cross-passages within the tunnel. Construction of these features would require a long break-out from the bored tunnel's primary lining. Construction of these features is a high safety risk operation for construction workers.

24.1.17 The longer tunnel will generate additional volumes of tunnel arisings requiring processing and placement.

Mechanical and Electrical Issues

24.1.18 The additional tunnel length would require a proportional increase in mechanical and electrical plant to enable safe operation. An additional set of tunnel mechanical and electrical cross passages would be required.

24.1.19 The western tunnel service buildings would need to be relocated out of the tunnel. These buildings would likely be located in the proximity of the existing A360.

Heritage Issues

- 24.1.20 This option was rejected on the basis of a balanced appraisal of operational performance, safety and maintenance, engineering and buildability, cost, environmental impacts and heritage impacts. Consequently a full Heritage Impact Assessment was not undertaken for this option. Notwithstanding this, on the basis of the information available, the following with regards to heritage and the OUV of the WHS can be identified.
- 24.1.21 The construction of a bored tunnel would allow the preservation of archaeological remains above the tunnel within the WHS boundary benefiting Attribute 2 (the physical remains of the Neolithic and Bronze Age ceremonial and funerary monuments and associated sites) that conveys the OUV of the WHS. Archaeological remains would also be preserved in situ over a section of the main line stretching 600m west of the WHS boundary. It would also allow the retention of the existing landform, benefiting Attribute 5 (The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other) in the western portal approaches.
- 24.1.22 As explained above, the A360 would, however, need to be retained in its current location to avoid rat running on inappropriate local roads. Retaining the A360 on its current line would remove the benefit to the WHS of removing traffic immediately beside the AG12 Winterbourne Stoke Crossroads Barrows. This would retain the existing adverse impacts from the surface A360 on the setting of the AG12 Winterbourne Stoke Crossroads Barrows, impacting Attribute 3 (The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape) and Attribute 5 (The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other) tempering the benefits of this scenario.
- 24.1.23 The Eastern Portal and its approaches would be the same as the Scheme and its slight adverse impacts on the AG31 Countess Farm Barrows would remain.
- 24.1.24 Overall, therefore, this option would not avoid all impacts on Attributes that convey the OUV of the WHS. Although archaeological remains would be preserved within the WHS in the western approaches (benefiting Attribute 2) and the landform would be retained in this location (benefiting Attribute 5), construction of the cutting would still remove archaeological remains at the eastern portal resulting in adverse impacts to Attributes 2 and 5 in this part of the WHS. The retention of the A360 on its existing alignment would also continue the adverse impacts of the surface A360 on AG12 Winterbourne Stoke Crossroads Barrows, retaining existing adverse impacts on Attributes 3 and 5 that convey the OUV of the WHS. Overall, therefore, this option is assessed as slightly more beneficial than the Scheme.

Environmental Issues

- 24.1.25 The overall impacts compared to the proposed Scheme would be minor beneficial. Impacts would include:

- Landscape and Visual: improvement in connectivity and tranquillity within the western section of the WHS; potential for additional or worsened impacts associated with increased alteration to landform and vegetation patterns from additional tunnel arisings placement east of Parsonage Down and from repositioning of Longbarrow junction.
- Biodiversity: reduced severance/ better habitat connectivity, within the western section of the WHS and immediately to the west, leading to increased wildlife movement in WHS. Less disturbance of existing arable habitat, but no chalk habitat creation in WHS, except along old A303 leading to marginal reduction in habitat creation.
- Public Amenity: increased appreciation of the western section of the WHS as a result of reduced severance.

(iii) F10/southern surface route

- 24.1.26 An options appraisal was carried out in 2016 and 2017, with more than 60 route options considered, leading to a non-statutory consultation in 2017. The non-statutory public consultation explained why non-tunnel route options would not deliver the Scheme's objectives. Detailed information on the options appraisal process is set out within Chapter 3 [APP-041] of the Environmental Statement and in the Technical Appraisal report. (<https://highwaysengland.citizenspace.com/cip/a303-stonehenge/>). The F010 route option was discounted as it would not deliver the scheme objectives as well as the proposed Scheme. Route F010 would run through nearly 14 miles of largely tranquil, unspoilt countryside. This would require crossings of the Till Valley between Berwick St James and Winterbourne Stoke and of the Woodford Valley between Great Durnford and Upper Woodford on substantial viaducts. Both are designated as Special Areas of Conservation and Sites of Special Scientific Interest. The overall environmental impact when compared against the proposed scheme would be much greater, in terms of effects on local communities, conservation areas, listed buildings, landscape, biodiversity and environmentally designated sites, and with risks of impact on an area rich in archaeology despite being outside the boundary of the World Heritage Site. There would be disbenefits for road users having to travel on a longer southern route, and southern routes would also not interact effectively with the local road network, leaving higher levels of rat-running traffic. One of the objectives of the Scheme is to improve the quality of everyday life in local communities and route F010 would not satisfy this objective. Further information can be found in the Technical Appraisal Report (<https://highwaysengland.citizenspace.com/cip/a303-stonehenge/>).
- 24.1.27 In relation to the F010 route, the Technical Appraisal Report (TAR) Appraisal Summary Table (AST) [REP1-038] states that 'overall it is considered that this 21.5km route would affect the landscape as a result of Very Large Adverse impacts identified on the Upper Avon Narrow Chalk River Valley and Large Adverse impacts identified on the Larkhill and Winterbourne Chalk Downland and Till Narrow Chalk River Valley Landscape Character Areas.

This includes the introduction of a highly visual and intrusive feature as the route is elevated and aligned against the grain of the existing landscape, and at complete variance with the landform, scale and pattern of the landscape as it passes through the Upper Avon Narrow Chalk River Valley’.

- 24.1.28 At 21.5km in length, the F010 route is 8.5 km longer than the 13km proposed Scheme length. Evaluation of the impacts associated with the overall F010 footprint are considered within the TAR [REP1-031] and include the landscape issues described in (i) above along with the biodiversity and water environment issues outlined below.
- 24.1.29 Para 18.3.48 of the TAR [REP1-031] states ‘Route Option F010, a proposal nearly twice as long as Route Options D061 and D062, and completely above ground, was assigned an overall assessment score of Very Large Adverse effect. This is due to the direct impacts to the River Avon SAC (encompassing the River Avon and River Till) and the River Till and River Avon System SSSIs (which overlap with the River Avon SAC).
- 24.1.30 Route Option F010 would also result in impacts to two CWS, and numerous hedgerows and woodlands. The likely direct impacts that would occur are habitat change/loss; habitat severance and/or obstructions; hydrological connectivity change/loss; wildlife road fatalities; wildlife displacement; lighting; noise and vibration and pollution. Indirect impacts, such as from lighting and reduced air quality would occur to Salisbury Plain SAC & SPA; Parsonage Down SSSI & NNR; Yarnbury Castle SSSI; Salisbury Plain SSSI; Porton Meadows SSSI; five CWS and one PRV’ [REP1-031, para 18.3.49].
- 24.1.31 In relation to the F010 route, the TAR Appraisal Summary Table (AST) [REP1-038] states ‘the two new river crossing structures would result in direct adverse impacts to the River Avon SAC (including the River Till) and River Avon System SSSIs. Additionally, the scale of this 21.5km route option would result in a significant loss of priority habitats and associated biodiversity’.
- 24.1.32 In relation to water resources, the F010 route would cross 2.4km of a Source Protection Zone Category 2 [REP1-031 para18.3.55], designated to protect groundwater resources. Within this area construction may be allowed but it is not recommended as it can compromise the quality of water. The tunnel options avoid Source Protection Zones.
- 24.1.33 While acknowledging the benefits to the WHS of option F010, the TAR concluded [REP1-031 para 22.1.5] that, on balance, Route Options D061 and D062 would deliver a better fit against the relevant local and national planning, transport and economic policy objectives, than Route Option F010, thus providing better alignment with the scheme objectives.
- 24.1.34 The F010 route circumnavigates the southern side of the WHS and avoids direct physical adverse impacts on the WHS. It is noted, however, that the F010 route is directly adjacent to the WHS boundary line in its southwest

corner and it is likely that direct physical impacts to the southwest corner of the WHS could not be avoided.

- 24.1.35 Although the F010 route is sited beyond the WHS boundary, the boundary was drawn at the time of inscription to follow existing roads, land boundaries and the River Avon and does not relate to the extent of significant archaeology that may contribute to the OUV of the WHS; the F010 route lies within the setting of the WHS and could directly impact as yet unidentified archaeological remains that relate to the OUV of the WHS.

(iv) Alternatives

- 24.1.36 A full range of routes outside the WHS were identified and appraised during the course of the Scheme's development. All have been discounted as they would not be as successful as the proposed scheme in delivering the Scheme objectives or were discounted on environmental grounds. Further information can be found in the Technical Appraisal Report [REP1-031].
- 24.1.37 In full recognition of its obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972) (the World Heritage Convention) the Government is making a substantial investment in funding a tunnel past Stonehenge to bring extensive benefits to the WHS. The alternatives have been considered and the application for the scheme has been prepared (and the consultation on it undertaken) with due regard to the obligations under the World Heritage Convention. The protection and conservation of World Heritage Site, in line with the World Heritage Convention, is integrated into the comprehensive UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets. As a result, great weight is given to harm to World Heritage Sites. The application by the Secretary of State of the planning balance envisaged by this framework and, in particular, the NPSNN is in accordance with the World Heritage Convention. The consideration of alternatives has been cognisant of the World Heritage Convention obligations and UK policy requirements with respect to the WHS, and appropriate weight has therefore been given to protecting the OUV of the WHS in considering those alternatives and selecting the scheme (for example see the consideration of alternatives in Chapter 3 of the Environmental Statement [APP-041] and with respect to the longer tunnel options see the response to Written Question AL.1.29 [REP2-024]).

Key Issue

Western section of Scheme - severance

- i. **Although the additional covered section of road and the deeper, steeper sided-cutting design would be less intrusive in the landscape and offer very marked improvement over the previous options there is still considerable severance. Although this impacts negatively on the integrity of WHS landscape in this area generally, it is a particular issue between the Winterbourne Stoke and Diamond**

Barrow groups. These impacts would require mitigation to better align with the aims and policies of the WHS Management Plan. Extending the bored tunnel out of the WHS would address this issue.

- ii. **In the absence of such a solution, the Green Bridge 4 at 150m in width provides some mitigation but it is still insufficient to align with the Management Plan and adequately reduce severance and boost integrity. There is still an adverse visual and physical severance due [to] the cutting between key barrow groups particularly the Winterbourne Stoke, Diamond and Normanton Down Groups. Further mitigation options should be explored. Issues such as the impact of headlights passing under and out of the covered section have not yet been modelled.**
- iii. **Modelling of alternative design solutions in this area such as a complete cover would help to assess the proposal and compare its benefits with other possibly more beneficial design options. It should assist in arriving at a recommendation that would address the decision of the World Heritage Committee in 2018 which urged the State Party “to continue to explore further design refinement, with a view to avoiding impact on the OUV of the property, including longer tunnel options that do not require an open dual carriageway cutting within the property and to avoid impact due to noise, lighting and visibility; and urges furthermore, the State Party to minimize the length of the culvert part of the tunnel in order to reduce the impact on the cultural landscape and the archaeology”. (UNESCO Decision: 42 COM 7B.32).**

Highways England response

(i) Longer bored tunnel

- 24.1.38 As noted above, along with considerations of cost, the location and design of the tunnel portals have been optimised in terms of the natural topography of the area, impact within the WHS and the extent of benefit that will be secured by one of the key aims of the Scheme which is to remove the sight and sound of the A303 traffic from much of the WHS landscape. With accompanying mitigation, the assessments show that the preferred solution is a 2-miles (3.3km) long tunnel extending between portals located adjacent to the existing A303 to the east of The Avenue and to the west of Normanton Down.
- 24.1.39 The Preferred Route Announcement (PRA) by the Secretary of State in September 2017 was based on a 2.9km long twin bored tunnel. The western portal was located south of existing A303 and northwest of Normanton Gorse and eastern portal to the north of A303 and east of the Avenue. Since the PRA, during the Scheme development, and in response to consultation responses, the applicant has amended the Scheme to extend the tunnel.

Two changes were made to the location of the western portal which resulted in a 300m extension to the tunnel:

- the end of the bored tunnel was moved 100m west to avoid impact on a scheduled barrow (NHLE No. 1010832 – Bowl barrow south of the A303 and north west of Normanton Gorse) that contributes to the OUV of the WHS; and
- a 200m cut-and-cover extension, or canopy, was added for improvement in landscape and visual connectivity and tranquillity within the WHS.

24.1.40 At the eastern end a cut-and-cover extension of 85m has been added to suit topography for improvement in landscape and visual connectivity and tranquillity within the WHS.

24.1.41 Further westwards extensions of the tunnel were ruled out because of topographical and technical constraints, and because they would not deliver sufficient additional benefits to justify the additional cost.

24.1.42 Further detail is provided in response to Written Question AL.1.29 [REP2-024].

(ii) Green Bridge 4

24.1.43 The location and scale of Green Bridge No. 4 was selected in response to statutory consultation in February to April 2018 and was subsequently included in the supplementary public consultation. At the time of the statutory consultation, the Project Team received feedback from Heritage Partners (including Historic England and the National Trust) that Green Bridge No. 4 was not wide enough or in the right position. Taking on board this feedback, Green Bridge No. 4 was moved eastwards (to the east of the A360 alignment) and widened from 50m to approximately 150m as presented at supplementary consultation and in the current Scheme. Details of supplementary consultation are set out in the Consultation Report [APP-026], Chapter 6: Supplementary Consultation and summarised in the Assessment of Alternatives [APP-041], ES Chapter 3, section 3.3.

24.1.44 Green Bridge No.4 was moved eastwards and widened from 50m to approximately 150m in order to provide greater physical and visual connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group and, in particular, the two upstanding long barrows in each group in this western part of the WHS. The retained cutting in the western approaches allows visual connectivity to be maintained between the Winterbourne Stoke Crossroads Barrows, the Diamond Group and the Normanton Down Barrows that contribute to the OUV of the WHS, as agreed with heritage stakeholders. The design of the retained cutting incorporates an upper grassed slope and chalk grassland mitigation to the north and south. This allows the cutting to blend into the surrounding landscape from key views between monument groups.

- 24.1.45 The revised location and width achieved this connectivity to a much greater extent than either of the previous 50m wide bridges considered during the original optioneering. The greater physical and landscape connectivity of Green Bridge No. 4 and its positioning to maximise this was recognised as being more important than maintaining the line of the historic A360 route. The location and scale was agreed with heritage stakeholders.
- 24.1.46 The Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the Scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on 3 of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the Scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained.
- 24.1.47 Further detail in relation to the visibility of car headlights in relation to the winter solstice alignment is provided in response to Written Question CH1.55 [REP2-025].

(iii) Modelling of alternative design solutions

- 24.1.48 The recommendations of the UNESCO/ICOMOS missions carried out in 2015, 2017 and 2018 and the subsequent decisions of the World Heritage Committee have been considered carefully and aspects of the design have been altered to address their recommendations. The World Heritage Committee decision with regard to the Scheme not proceeding in its current form refers to the Scheme as was set out at public consultation in March 2018. The Scheme design has evolved substantially since that date, as put forward in the supplementary consultation and following that, the DCO application.
- 24.1.49 UNESCO/ICOMOS recommendations and World Heritage Committee decisions have informed the development of the Scheme throughout its development and its design responds to these including: the route alignment selected as the preferred route avoiding the winter solstice sunset alignment and the bisecting of the Diamond Group; setting the road in deep retained cuttings to minimise landtake; determining the length of the tunnel to avoid the Scheduled Monument known as the Avenue (NHLE 1010140) at its eastern end and a Bowl barrow south of the A303 and north west of Normanton Gorse (NHLE 1010832) at its western end – the tunnel length has been extended to 2 miles (or 3km) in length; the further addition of 200m of canopy at the western portal and 85m of canopy at the eastern portal to further extend the tunnel (to almost 3.3km) to aid landscape integration; the optimization of the positions of the tunnel portals at the head of dry valleys in the landscape; in order to reduce the length of cutting (and minimise the length of the culvert part of the tunnel in the western approaches) the addition of the 150m long land bridge to maintain physical and visual

connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group; the removal of the surface A303 into a tunnel and approach cuttings to reduce noise and improve the tranquillity of the WHS; in order to minimise light spill measures have included no lighting of the new Longbarrow junction or the approach cuttings, new directional lighting at Countess junction replacing the existing non-directional lighting, lighting of the portals would be designed to minimise light spill out in to the WHS landscape and lighting under the land bridge will only operate during daylight hours; and to minimise the visibility of new infrastructure within the WHS signage and other highways installations will sit completely within the approach cuttings and not extend above them. Further information on the missions, including how Highways England has considered the recommendations of UNESCO/ ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.

- 24.1.50 The Scheme design submitted for development consent has evolved substantially since the last UNESCO/ICOMOS mission was carried out in early 2018 and following submission of the DCO, UNESCO has been notified of the application. It is expected that The State of Conservation Report (SOCR) prepared by the Department for Digital, Culture, Media & Sport will be considered at the next meeting of UNESCO's World Heritage Committee, scheduled for summer 2019.
- 24.1.51 The World Heritage Committee decision recommended consideration of "further design refinement, with a view to avoiding impact on the OUV of the property, including longer tunnel options". Longer tunnel designs have been considered and discounted as they would not deliver sufficient additional benefits.
- 24.1.52 Further detail is provided in response to Written Question AL.1.29 [REP2-024].

24.2 Cultural Heritage

Key Issue

Avoidance of impact on OUV

- 24.2.1 **Any assessment of impact and cost/benefit and approaches to balancing adverse and beneficial impacts needs to take into account the value of OUV as defined by UNESCO: "cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. As such, the permanent protection of this heritage is of the highest importance to the international community as a whole." Where possible adverse impact however slight should be avoided.**

Highways England response

- 24.2.2 In full recognition of its obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972) (the World Heritage Convention) the Government is making a substantial investment in funding a tunnel past Stonehenge to bring extensive benefits to the WHS. The application has been prepared (and the consultation on it undertaken) with due regard to the obligations under the World Heritage Convention.
- 24.2.3 The protection and conservation of World Heritage Sites is integrated into the comprehensive UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets – namely, the UK's national policy statements, NPPF, Planning Act 2008 provision, and the established approach to assessment of impacts on heritage generally and the balancing of factors in decision making. As a result great weight is given to harm to World Heritage Sites. The application by the Secretary of State of the planning balance envisaged by this framework and in particular the NPSNN is in accordance with the World Heritage Convention.
- 24.2.4 Heritage has been a key consideration during route selection and consultation, being one of the Scheme's objectives to help conserve and enhance the WHS.
- 24.2.5 The removal of the existing A303 surface road from the WHS landscape will result in extensive benefits for the World Heritage Site (WHS) including beneficial effects to many heritage assets within the WHS. The cultural heritage assessment for the Scheme can be found in the ES, Chapter 6 [APP-044]. Detailed consideration of the assessment of the Scheme in the context of the OUV of the WHS can be found in ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195].
- 24.2.6 Table 3 in the HIA shows the effects that the Scheme would have on the WHS in relation to its Attributes of OUV, Integrity and Authenticity. The table also shows how the Scheme would benefit the WHS in comparison with the effects of the existing A303. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained.
- 24.2.7 The preferred route was carefully chosen to minimise effects on archaeology, and a comprehensive programme of archaeological evaluation surveys has informed the Scheme design to limit direct physical impacts as far as practicable, including limiting impacts on archaeological remains that contribute to the OUV of the WHS. The design has been carefully chosen in order to preserve archaeological remains along the 2 mile section of tunnel, improve the setting of many heritage assets and asset groups in the central part of the WHS including the Avenue, Stonehenge itself and the Winterbourne Stoke barrow group; remove the intrusive sight and sound of traffic from the existing A303 as far as possible within the WHS; and design

a scheme that is minimally intrusive in both the western and eastern parts of the WHS, including in key views from assets groups that contribute to the OUV of the WHS. Examples of how the design has been developed to limit impacts on archaeology include, but are not limited to, the choice of a northern bypass of Winterbourne Stoke, the reduced footprint and land take for Rolleston Corner, and the design and placement of the western and eastern tunnel portals and portal approaches in areas that have been shown to have limited archaeological remains within their footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044]. Section 6.8, Table 6.9. The cultural heritage assessment, reported in ES Chapter 6, identifies the effects on known archaeological features whilst recognising the benefits that the tunnel will deliver for the WHS landscape as a whole.

- 24.2.8 The assessment of the impact of the Scheme on the OUV of the WHS is in the Heritage Impact Assessment (HIA) at Appendix 6.1 to the ES [APP-195]. The HIA concludes that overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the scheme will have a Slight Adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on 3 of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the Scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. The OUV of the WHS would be sustained. This is set out in Section 12.4 of the HIA. The impact of the Scheme in terms of the inscription of the WHS is assessed in Section 12.5 of the HIA and concludes that the Scheme would not impact upon the continuing relevance and application of the WHS inscription criteria. There is therefore no indication of there being any risk to the site's world heritage status, and overall the Scheme results in benefits for the WHS.
- 24.2.9 Highways England acknowledges that the Scheme would have some adverse effects on some of the Attributes of OUV. In arriving at an assessment of the overall effect on the OUV of the WHS as a whole, we have also taken into account the very substantial benefits arising from provision of the 3.3km tunnel. Whilst the Written Representation suggests that adverse impacts, no matter how slight, should be avoided, this is not the requirement of the World Heritage Convention – further detail is provided in this respect in response to Written Question G.1.1 [REP2-021].

Key Issue

Interpretation and access

- i. **A detailed archaeological and heritage outreach and education programme within the DAMS should be included in Requirement 5 of the scheme to increase benefits related to the scheme.**
- ii. **Work will also need to be undertaken on the evolving identity and image of the WHS following this major change in the nature of the landscape and how people are able to relate to it. This work should also consider the relationship of Stonehenge to the Avebury half of the WHS. These related projects also apply to the surface elements of the scheme discussed below.**
- iii. **Restrictions proposed on land use above the tunnel are inappropriate in the WHS as they could represent a constraint to research. An approach to this challenge needs to be agreed with WHS partners as part of the DCO process. If not amended this would deviate from Aim 7 of the Management Plan to, *Encourage and promote sustainable research to improve the understanding of the archeological, historical and environmental value of the WHS necessary for its appropriate management. Maximise the public benefit of this research.***
- iv. **The WHS “provides an outstanding illustration of the evolution of monument construction and of the continual use and shaping of the landscape over more than 2,000 years, from the early Neolithic to the Bronze Age.” Any infrastructure introduced into the WHS needs to avoid the use of over-engineered solutions that would make the results of this process less legible.**
- v. **The position to the east of the Avenue allowing for the reinstatement of the route of the monument aligns well with policy 3e of the WHS Management Plan as it provides the opportunity to make buried or obscured monuments more visible. This could offer interpretation and access gains. There should be consideration of how to maximise benefits for the reinstated route of the Avenue. Approaches to access needs to be considered and designed in where possible.**

Highways England response

(i) A detailed archaeological and heritage outreach and education programme within the DAMS should be included in Requirement 5

- 24.2.10 The draft Detailed Archaeological Mitigation Strategy (DAMS), submitted at Deadline 2 [REP2-038], developed in consultation with Wiltshire Council Archaeology Service (WCAS) and the Heritage Monitoring and Advisory Group (HMAG), will be a certified document and its implementation is

secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003].

- 24.2.11 The DAMS and the accompanying Overarching Written Scheme of Investigation (OWSI) are being developed during the course of the Examination through continuation of regular meetings with HMAG, in order to produce a finalised DAMS prior to close of Examination. The HMAG meetings will be informed by further engagement with the Scientific Committee during this process.
- 24.2.12 The draft DAMS notes “The universal value of Stonehenge and its landscape generates an unusually high level of public interest. The A303 Stonehenge Public Archaeology and Community Engagement Strategy (PACE strategy) will aim to collaboratively interpret and communicate the results of the archaeological evaluation and mitigation programmes to a wide audience, including local communities directly impacted by the Scheme (that is, people living and working within the A303 corridor); visitors to the WHS and travellers passing through it; and wider national and international audiences. The Strategy will aim to deliver a lasting legacy from the archaeological investigation and recording works undertaken for the Scheme. The objective will be to provide information to a wide variety of audiences, ranging from those with a strong interest in archaeology and heritage to those with no specific involvement.” [REP2-038, paras 4.4.1-4.4.2]. The PACE strategy is informed by a number of existing frameworks for archaeology and cultural heritage outreach activities in the WHS and the wider area, including the Interpretation, Learning & Participation Strategy (English Heritage, 2011) and the 2015 Stonehenge and Avebury WHS Management Plan (Simmonds and Thomas, 2015).
- 24.2.13 The draft Public Archaeology and Community Engagement Strategy is set out in Appendix F of the draft Detailed Archaeological Mitigation Strategy (DAMS), submitted at Deadline 2 [REP2-038]

(ii) Work on the evolving identity and image of the WHS

- 24.2.14 Highways England will continue to work with WHS partners and stakeholders to maximise the legacy opportunities that could arise from the Scheme. Highways England’s A303 Benefits and Legacy Forum and Benefits Steering Group, will look to work with partner organisations to develop the Scheme legacy and benefits as the Scheme develops, tying in to the priorities set out within the 2015 WHS Management Plan.

(iii) Restrictions on land use above tunnel

- 24.2.15 As noted in the Statement of Reasons [APP-023], restrictions are required above the tunnel in order to secure protection of the tunnel from potentially conflicting future development and works that might jeopardise the structural integrity of the tunnel.

- 24.2.16 The proposed Scheme would provide powers to impose restrictions which may affect future archaeological research above the tunnel route, in order to protect the structural integrity of the tunnel. There are no restrictions intended to be placed on future archaeological research elsewhere. It is expected that the restrictions will vary along the length of the tunnel, depending upon the depth of the tunnel below the surface. The detail of the restriction is under discussion, but as currently drafted would restrict excavations relating to future archaeological research below 0.6m in areas where the tunnel is shallow, and below 1.2m in areas where the tunnel is deeper. The restriction would not prevent excavations from being undertaken below this depth but would require a promoter of future archaeological research to consult with Highways England in such cases in order to determine the extent to which that activity might have the potential to affect the structural integrity of the tunnel.
- 24.2.17 The terms of the restriction are still under discussion with the landowners and heritage partners. The current proposal is that restrictive covenants will be required over land above and adjacent to the tunnel. These activities would include:
- a. development which would require planning permission, deep foundations, piling or influence existing ground conditions.
changes in ground weight loading (either increasing or decreasing) such as:
 - i. any excavation (including boring and future archaeological research) below a depth of 1.2m in the area shown in light blue and below a depth of 0.6m in the area shown in dark blue in Appendix A of the Response to Written Questions for Cultural Heritage [REP2-025];
 - ii. any additional loading as a result of building work or storage;
 - iii. use by any vehicles of greater weight than for standard road use vehicles; or
 - iv. any new tree planting or removal.
- 24.2.18 Where archaeological research is identified requiring activity restricted by the above proposed terms (such as by requiring excavations deeper than 0.6m or 1.2m, depending on the location), the restrictive covenants would require consultation with Highways England in order to analyse on a case by case basis and determine to what extent the proposed archaeological works may be permitted. It is therefore not the intention of the restriction to compromise and potentially prevent both future archaeological research within the WHS, and also works necessary to the conservation and protection of sites and monuments that convey its attributes of OUV, but to create a mechanism to allow archaeological research to continue, but also allow Highways England the ability to protect the integrity of the tunnel.

(iv) Any infrastructure introduced into the WHS needs to avoid the use of over-engineered solutions

- 24.2.19 The Scheme has been designed with the need to avoid over-engineered solutions in mind.
- 24.2.20 In addition, the Applicant recognises that in the particular circumstances of this Scheme there is a need to give key stakeholders confidence that the detailed design of the Scheme will be carried out appropriately. The Applicant has provided in the OEMP submitted at Deadline 3 a mechanism:
- a. a. obliging the Applicant to consult with key heritage stakeholders on detailed design of key aspects of the Scheme;
 - b. b. setting out design principles according to which the Applicant will require the detailed design of those key aspects of the Scheme to be undertaken; and
 - c. c. committing to certain additional key aspects of design, additional to those already contained in the OEMP.

(v) The position to the east of the Avenue. provides the opportunity to make buried or obscured monuments more visible. This could offer interpretation and access gains. There should be consideration of how to maximise benefits for the reinstated route of the Avenue. Approaches to access needs to be considered and designed in where possible.

- 24.2.21 The Scheme will facilitate the reconnection of The Avenue where it is currently severed by the existing A303. Further reconnection and making it fully accessible falls outside the scope of the Scheme. Highways England is working with the relevant stakeholders to identify opportunities for legacy benefits, such as improving footpaths along the river, to be pursued by other means.
- 24.2.22 Highways England will continue to work with partners to maximise the access and engagement opportunities that could arise from the Scheme.
- 24.2.23 As noted in HIA [APP-195] paras. 8.4.6 and 8.4.7, “Long-term interpretation and public access measures, awareness-building and education proposals are being developed as part of the National Trust and Historic England’s Phase 2 – Partnership Plan for National Trust and English Heritage Trust land. Highways England has convened an A303 Benefits and Legacy Forum and Benefits Steering Group. This would look to work with partner organisations to develop the Scheme legacy and benefits as the Scheme develops, tying in to the priorities set out within the 2015 WHS Management Plan.”

Key Issue

Western section - Impact on OUV

- v. **The EIA and HIA both indicate adverse impacts on the WHS and its OUV in this area and more needs to be done to address this. Currently it deviates from the aims and policies of the Management Plan and policy framework.**
- vi. **Currently there is an allowance for a 200m deviation for the western portal. Lack of clarity on limits of deviation (LoD) could result in unforeseen negative impacts on the WHS and its OUV. An agreed detailed design allowing for accurate modelling and adequate mitigation is required. This the case wherever such LoD are in place.**
- vii. **There is substantial future research potential in this area. This impact is not fully reflected in the HIA. Only a bored tunnel extending beyond the WHS could mitigate this particular adverse impact.**

Highways England response

(i) Mitigation of adverse impacts

- 24.2.24 As the HIA notes [APP-195, para. 8.1.1] “Design is an iterative process, and a number of design changes have been made to avoid potentially harmful consequences. A number of adverse effects have still been identified in the final assessment, for which mitigation measures are put forward. Where such measures are proposed, it is intended that these will be secured through appropriate DCO requirements.” The design process has involved extensive consideration of heritage issues, which have influenced the design of the Scheme. “Where possible, proportionate measures to avoid or minimise direct impacts on heritage assets have been embedded within the Scheme, taking into account that this is a WHS of OUV. Scheme design iterations have included changes made in response to cultural heritage concerns [...]” [APP-195, para. 8.2.2]. “Throughout the design process, avoidance of heritage assets by refinement of the Scheme alignment has been undertaken. These changes have been made to take account of heritage assets which were already known, and also buried archaeology which has been newly discovered during the fieldwork undertaken for this project.” [APP-195, para. 8.2.4]. Design changes to the Scheme within the WHS in response to cultural heritage concerns are set out in HIA Table 9 [APP-195].
- 24.2.25 Further westwards extensions of the tunnel were ruled out because of topographical and technical constraints, and because they would not deliver sufficient additional benefits to justify the additional cost. Highways England have designed a scheme that removes the surface A303, and the accompanying sight and sound of traffic on it from a large proportion of the WHS enabling beneficial change to the setting of many monuments and asset groups that contribute to the OUV of the WHS, particularly within the central part of the WHS surrounding Stonehenge. The Scheme has been

sensitively designed with the use of a 2 mile long tunnel, retained deep road cuttings, essential chalk grassland mitigation to enable landscape integration, a 150m long Green Bridge 4 to enable visual and physical landscape connectivity and public access, canopies and hidden tunnel portals within the WHS landscape.

- 24.2.26 The Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the Scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on 3 of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the Scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained.

(ii) Tunnel Limits of Deviation (LOD)

- 24.2.27 The Environmental Statement Chapter 6 [APP-044] and the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] considered the worst case scenario for the Scheme and the results of the archaeological evaluations for the western portal and approaches and the eastern portal and approaches prior to submission of the DCO application.
- 24.2.28 With regards to the works detailed in 1E, 1F and 1G as set out in Table 2.1: Limits of deviation in Environmental Statement Chapter 2 [APP-040], which align with the limits of deviation set out in article 7 of the draft development consent order [REP2-003] these are outlined below.

Work No.1E

- 24.2.29 Article 7(7) allows for the cut and cover section of the tunnel to commence 200 metres westwards from the location shown by the "bow-tie" on the Works Plans [App-008] and by a nominal 1m eastwards from that position. The 200m deviation westwards would allow for the point of commencement of Work No.1F (the bored tunnel and associated works) to also deviate westwards by the same amount, should it be required during the detailed design.
- 24.2.30 The exercise of this limit of deviation would allow archaeological remains, that would otherwise be archaeologically excavated and recorded prior to construction of the Scheme (which positions the western portal tunnel face at chainage 7400), to be preserved in situ. The nominal 1m deviation of the point of termination of Work No.1E eastwards would only increase the footprint slightly for the western portal and would not physically impact archaeological remains that are known to contribute to the OUV of the WHS. The significant effects reported in the Environmental Statement Chapter 6 [APP-044] and the conclusions reached in the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] are therefore the same whether the limits of deviation are used or not.

24.2.31 Should the maximum westerly deviation of 200m be required by the detailed design for both Work No.1E and Work No.1F then this would benefit the setting of five isolated designated heritage assets that contribute to the OUV of the WHS and lie to the south of the A303. These comprise:

- Bowl barrow south of the A303 and north-west of Normanton Gorse (NHLE 1010832);
- Pond barrow south of the A303 and 400m west of Normanton Gorse containing the 'Wilsford Shaft' (NHLE 1010833);
- Bowl barrow 400m west of Normanton Gorse (NHLE 1010831);
- Bowl barrow 350m south-west of Normanton Gorse (NHLE 1013812); and
- Linear boundary within Normanton Gorse (NHLE 1010838)

24.2.32 The above benefits would result in Slight Beneficial (and therefore non-significant effects) and therefore the conclusions reached in the Environmental Statement Chapter 6 [APP-044] and the overall conclusions reached in the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] are the same whether the limits of deviation are used or not.

Work No.1F

24.2.33 Article 7(7) allows for the points of commencement and termination of Work No.1F (the bored tunnel and associated works) to deviate from the "bow-ties" shown on the Works Plans by up to 200m westwards and 30m eastwards respectively. It also permits the point of commencement of Work No.1F to deviate by a nominal 1m eastwards and the point of termination to deviate by a nominal 1m westwards.

24.2.34 The same considerations as those discussed in respect of Work No. 1E above apply to westward deviation of the point of commencement of Work No.1F. Regarding the 30m eastwards deviation of the point of termination of Work No.1F this would allow archaeological remains, that would otherwise be archaeologically excavated and recorded prior to construction of the Scheme (which positions the eastern portal tunnel face at chainage 10400), to be preserved in situ. The nominal 1m deviation westwards of the point of termination of Work No.1F would only increase the footprint slightly for the eastern portal and would not physically impact archaeological remains that are known to contribute to the OUV of the WHS. The significant effects reported in the Environmental Statement Chapter 6 [APP-044] and the conclusions reached in the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] are therefore the same whether the limits of deviation are used or not.

Work No.1G

24.2.35 Article 7(7) allows the points of commencement and termination of Work No.1G to deviate eastwards from the "bow-tie" shown on the Works Plans by up to 30m and by up to 1m westwards. This is considered in response to 1F above.

Vertical limits of deviation

24.2.36 The vertical limits of deviation for Work No.1F are set out in article 7(5) by reference to the Bored Tunnel Limits of Deviation Plan [APP-019] and Note 3 on the Bored Tunnel Limits of Deviation Plan, which confirms that "For any extension of the bored tunnel outside chainage 7400 to 10400 the upper limit of deviation of the crown of the bored tunnel would be a minimum of 6.75m below existing ground level and the upper limit of deviation for the finished road level would be a minimum of 15m below existing ground level.". As such, the upper limit of deviation of the crown of the bored tunnel would be a minimum of 6.75m below existing ground level. This would allow enough chalk coverage to preserve surface archaeological remains (generally located within the top 2m) above the tunnel, even where it is closest to the surface (at 6.75m below the ground surface).

24.2.37 The significant effects as reported in the Environmental Statement Chapter 6 [APP-044] and the conclusions reached in the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] are therefore the same whether the limits of deviation are used or not.

Lateral deviations from the centreline

24.2.38 Regarding the lateral limits of deviation for the western and eastern tunnel portals from the centre line of +3m/-3m, again this would only vary the footprint slightly for the eastern or western portals and would not physically impact archaeological remains that are known to contribute to the OUV of the WHS. The significant effects as reported in the Environmental Statement Chapter 6 [APP-044] and the conclusions reached in the Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195] are therefore the same whether the limits of deviation are used or not.

(iii) Research potential of archaeological remains in Western Section

24.2.39 The reasoning behind the rejection of longer tunnel options is dealt with above. The research potential of the WHS is recognised in the HIA, which notes: It is not considered that the proposed Scheme will alter the nature, pace or quality of the research that will continue to take place within the WHS. The proposed Scheme will not impact upon the analysis, interpretation and dissemination of the results of field research. Although archaeological evaluations and excavations within the footprint of the proposed Scheme will remove archaeological deposits, the Scheme has been designed to minimise land-take and avoid known archaeological sites. Archaeological interventions in connection with the proposed Scheme are being undertaken to high standards developed with HMAG and the Scientific Committee, and have the

potential to contribute significant data to ongoing research priorities [APP-195, 9.3.75].

- 24.2.40 The application recognises the archaeological potential of the Scheme and therefore has put forward the Detailed Archaeological Mitigation Strategy (DAMS), submitted at Deadline 2 [REP2-038] which sets out the structured, iterative detailed archaeological mitigation strategy. The DAMS is being developed in consultation with the Heritage Monitoring Advisory Group and the Scientific Committee. It will be finalised prior to the end of the Examination and is secured by Requirement 5 of Schedule 2 of the draft development consent order [REP2-003]. The DAMS is rooted in a heritage research-led framework [REP2-038; Section 2].

Key Issue

Countess junction

- 24.2.41 **The proposed flyover would need careful assessment of possible impacts on the WHS through visual and aural modelling. The results should then inform the solution which should include the least urban and intrusive design possible. Further modelling and design work would be beneficial and a process for agreeing design details by relevant WHS partners including the WHSCU before any work commences if the scheme is approved.**

Highways England response

- 24.2.42 The potential impacts of Countess flyover are assessed in the relevant topic chapters of the Environmental Statement (ES), including Chapter 6, Cultural Heritage [APP-044], and the Heritage Impact Assessment [APP-195], Chapter 7, Landscape and Visual [APP-045], Chapter 9, Noise and Vibration [APP-047].
- 24.2.43 The assessment reported in the ES has concluded in Chapter 7, Landscape and Visual, that there would be: temporary significant adverse visual effects on nearby residents during construction and a permanent adverse visual effect on one residential property during operation.
- 24.2.44 With regard to noise, Chapter 9 stated that there would be temporary significant adverse noise effects for nearby residents during construction.
- 24.2.45 During construction, sensitive receptors in the vicinity of the Countess roundabout will be afforded protection through measures contained within the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) to, for example, control noise (PW-NOI1, PW-NOI3, PW-NOI5, MW-NOI1, MW-NOI3 MW-NOI4, and MW-NOI6), dust (PW-AIR1 and MW-AIR1), and artificial lighting (MW-G29). The OEMP is secured through paragraph 4 of Schedule 2 to the draft development consent order [REP2-003]. Operational mitigation will be delivered through 1.8m high noise barriers on the north and south sides of

the flyover, as required by reference D-NOI2 in the OEMP; and landscaping of the flyover embankments would be secured through requirement 8 of the draft development consent order [REP2-003].

- 24.2.46 Highways England considers the application is sufficiently detailed to allow WHSCU to understand and comment on the Scheme. In particular photomontages and CGI visualisations have been presented within the LVIA Chapter (Chapter 7 [APP-045]) and Cultural Heritage Chapters (Appendix 6.9 [APP-218]) of the ES. Design and visual representations will be developed through the detailed design process. The further detailed design of the portal and its associated infrastructure will be sensitive to its WHS context, following Highways England's guide 'The Road to Good Design' (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/672822/Good_road_design_Jan_18.pdf).
- 24.2.47 Highways England are undertaking additional visualisations from locations identified in the response to Examination Authority Written Question LV.1.9 [REP2-033]. These include photomontages undertaken from:
- the tumulus by the radio antennae to the north east of Countess roundabout (operation image)
 - the worst-case view in winter, associated with the listed buildings, taken from the northern part of Amesbury Conservation Area towards Countess roundabout (operation image).

Key Issue

Longbarrow junction

- 24.2.48 **The new location is beneficial to the setting of the Winterbourne Stoke Barrow Group and the Diamond Group. More detailed modelling would assist in elucidating the nature of remaining impacts on the WHS and design solutions to mitigate these. It will be important to adhere to the stated aims of minimising lighting on the road and junctions both within the WHS and in its setting to align with policy 1e. Enhancing dark night skies is an important element in protection of astronomical alignments described in attribute 4 of OUV.**

Highways England response

- 24.2.49 Highways England considers the application is sufficiently detailed to allow the WHS Coordination Unit to understand and comment on the Scheme. In particular photomontages and CGI visualisations have been presented within the LVIA Chapter (Chapter 7 [APP-045]) and Cultural Heritage Chapters (Appendix 6.9 [APP-218]) of the ES. Design and visual representations will be developed through the detailed design process. The further detailed design of the portal and its associated infrastructure (including the junctions) will be sensitive to its WHS context, following Highways England's guide 'The Road to Good Design'

(https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/672822/Good_road_design_Jan_18.pdf), and will be developed in consultation with Historic England.

- 24.2.50 The new dual carriageway linking the existing unlit dual carriageways to the west of Winterbourne Stoke and the east of Amesbury will not have lighting along the new dual carriageway outside of the tunnel helping to enhance the dark sky environment. This will contribute towards the Scheme's aim of minimising its impact on the surrounding environment. The deep cutting will also conceal the road and traffic from views across the WHS.
- 24.2.51 Road lighting is proposed at three locations only: in the tunnel; under Green Bridge No. 4 (day time only) and replacement of the existing lighting at Countess roundabout with directional LEDs to minimise light spill and sky glow. The new Longbarrow junction will be unlit improving on the current situation. This lighting (and the principle of minimising light spill) is provided for in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) (D-CH9 to D-CH12), and paragraph 4 of Schedule 2 of the draft development consent order [REP2-003] requires the Scheme to be carried out in accordance with the OEMP. No standard road lighting is proposed on the A303 or at the roundabout at Longbarrow junction.
- 24.2.52 The Scheme would bring substantial benefits to large parts of the WHS and as set out in more detail in the HIA would have a Large Beneficial effect in relation to Attribute 4.

Key Issue

Heritage Impact Assessment

- i. **The HIA produced is to be welcomed. It contains valuable detail in some areas but has not produced the level of detail in its modelling that we requested during the consultation phase.**
- ii. **There was no meaningful consultation with partners beyond HMAg in its preparation thereby missing the opportunity for greater robustness and breadth. The process of producing this HIA should be consultative as set out by ICOMOS and involve key experts with a high level of knowledge, experience and expertise. Highways England should have been able to respond to the results of HIA and adapt their scheme during its development prior to the commencement of the DCO process.**
- iii. **Lack of design detail makes it difficult to accurately assess impacts. Although detailed design may not normally be provided at this point in the DCO process, the great sensitivity and international importance of the WHS landscape make it essential that decisions are reached in way that will not result in adverse impacts on the WHS and its OUV. This could be as part of the DCO process or an**

agreed process of consultation with WHS curators and stakeholders.

- iv. The ICOMOS guidance emphasises that the HIA is required to identify negative impacts very early in the process, to inform both the development design and the planning process in a pro-active rather than reactive manner. It would be helpful if the HIA could be further developed during the DCO process to if possible achieve improved alignment with the Management Plan.
- v. Impacts of infrastructure in the setting of the WHS need to be assessed as part of the HIA. At present some of the monuments or viewpoints may have been scoped out as there has been a focus [on the] visual rather than contextual setting the HIA. Although the WHS Setting Study has not yet been produced it is still possible to undertake this work with reference to the attributes of OUV and the Historic England Setting of Heritage Assets Good Practice Advice. ... setting is not only visual in nature but includes a range of physical and experiential aspects such as context and tranquillity.
- vi. The HIA although detailed and appropriate in some areas relies on simple photomontage from asset group rather than providing a more rigorous assessment of impacts on attribute 6 and on visitors moving through the landscape. A more accurate assessment of impacts on the attributes of OUV (including attribute 5 - the siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other, and attribute 6 - the disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel) would include flythrough or virtual reality modelling.
- vii. A virtual reality modelling of walking over the Green Bridge would provide valuable perspective alongside other evidence on how the scheme would impact on the experience of the WHS landscape and to what extent (sic) the proposed 150 m wide green bridge would mitigate this.

Highways England response

(i) Detailed modelling in HIA

- 24.2.53 See response above regarding further modelling.
- 24.2.54 With reference to Interim Advice Note 135/10 which forms the basis of the Landscape and Visual Impact Assessment [APP-045], static views are referred to as from a residential property (IAN135/10 paragraph 3.9). The ES photomontages include representative views from residential properties. Kinetic views are also included as representative of people moving through the landscape, i.e. on Public Rights of Way or road networks. A set of 360

degree CGI images rendered from the Landscape and Visual Impact Assessment photomontage locations [illustrated in APP-088] will also be submitted to the Examination Authority for Deadline 3.

(ii) Meaningful consultation with partners beyond HMAG in preparation of HIA

- 24.2.55 Heritage has been a key consideration during route selection and consultation, being one of the Scheme's objectives to help conserve and enhance the WHS. Highways England has engaged regularly with key heritage stakeholders, throughout the Scheme's development, including through the Heritage Monitoring Advisory Group (HMAG), which includes Wiltshire Council Archaeology Services (WCAS), Historic England, National Trust, and English Heritage, and the Scientific Committee of eminent archaeological experts. Their involvement will continue up to and through construction, and is secured as part of a Detailed Archaeology Mitigation Strategy (DAMS), which is being developed in consultation with WCAS and the HMAG (a draft of which was produced at Deadline 2 [REP2-038]) and which is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. More information on engagement with archaeological and other heritage experts can be found in the ES Chapter 6, Cultural Heritage [APP-044, paragraphs 6.3.31-6.3.34], the HIA [APP-195, section 3.7] and the Consultation Report [APP-026].
- 24.2.56 In 2016, the Stakeholder Strategy Board (SSB) was set up. In recognition of the scheme's unique heritage context, membership of the SSB includes the Department for Transport (DfT), Department for Digital, Culture, Media and Sport (DCMS), Historic England, English Heritage Trust, The National Trust and the WHS Partnership Panel Chair, as well as Wiltshire Council as host authority for the scheme. They were involved in and responded to the public consultation held on route options in early 2017 before the preferred route was chosen and were consulted during the development of the HIA. An extraordinary meeting was held on 30 July 2018 with members of WHS Partnership Panel, WHS Steering Committees for Stonehenge and Avebury, and the Avebury and Stonehenge Archaeological and Historical Research Group to discuss ongoing matters following the 2018 statutory consultation and the developing heritage impact assessment.
- 24.2.57 The design has been iterative throughout with heritage issues being a key consideration. In particular the WHS and its OUV has been considered as part of each design decision [Environmental statement Chapter 3 - Assessment of alternatives [APP-041, e.g. Tables 3.3, 3.4, 3.5, 3.7, 3.11, 3.12, 3.13, 3.14, 3.15].

(iii) Lack of design detail

- 24.2.58 The level of information displayed on the plans and drawings accompanying the DCO are sufficient to describe the Scheme and assess its environmental impacts. The impacts of the Scheme as applied for are assessed in the

Environmental Statement as well as the Heritage Impact Assessment [APP-195].

24.2.59 Highways England recognises the great sensitivity and international importance of the WHS landscape and welcomes further engagement with WHSCU, heritage partners and stakeholders with regard to design principles and the detailed design.

24.2.60 The Applicant has provided in the OEMP submitted at Deadline 3 a wasmechanism:

- a. obliging the Applicant to consult with key heritage stakeholders on detailed design of key aspects of the Scheme;
- b. setting out design principles according to which the Applicant will require the detailed design of those key aspects of the Scheme to be undertaken; and
- c. committing to certain additional key aspects of design, additional to those already contained in the OEMP.

(iv) Develop HIA during DCO process to if possible achieve improved alignment with the Management Plan.

24.2.61 The HIA has been prepared in tandem with the development of the Scheme to inform the road improvement proposals as an integral part of the iterative design process. This has enabled the development of a final Scheme which aims to assure the protection of the Outstanding Universal Value (OUV) of the WHS. As noted in the HIA [APP-195, para. 7.5.11], "This HIA is based on the Scheme, the subject of the DCO Application. Flexibility has been inbuilt to the design of the Scheme to provide scope for further 'value engineering' through innovative design and construction techniques. The design will continue to be informed by the EIA and HIA through the iterative working between designers and environmental specialists."

24.2.62 The HIA specifically addresses the Scheme's alignment with the WHS Management Plan vision, aims and policies, and demonstrates how the design of the Scheme has been developed with consideration to relevant aims and policies set out in the plan [APP-095, Section 12.3].

(v) Impacts of infrastructure in the setting of the WHS emphasises visual rather than contextual setting

24.2.63 The process of establishing the assessment baseline relied on both visible and non-visible factors such as cultural or historic connections. The rationale for the selection of Asset Groups conveying Attributes of Outstanding Universal Value (OUV) is detailed in Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195], paragraphs 5.10.6 - 5.10.33, and relies both on visible and non-visible factors. The context of monument groups and relationships between them were identified via a range of studies including:

- Environmental Statement Appendix 6.1 Annex 4 - Previous archaeological and antiquarian investigations within the Stonehenge part of the WHS [APP-199];
 - Environmental Statement Appendix 6.1 Annex 5 - Astronomy and Archeoastronomy [APP-200];
 - Environmental Statement Appendix 6.1 Annex 6 - Influences of the monuments and landscape of the Stonehenge part of the World Heritage Site on architects, historians and archaeologists [APP-201];
 - Environmental Statement Appendix 6.1 Annex 7 - Influences of the monuments and landscape of the Stonehenge part of the World Heritage Site on artists [APP-202];
 - Environmental Statement Appendix 6.1 Annex 8 - Influences of the monuments and landscape of the Stonehenge part of the World Heritage Site on literature and popular culture [APP-203]; and
 - Environmental Statement Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218].
- 24.2.64 These studies sought to draw out non-visual contextual relationships: including cultural, artistic, astronomical, intellectual, spatial and functional relationships relevant to the significance of the assets and Asset Groups, which are set out in the Asset Group assessments in Section 6.9 of the HIA [APP-195]. These contextual and associative relationships are noted in the HIA [APP-195], irrespective of distance.
- 24.2.65 The Setting of Heritage Assets Historic Environment Good Practice Advice in Planning: 3 (Historic England 2017) notes that "The extent and importance of setting is often expressed by reference to visual considerations. Although views of or from an asset will play an important part, the way in which we experience an asset in its setting is also influenced by other environmental factors such as noise, dust and vibration from other land uses in the vicinity, and by our understanding of the historic relationship between places. For example, buildings that are in close proximity but are not visible from each other may have a historic or aesthetic connection that amplifies the experience of the significance of each."
- 24.2.66 This interplay between monument groups is particularly apparent in those with visual relationships; however, it is also relevant in the case of certain monuments with 'hidden' areas, such as the Greater Cursus. As indicated in the HIA [APP-195], paragraph 6.9.12, localised variations in topography, ridge-line views and inter-monumental views (and restricted views, such as the Cursus and Stonehenge Bottom) are key factors in understanding the distribution and grouping of monuments.
- 24.2.67 The Setting Assessment [APP-218], paragraph 3.6.4, notes that "the assessment takes a deliberately cautious approach, recognising the fact that

we know remarkably little about the way that this landscape was used and experienced during prehistory".

- 24.2.68 Where intervening topography resulted in a lack of inter-visibility, consideration was given to including assets due to aspects such as: spatial patterning; positioning in relation to earlier landscape features; chronological context and sequence; watercourses and watersheds; similarities in monument form and function; parallels in terms of cultural material; and, historical associations. However, as indicated in paragraph 6.9.12 of Environmental Statement Appendix 6.1 - Heritage Impact Assessment [APP-195], localised variations in topography, ridge-line views and inter-monumental views (and restricted views, such as some from the Stonehenge Cursus where it crosses Stonehenge Bottom) are the key factors in understanding the distribution and grouping of monuments.

(vi) Fly-through and virtual reality modelling

- 24.2.69 It is considered that the assessment approach has allowed for an accurate assessment of impacts on the attributes of OUV. With reference to Interim Advice Note 135/10 which forms the basis of the Landscape and Visual Impact Assessment [APP-045], static views are referred to as from a residential property (IAN135/10 paragraph 3.9). The ES photomontages include representative views from residential properties. Kinetic views are also included as representative of people moving through the landscape, i.e. on Public Rights of Way or road networks. A set of 360 degree CGI images rendered from the Landscape and Visual Impact Assessment photomontage locations [illustrated in APP-088] will also be submitted to the Examination Authority for Deadline 3.

(vii) Virtual reality model of walking over Green Bridge (4)

- 24.2.70 Please see response to (vi) above.

24.3 Design

Key Issue

Need for design principles

- 24.3.1 **Design principles and parameters should be agreed throughout the WHS and its setting to ensure the most sensitive solution both in scheme design and in the future.**
- 24.3.2 **The design of lighting as well as road markings, signage and boundary treatments have the potential to either increase or mitigate the impact of roads on the surrounding landscape.**

Highways England response

- 24.3.3 The Applicant has added wording to the OEMP submitted at Deadline 3 providing for a mechanism:

- a. obliging the Applicant to consult with heritage stakeholders on detailed design of key aspects of the Scheme;
- b. setting out design principles according to which the Applicant will require the detailed design of those key aspects of the scheme to be undertaken; and
- c. committing to certain additional key aspects of design, additional to the “D Series” design commitments already contained in the OEMP.

Lighting design

24.3.4 The majority of the Scheme would not be lit. There would be no lighting within the WHS beyond that necessary within the tunnel and tunnel portals and beneath the c.150 metre-wide Green Bridge No. 4 (operating during day time only). There would be no lighting within the open cutting, and tunnel lighting would be designed to minimise light spill outside of the tunnel portals. There would be no roadside lighting at the new Longbarrow junction, and the improved Countess junction would utilise new directional roadside lighting to minimise light spill. These are significant improvements over the current situation, where both Countess and Longbarrow junctions are brightly lit. This lighting is provided for in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) (OEMP Refs: D-CH9 to D-CH12), and Requirement 4 of Schedule 2 to the draft development consent order [REP2-003], requires the Scheme to be carried out in accordance with the OEMP.

Signage

24.3.5 In the context of the WHS, the Scheme has committed to no signage or other vertical installations (such as CCTV) above the top of the cutting and no lighting of signs at the western end of the Scheme in order to protect the WHS’s Outstanding Universal Value (OUV) [see OEMP Ref: D-CH8]. Appropriate signage and infrastructure will also be provided outside the WHS to manage traffic through the corridor.

24.3.6 The indicative road signage design for the Scheme has been - and the detailed design will be - carried out based on guidance given in the following standards:

- The Traffic Signs Regulations and General Directions (2016) (TSRGD)
- Department for Transport’s Traffic Signs Manuals (TSM)
- Local Transport Note (LTN) 1/94 Design and Use of Directional Informatory
- Signs (1994)
- BD78/99 Design of Road Tunnels,

24.3.7 and an outline review of the existing signage on the road network in the immediate vicinity of the Scheme.

- 24.3.8 The highway alignment (Shown on 2.7 Engineering Section Drawings (Plan and Profiles) [APP-010]) and associated landscape mitigations proposals (Shown indicatively on 6.2 Environmental Statement Figure 2.5 A-S-Environmental Masterplan [APP-059]) have been selected to best integrate the Scheme within the local landscape and topography, whilst minimising or removing any adverse impacts where possible, including from signage.
- 24.3.9 The detail of the road signage for the Scheme will be determined by the detailed design of the Scheme. The commitments in the OEMP regarding signage in the WHS and the design of the Scheme will ensure that unacceptable effects are avoided. Due to the extent of cutting or bunds outside of the WHS, signage would necessarily be positioned within these earthworks which would limit its visibility, as demonstrated by the photomontages within the Landscape and Visual Impact Assessment [APP-129 to APP-134].

Boundary treatment

- 24.3.10 At this stage there are no plans available detailing construction phase fencing. This would be developed by the main works contractor during the detailed design stage. To ensure fencing has a minimal impact on the World Heritage Site (WHS), the main works contractor would consult with the Heritage Monitoring and Advisory Group (HMAG) to determine the type of construction boundary fencing to be used within the WHS, or within the setting of the WHS, to ensure that the type of fencing used would be sympathetic to the setting of the WHS. This would be secured through items MW-G28, MW-CH3 and D-CH14 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) (Environmental Statement Appendix 2.2), which is, in turn, secured by Paragraph 4 of Schedule 2 of the draft development consent order [REP2-003].
- 24.3.11 All heritage assets identified for protective fencing within the Detailed Archaeological Mitigation Strategy (DAMS), submitted at Deadline 2 [REP2-038], would be securely fenced during the early stages of the preliminary works, as outlined within sections 5.8.2 and 5.8.3 of the DAMS. This would be secured by Paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. To ensure that cultural heritage assets are appropriately protected during the installation of fencing and drainage areas, the preliminary works contractors and main works contractor shall prepare Heritage Management Plans (HMPs), in consultation with HMAG (for areas within the WHS) and WCAS (for areas outside of the WHS), detailing how the historic environment is to be protected during all temporary and permanent works. The Contractor would consult with the HMAG (for works inside the WHS) and Wiltshire Council Archaeology Services (WCAS) (for works outside of the WHS) to determine the type of fencing to be used. This would be secured through item PW-CH4 of the Outline Environmental

Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).

- 24.3.12 Details of the Scheme's permanent fencing and gating strategy will follow at the detailed design stage. At this stage it is envisaged that fences along Public Rights of Ways (PRoWs) would be provided to prevent access onto private land, grazed grassland or the highway, or to provide a buffer zone to the retained cutting between Longbarrow junction and the western tunnel portal. Where necessary for adjacent land use, appropriate stock-proof netting would be added to strained wire or other boundary treatment provided by way of accommodation works, as agreed between Highways England and the adjacent landowner. Indicative details are available in Series 3 of the Highway Construction Details, Manual of Contract Documents for Highway Works
- 24.3.13 <http://www.standardsforhighways.co.uk/ha/standards/mchw/vol3/section1/hseries.pdf>. Please see also the PRoWs Design Document submitted to Examination at Deadline 2 [REP2-040].
- 24.3.14 Fencing in the WHS shall be developed in consultation with the National Trust, Historic England, English Heritage and Wiltshire Council, as secured in the OEMP (OEMP Ref: D-CH14). The main works contractor shall consult with the relevant bodies to determine the type of construction boundary fencing to be used within the WHS or within the setting of the WHS. The type of fencing would be sympathetic to the setting of the WHS.

24.4 Draft Development Consent Order

Key Issue

DAMS and CEMPs

- 24.4.1 **A detailed archaeological mitigation strategy is required as well as a detailed Environmental Management Plan. Detail on the implementation phase is also required to ensure adverse impacts on the WHS are avoided. Impacts on the Avebury half of the WHS need to be carefully considered and any necessary mitigation measures put in place.**

Highways England response

- 24.4.2 A draft of the Detailed Archaeological Mitigation Strategy (DAMS) was submitted at Deadline 2 [REP2-038]. The DAMS will be developed further during Examination in consultation with HMAG/WCAS and the final DAMS will be a certified document, implementation of which will be secured as mentioned above by paragraph 5 of Schedule 2 to the draft development consent order [REP2-003]. The DAMS includes details of archaeological mitigation and also identifies areas to be protected in situ. An Outline Environmental Management Plan (a revised version of which is submitted at Deadline 3) has also been prepared and its implementation is secured by paragraph 4 of Schedule 2 of the draft development consent order [REP2-

003]. The Outline Environmental Management Plan sets out general and topic-specific principles and requirements for the control, mitigation and monitoring of potential construction impacts.

- 24.4.3 Given the distance of the works from the Avebury element of the WHS (40km), the Scheme will have no direct physical impacts on it. In terms of indirect impacts from visitors, it is pertinent to note that the characteristics of visitors to Stonehenge and Avebury are distinct; those visiting Stonehenge are often either from the international market, visiting iconic tourist attractions, or part of an organised tour; those visiting Avebury are often more dedicated, in-country visitors interested in the prehistoric period and its monuments. As the existing A303 will remain open throughout construction, and because of the different nature of visitor each site attracts, it is not anticipated that visitors and tour operators will change their tour schedule to visit Avebury rather than Stonehenge during construction, or following Scheme opening and in the operational phase. It is therefore expected that the construction or operation of the Scheme will not have an in-direct impact on Avebury.
- 24.4.4 As well as access being maintained on the A303 throughout construction, as noted above, there is no planned closure of access to either site as a result of the Scheme. Socio-economic impacts will therefore be minimal on Avebury from the construction of the Scheme.

Key Issue

Cumulative effects

- 24.4.5 **It is imperative to ensure that any scheme is reviewed in relation to its fit with other major development both current and potential in the area such as army rebasing, developments at Boscombe Down and additional housing development locally. This will help to ensure that cumulative and consequential impacts on the WHS and its OUV are avoided or at the very least mitigated.**

Highways England response

Regard has been had to other development either as part of the assessment of cumulative effects or as part of the future baseline (as appropriate), in accordance with PINS Advice Note 17 and is presented within the ES technical discipline chapters [APP-043 to APP-052] and ES Chapter 15 Assessment of Cumulative Effects [APP-053].

As stated within paragraphs 15.2.12-15.2.14 of Chapter 15 of the ES, Assessment of Cumulative Effects [APP-053], Wiltshire Council was consulted during preparation of the list of committed or planned developments and responded on 14 February 2018 following a review of the draft list. To keep the list up to date Wiltshire Council was consulted further and responded again on 16 August 2018 to confirm additional developments

for consideration within the assessments. These agreed and confirmed developments (listed within Appendix 15-2 [APP-291] of the ES) have been considered and taken into account as part of the assessment process and reported in the ES.

HIA [APP-195] Section 10, Cumulative impact assessment, assesses the potential for cumulative impacts on the Attributes of the OUV of the WHS of committed developments (i.e. developments with planning consent and / or development allocations in adopted local plans and MOD development plans) including Kings Gate, Amesbury; various Wiltshire Core Strategy development allocations; Army Basing 2020 Programme: Larkhill and Bulford; Future Boscombe Down Development: Boeing Defence UK New Aircraft Hub; Solstice Park, Amesbury and The Stonehenge Environmental Improvements Programme (SEIP).

Key Issue

Collaborative working throughout examination process

- 24.4.6 **It is important that WHS partners and stakeholders continue to work together throughout the examination process to find a scheme that aligns with the aims and policies of the WHS Management Plan and that can be delivered.**

Highways England response

- 24.4.7 Highways England welcomes further engagement and collaborative working with WHS partners and stakeholders throughout the examination process.

25 National Farmers Union (REP2-112)

25.1 Agriculture

Key Issue

- 25.1.1 **The NFU and the land agents acting believe that no meaningful negotiations have taken place alongside the formal procedures for compulsory purchase. Formal consultation has taken place but no meaningful negotiations have taken place to reach a voluntary agreement.**
- 25.1.2 **The current DCO Application provides the opportunity for the ExA to recommend that unless the guidance identified above can be shown to have been followed, a compelling case cannot be made out and powers of acquisition should not be granted.**

Highways England response

- 25.1.3 Highways England has engaged with all affected landowners and occupiers with a view to acquiring their land interest by agreement, initially by writing to them to inform them of Highways England's willingness to negotiate to acquire land by agreement for the purposes of the Scheme, and to invite dialogue on this point. As a result, Highways England is in the process of engaging with all affected landowners and occupiers with regard to the acquisition of their land interest by agreement; and negotiations to this end will be ongoing throughout the DCO process.
- 25.1.4 At the time of the submission of the application, the status of such negotiations was set out in Annex B of the Statement of Reasons [APP-023]. Updates on the status of negotiations were subsequently provided by Highways England following the acceptance of the application [AS-011] and again at Deadline 2 [REP2-041]. Highways England is aware of the requirement (in paragraph 25 of the Planning Act 2008: Guidance related to procedures for the compulsory acquisition of land', DCLG, September 2013) to seek to acquire land by negotiation wherever practicable, and understands that the power to acquire land compulsorily should only be exercised if attempts to acquire by agreement fail. Further information on Highways England's case for compulsory acquisition, including in respect of negotiations, can be found in the Statement of Reasons, see in particular Chapter 5 (regarding the case for compulsory acquisition) and section 5.7 which relates to acquisition by agreement.

Key Issue

- 25.1.5 **Soils**
- NFU contends that bringing soils back to agricultural use after the construction of a major project is very difficult. It is stated in the Outline Environmental Management Plan (page 54) that the main works**

contractor shall produce a detailed Soils Management Strategy that will identify the nature and types of soil that will be affected and the methods that will be employed for stripping soil and the restoration of agricultural land. Liaison with Landowners has been highlighted on page 65 in regard to restoration which is essential.

- 25.1.6 **HE should: (a) undertake aftercare for a 10-year period to bring the soil back to its condition and quality before the works took place; (b) carry out additional survey work before any soils are stripped so that a soil statement can be set up of the soil condition pre construction. An aftercare plan should be included in the OEMP which will be linked to the CoCP. Please see wording that the NFU would like to be included in the OEMP at Appendix A.**

Highways England response

- 25.1.7 Following completion of the works, the main works contractor would restore the land to agriculture having first agreed with the landowner / tenant the detail for restoration, secured through Item MW-COM4 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). The land restoration would be subject to a period of aftercare where management decisions concerning the land would be driven by the needs of the soil, rather than agricultural productivity; the landowner would be entitled to compensation under statutory provisions, by virtue of article 29(5) of the draft development consent order [REP2-003] with additional monitoring secured through Item MW-COM5 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).
- 25.1.8 Should the quality of the agricultural land restoration be poor, such concerns would need to be assessed by all parties and appropriate remedial actions or compensation agreed within the parameters of the compensation code and/or any previous agreements made at the time of acceptance of the initial restoration works and handover to the landowner/tenant, secured through Item MW-COM5 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).

Key Issue

- 25.1.9 **Field Drainage**

Land drainage is always one of the main issues which landowners and tenants are concerned about when land is taken for construction purposes of major infrastructure. To date no detail has been provided by Highways England on how it will treat field drainage during construction and carry out reinstatement post construction. This is particularly important were land will be returned to agricultural use.

- 25.1.10 **No information has been found within the Outline Environmental Management Plan on how field drainage will be reinstated as part of the**

DCO application. Highways England need to address this issue and agree to general terms of how field drainage should be treated. The NFU has set out wording that it would like to see agreed with HE and included in the OEMP at Appendix B.

Highways England response

- 25.1.11 The Applicant can confirm that the revised Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) includes detail relating to land drainage in response to the information provided by the National Farmers Union (NFU) in Appendix B of their response. This builds on the controls already set out in the MW-WAT and MW-COM parts of the OEMP.
- 25.1.12 Field drainage systems and overland flows from catchments adjacent to the highway boundary would be intercepted and picked up by the Scheme's drainage proposals which are set out in paragraphs 3.2.9 to 3.2.13 and 5.27 to 5.29 of the Road Drainage Strategy, ES Appendix 11.3 [APP-281].
- 25.1.13 Requirement 1, paragraph 10 of Schedule 2 to the draft development consent order [REP2-003] stipulates that written details of the drainage system for each part of the Scheme must be approved by the Secretary of State, and that these details must be based on the mitigation measures included in the Environmental Statement (ES). The Road Drainage Strategy [APP-281] is appended to the ES (as Appendix 11.3) and as such, the drainage system to be submitted for approval must be based on the mitigation measures included within it.

Key Issue

25.1.14 Private Water Supplies

Landowners directly affected by this proposed scheme are very concerned about what affect the boring of the tunnel will have on private water supplies and ground water. There are four farm businesses which rely solely on private water supplies from boreholes; the farms include a large outdoor pig unit, a significant suckler cow herd and a large dairy unit. It is imperative that these farms are guaranteed a permanent water supply to replace their private borehole supplies if they are contaminated or supply is affected in anyway during the construction of the new tunnel or after construction during operation.

- 25.1.15 **The wording highlighted in the Outline Environmental Management Plan under 'Management of Impact on Abstraction Boreholes' at page 61 is not a sufficient guarantee that main works contractors will have to provide an alternative supply. Accordingly the NFU has requested HE as a minimum requirement that the following wording is included in the OEMP:**

25.1.16 ***Agricultural Private Water Supplies***

- ***Where an existing private water supply to a farm is adversely and directly, affected by the construction of the Proposed Works, the Developer will, if requested by the farmer or landowner to do so, provide or procure or meet the reasonable cost of the provision of an alternative supply of water***
- ***Where the supply is so affected temporarily by the construction of the Proposed Works, then the alternative supply need only be supplied for the period during which it is so affected.***
- ***Where a request is made by the farmer or landowner for a permanent supply due to permanent severance of the existing supply caused by the construction of the Proposed Works the Developer will where provision of an alternative means of supply can be demonstrated by the land owner/farmer to be reasonably required for his business, provide or procure or meet the reasonable cost of a permanent means of alternative supply of water.***

Highways England response

- 25.1.17 An updated version of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) has detail in regard to the management process of private water supplies the mitigations within REAC Table 3.2b, and is similar to the wording requested by the NFU. This builds on the commitment already given to work with landowners on this issue in MW-COM3.
- 25.1.18 The measures within the OEMP are secured via Requirement 4 of the draft development consent order [REP2-003].

Key Issues

25.1.19 **Creation of Public Rights of Way**

The NFU believes strongly that the powers that Highways England are granted to carry out this project should not include powers to create new public rights of way (PRoW) including the creation of cycle tracks and bridleways. Under this proposed scheme new public rights of way are proposed to

- **the west of green bridge no.1 on both sides of the new road,**
- **to the west of the new Longbarrow Junction running into Winterbourne Stoke,**
- **to the east of Longbarrow Junction to the A360 and on to the new green bridge 4 (the new cut and cover tunnel).**

- **to the north and south of Longbarrow Junction parallel to A360 to Druids Lodge and the Stonehenge Visitor Centre.**

25.1.20 These proposed new public rights of way will take further land out of agricultural production. The Applicant should not be authorised to acquire more land than is needed for the highway scheme itself.

Highways England response

- 25.1.21 The new public rights of way route is intended to address Highways England's requirement to provide parallel routes to new trunk roads for non-motorised users, including cyclists in accordance with their Cycling Strategy as set out in Interim Advice Note 195/16. This document is part of the Design Manual for Roads and Bridges (DMRB), a suite of documents which contains requirements and advice relating to works on motorway and all-purpose trunk roads.
- 25.1.22 The Applicant wishes to ensure that the Scheme is integrated within the existing byway network and, where the opportunity exists, to create legacy benefits for non-motorised users in accordance with its Strategic Business Plan and Road Investment Strategy, which are aligned with Government policy to encourage walking, cycling & horse-riding through national and local policies and plans. Details are shown on the Rights of Way and Access Plans [APP-009] and described in Schedule 3 to the draft development consent order [REP2-003]. This approach aligns with Government policy to encourage cycling and walking (Cycling and Walking Investment Strategy <https://www.gov.uk/government/publications/cycling-and-walking-investment-strategy>). The proposals would link Yarnbury Castle and Winterbourne Stoke and allow access all the way through the WHS to Amesbury, making it easier for walkers, cyclists and horse riders to access and enjoy the WHS. The majority of the new public rights of way would be restricted byways accessible to pedestrians and those using mobility scooters, cycles, horses and carriages. These routes would not be available for the public use of motorised vehicles.
- 25.1.23 Where possible, new public rights of way are to be provided parallel to existing or proposed highway, or along existing field boundaries, to minimise the impact on agricultural land.
- 25.1.24 In addition to serving the public, the new public rights of way to the west of Winterbourne Stoke and along the existing A303 are also required to serve as private vehicular accesses to agricultural land that would otherwise be severed from the highway network by the removal of the existing A303.
- 25.1.25 Highways England's response to the Examining Authority's First Written Questions [REP2-022], question Ag.1.4(i), contains a detailed justification of each of the public rights of way. As will be seen from that response, in many cases the new public rights of way are also necessary to provide replacement private means of access to agricultural land arising from the

removal of the existing A303 and other changes to the road network made by the Scheme.

25.2 Design

Key Issue

25.2.1 Green Bridges No.4 (Cut and Cover Tunnel)

The NFU believes very strongly that it is not necessary to create green bridge no.4 as a cut and cover tunnel located to the east of the A360. It will be a cut and cover tunnel as it is proposed to be 150m in width and not a green bridge as first proposed. Where the new road and the western entrance to the tunnel are to be built the land on either side of the development has been designated to be new chalk grassland. It will be far easier to graze and manage livestock on either side of the new road and over the tunnel entrance if green bridge 4 is located on the original line of the A360. Please see page 26, figure 5.16 in the consultation booklet, February 2018.

25.2.2 It would be possible to fence off and gate the area as one with no new restricted byway running through the western end which is proposed with the cut and cover tunnel. It will be very difficult to manage the chalk grassland or to carry out any livestock grazing with the cut and cover design with the new restricted byway. The new restricted byway and the proposed private agricultural access should be provided on a green bridge 4 as first proposed following the A360. The highway route is already there

Highways England response

25.2.3 While the restricted byway across Green Bridge No. 4 will accommodate permitted farm vehicles needing access to adjacent land, its primary function is to create an interconnectivity within the WHS and a visual link between the historic barrows in the area. The position of the bridge was determined on the basis of feedback received from the supplementary consultation, which sought people's views on this.

25.3 Biodiversity, ecology and biodiversity

Key Issue

25.3.1 Highways England (HE) have stated that they would like to compulsory purchase land that is designated for ecological mitigation and in particular areas of land are to be taken to create new chalk grassland and for tree planting. HE have not formerly stated who will be responsible for management and maintenance of mitigation areas. NFU contend that there is no necessity to acquire the necessary land compulsorily as the areas can be managed by the present owners

subject to restrictive covenants and/or lease terms, as has occurred in connection with other HE schemes.

- 25.3.2 **In consequence of the above, there can be no compelling case to acquire land compulsorily for mitigation areas where landowners are content to accept management arrangements, as above. HE has failed to consider whether lesser rights might suffice, or to engage with affected owners adequately or at all.**

Highways England response

- 25.3.3 The chalk grassland created in areas acquired permanently for the scheme would be retained by Highways England and managed to develop and maintain herb-rich calcareous grassland. Areas of chalk grassland suitable for management by grazing would be stock-fenced, with access for stock and facilities for stock-watering.
- 25.3.4 The maintenance authority would be responsible for arranging for grazing or mowing with one or more providers, which could be local landowners, by agreement.
- 25.3.5 To deliver the outcomes for biodiversity and landscape the chalk grassland is dependent on low fertility soil. Low fertility avoids dominance by vigorous grass species and the associated reduction or loss of low-growing herb species and associated species. There would be restrictions on the use of fertilizers, with no use of artificial fertilizer and likely to be no use of manure. To avoid bringing additional nutrients onto the chalk grassland stock-feeding would not be allowed, other than mineral licks to aid digestion. This would limit the periods of availability of grazing, which is likely to be for short periods annually and not necessarily every year, depending on the condition of the grassland. The grazing required would certainly not be compatible with intensive livestock production. Management requirements would be similar to those for chalk grassland SSSIs.
- 25.3.6 Grazing would be excluded from the drainage infiltration basins until the sward had recovered after maintenance to replace infiltration material. After refurbishment of infiltration basins, or if other conditions meant the area was not suitable for grazing, management would be by mowing as appropriate.
- 25.3.7 The Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), at Item MW-BIO13, provides that the results of monitoring will be used to inform the management of chalk grassland, which may involve changes in the frequency, extent and duration of grazing and mowing, such that any ongoing arrangements with landowners or tenants would need to remain subject to review. The OEMP is secured by Requirement 4 in Schedule 2 to the draft development consent order [REP2-003].

25.4 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

- 25.4.1 The HE must show a “compelling case in the public interest for the land to be acquired compulsorily”: see section 122(3) of the Planning Act 2008 Act. Article 1 of the First Protocol of the Convention for the Protection of Human Rights provides: “Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law.
- 25.4.2 Policy guidance is found in paras 8 and 12-16 of the DCLG Planning Act 2008 - Guidance related to procedures for the compulsory acquisition of land, February 2013 (“the Guidance”): see the Appendix to these submissions, below. Para 45 of the Guidance states that ODPM Circular 06/2004 Compulsory Purchase and the Crichel Down Rules contains further general guidance on matters related to compulsory acquisition: paras 17 and 24-25 are also in the Appendix below. Accordingly the ExA should be considering Circular 06/2004.

Highways England response

- 25.4.3 The Applicant’s compelling case in the public interest for land and rights over land to be acquired compulsorily is set out in the Statement of Reasons [APP-023].

Key Issue

- 25.4.4 Whilst there is no direct legal authority on the meaning of a “compelling case”, the following agreed examples of where a compelling case could not be made out were put in, and referred to by Sullivan LJ, in *R (FCC Environment (UIK) Ltd) v Secretary of State for Energy and Climate Change* [2015] Env LR 22 at para [11] without disapproval: (1) *The land proposed to be acquired compulsorily may, on proper analysis, be found to be excessive because the development proposals can be constructed without needing that land to be acquired ...;*
- (2) *The acquisition of a right over the land, rather than its acquisition, might suffice; and*
- (3) *The land may be necessary but, during the course of the Panel’s consideration of the application, the owner may agree to sell it willingly rather than by compulsion (a common scenario in compulsory purchase inquiries).”*

- 25.4.5 **In Hall v First Secretary of State [2007] EWCA Civ 612, Carnwath LJ said at [15]: "It is well-established that a clear case is required, both under domestic law and under the European Convention of Human Rights, to justify depriving a private owner of his land in the public interest.**
- 25.4.6 **In considering the obligation of an acquiring authority to explore alternatives, Carnwath LJ then said at [21]: ... to satisfy himself that there is a "compelling case" for compulsory acquisition, particularly where objectors are unrepresented, fairness may require [the Secretary of State] to consider at least any obvious alternatives"**
- 25.4.7 **There is no reason to believe that Carnwath LJ, in referring to any obvious alternatives, was excluding the alternative of taking some lesser interest in land rather than its permanent acquisition.**

Highways England response

- 25.4.8 Within the Statement of Reasons (Chapter 5) [APP-023] the Applicant explains that it is firmly of the view that there is a compelling case in the public interest for the compulsory acquisition of land and rights over land, and temporary possession powers sought as set out in Chapter 5. Human rights are considered in chapter 6. All applicable guidance has been considered.

Key Issue

- 25.4.9 **Further, the guidance as to negotiations either before or parallel with formal processes may well give rise to a "legitimate expectation" that such will occur, and a failure to conduct such negotiations deprives landowners of the benefit that negotiations may have brought, especially in relation to the Additional land, where different locations and lesser rights might have been achieved: as to the principles see Council of Civil Service Unions v Minister for the Civil Service[1985] AC 374, per Lord Diplock at 408-409.**

Highways England response

- 25.4.10 Regular meetings and updates are taking place with landowners, occupiers and asset owners. These meetings will continue as the Scheme progresses. Details regarding the negotiations with affected persons are summarised in the Land Acquisition and Temporary Possession Negotiations Schedule [AS-011] which was updated at deadline 2 [REP2-041] and will be further updated for deadline 3.

Key Issue

- 25.4.11 **In relation to the compulsory acquisition of land for a highway scheme, the application of the "compelling case" requirement embraces, inter alia, the following considerations:**

21. **At a strategic level, in taking land compulsorily, what is the balance between private interests and the public interest;**
 22. **whether compulsory acquisition is necessary if negotiations would or may succeed;**
 23. **whether all the land within DCO is actually required for the scheme; (4) whether there are alternatives to taking land permanently, and some lesser interests would suffice, and might have been achieved through negotiations.**
- 25.4.12 **In relation to compulsory acquisition of land, and in the use of that ordinary English word, a compelling case exists if attempts had been made to negotiate for the acquisition of the Public Highway Land and/or the Additional Land, or an interest in land, and these had failed.**
- 25.4.13 **On the basis that the relevant paragraphs in the Guidance and in Circular 06/2004 reflect Government policy and are relevant considerations in putting forward an Application for a DCO, and in processing the same, a failure to take these into account could give rise to grounds for judicial review.**

Highways England response

- 25.4.14 The Applicant's views on the requirements for a "compelling case" under section 122 Planning Act 2008 is set out in Chapter 5 of the Statement of Reasons. The Applicant is firmly of the view that there is a compelling case in the public interest for the compulsory acquisition and temporary possession powers sought.

Key Issue

- 25.4.15 **Whilst Circular 06/2004 contains guidance against the background of compulsory purchase orders, the Guidance (para 45) directs that the Circular contains further guidance on compulsory acquisition. Paras 24-25 of Circular 06/2004 are therefore applicable, with any appropriate modifications, to DCOs. There is no distinction of principle between the making of a CPO and the DCO procedure in relation to the application of the guidance in paras 24-25. Further, paras 24 and 25 plainly raise a legitimate expectation that negotiations will take place, at least in parallel with the formal process.**
- 25.4.16 **Of course linear schemes, such as roads, are unlikely to be achieved without compulsory acquisition. Para 24 recognises the need, where appropriate, to parallel negotiations with the formal procedures. But that has not taken place. Negotiations may embrace the grant of lesser rights adequate for HE's purposes. The affected landowners have been denied the legitimate expectation raised by paras 24 and 25 of the 06/2004 to negotiate, and potentially, to alter the location and/or to secure lesser rights.**

Highways England response

- 25.4.17 As noted in footnote 7 of the Guidance, circular 06/2004 was being revised at the time the Guidance was published and has subsequently been withdrawn and replaced with "Guidance on compulsory purchase process and the Crichel Down Rules" which was last updated by the Ministry of Housing, Communities & Local Government in 2018 (the "CPO Guidance"). In any event paragraph 45 of the Guidance is clear that circular 06/2204 contains "further general guidance on matters related to compulsory acquisition, including on serving a "notice to treat", making a general vesting declaration, and compensation and other matters". The Applicant agrees that the principles set out in the CPO Guidance apply to the compulsory acquisition of land and rights in a DCO.
- 25.4.18 The Guidance is clear in its advice that Applicants should seek to acquire land by negotiation where practicable but acknowledges that *"Where proposals would entail the compulsory acquisition of many separate plots of land (such as for long, linear schemes) it may not always be practicable to acquire by agreement each plot land. Where this is the case it is reasonable to include provision authorising compulsory acquisition covering all the land required at the outset"* (paragraph 25 of the Guidance).
- 25.4.19 The Applicant's approach to negotiations to acquire by agreement is set out in section 4.11 of the Statement of Reasons [APP-023]. Negotiations with affected persons are ongoing and are reported in Land Acquisition and Temporary Possession Negotiations Schedule [AS-011] which was updated at deadline 2 [REP2-041] and will be further updated for deadline 3.

Key Issue

25.4.20 Allington Track

The Applicant is seeking to compulsory acquire the following from Beacon Hill Land Limited

- i. **The freehold of a section of the existing Byway Amesbury 1 (ref.11-08) in order to convert its status to a footpath.**
- ii. **The freehold of an existing private track (ref.11-28) in order to create an adopted highway linking the Allington Track with Equinox Drive.**

- 25.4.21 **In consequence of the above, there can be no compelling case to acquire land compulsorily as it is in no way necessary to achieve the Applicant's stated objective. The Applicant's aspirations to downgrade the byway to footpath status and create a new adopted highway to divert the existing Allington Track can be achieved by reasonable alternatives.**

Highways England response

- 25.4.22 The power to acquire land permanently in this area would give Highways England the ability to extinguish existing rights over AMES1 to enable this byway to be changed in status from a byway open to all traffic to a public footpath. In the absence of this power, on the stopping up of the existing byway AMES1 the land may revert to the frontagers under the *ad medium filum* presumption and, unless all of the freeholders dedicate the new footpath as highway, it would not become a highway. The power of acquisition sought would enable Highways England to effect this change in the status of AMES1 and would also accommodate a scenario in which the existing landowner did not wish to retain the land once its status had been changed by the Scheme. However, if the landowner accepts the land in its changed state, Highways England could agree not to implement its permanent acquisition powers over the land, allowing it to be retained by the existing landowner, subject to it having been dedicated as a public footpath.
- 25.4.23 A similar rationale applies to the new Allington Track link. The compulsory acquisition power is necessary to ensure that the land can be dedicated as highway. As is noted in Highways England's response to Beacon Hill Land Limited, Highways England would prefer to acquire the necessary interest by agreement. An update to the Land Acquisition and Temporary Possession Negotiations Schedule [REP2-041] will be submitted at Deadline 3.
- 25.4.24 The proposed public footpath, labelled reference P on sheet 11 of the Rights of Way and Access Plans [APP-009] and described in Schedule 3 to the draft development consent order [REP2-003], would be of benefit to local people, by maintaining pedestrian access. The junction of AMES1 with the A303 would be closed to vehicular traffic, protecting the adjoining monument (tumulus) from further degradation and improving safety on the existing A303 by reducing the potential for conflict arising from traffic from the BOAT joining the A303. As such, and in providing safer NMU connections, the proposal contributes to the achievement of the Scheme's objectives of helping to conserve and enhance the WHS and provide a positive legacy for local communities.

25.5 Draft Development Consent Order

Key Issue

25.5.1 Agricultural Liaison Officer

Liaison with landowners, tenants and agents is highlighted in the Outline Environmental Management Plan on page 65 but this is not adequate. The NFU would like to see that the main works contractors will have to employ an agricultural liaison officer to carry out liaison with landowners. The role we would like to see the ALO undertake is set out below at Appendix C.

Highways England response

- 25.5.2 An updated version of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) has the role of an ALO included in Table 2.1 (roles and responsibilities). The measures within the OEMP are secured via Requirement 4 of the draft development consent order [REP2-003].

25.6 Traffic and Transport

Key Issue

25.6.1 Creation of Public Rights of Way

There is concern that the new A303 scheme will result in the intensification of the use of the PRow network and increase improper and illegal use of the byways. Unauthorised fly-tipping, hare coursing, parking, camping and motorhomes parking up on the byways is already an issue. The new rights of way are likely to spread the problem further afield. HE must consider how these issues in the final design will be controlled.

Highways England response

- 25.6.2 To prevent improper use of the existing and proposed Public Rights of Way (PRow) network, fences and gates would be provided. The detail of these will follow at the detailed design stage if development consent for the Scheme is granted. The Applicant will engage with landowners on these issues, as secured by item MW-COM3 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).
- 25.6.3 At this stage it is envisaged that fences along public rights of way will be provided to prevent access onto private land, grazed grassland or the highway, or to provide a buffer zone to the retained cutting between Longbarrow junction and the western tunnel entrance. Kent Carriage Gaps would be provided at access points to restricted byways, preventing entry by mechanically propelled vehicles. Equestrian gates would be provided at access points to bridleways and pedestrian gates would be provided at access points to footpaths. This is subject to detailed design of these matters and discussions with Wiltshire Council. Further information is set out in submission [REP2-040].
- 25.6.4 Within the World Heritage Site, the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), reference D-CH14, requires the provision of fencing and surfacing to be developed in consultation with the National Trust, Historic England, English Heritage and Wiltshire Council.
- 25.6.5 Article 9 of the draft development consent order [REP2-003] makes provision for the public rights of way provided by the Scheme to be maintained by Wiltshire Council. Wiltshire Council could also use its powers to prevent

unlawful use of the existing and proposed Public Rights of Way. Highways England is in discussions with Wiltshire Council concerning matters arising from its maintenance of public rights of way affected by the Scheme.

Key Issues

25.6.6 Creation of Public Rights of Way

It has been stated by Highways England that fences will be erected along the new proposed public rights of way. Whose responsibility will it be to maintain these fences in the future? It should not fall to the landowner.

Highways England response

- 25.6.7 New land boundaries created by the Scheme will be provided as appropriate for the relevant land use. Once the specification for these accommodation works is agreed between landowners and Highways England and the new boundary treatment is in place, responsibility for the on-going future maintenance of these will be passed to the landowner. Accommodation work discussions have begun with affected landowners and occupiers, and with the land agent representing the three parties that have raised this as an issue in their Relevant Representations. Details and specifications regarding reinstatement and accommodation works relating to boundary treatment/accesses, barriers/gate arrangements, future boundary maintenance and internal farm accesses are currently being discussed (and will continued to be discussed pursuant to items MW-COM1 and MW-COM3 of the OEMP), with a view to agreeing solutions acceptable to all parties.
- 25.6.8 Fences between the proposed public rights of way and the highway will become the responsibility of the highway authority.

Key Issues

25.6.9 Creation of Public Rights of Way

Further description is needed over the Kent Carriage Gaps and what type of gates will be provided along the old A303 between A360 and West Amesbury.

Highways England response

- 25.6.10 As set out within the PRoW report submitted at Deadline 2 [REP2-040], on restricted byways, the Applicant envisages that full width gates with Kent Carriage Gaps would be used based on details in the Manual of Contract Documents for Highway Works - Highway Construction Details, and in accordance with the Design Manual for Roads and Bridges and the relevant elements of the 'Advice on Gate installation' and 'Advice on Vehicle Barriers' published by the British Horse Society. Gates would be sufficiently wide to accommodate authorised users as necessary, including agricultural vehicles and other agricultural machinery and appropriate locking measures would be

employed to ensure that those entitled to exercise rights of vehicular access over restricted byways would be capable of doing so freely. Equestrian gates would be provided on bridleways, while on footpaths, pedestrian gates would be installed. Specific gating details would be developed in consultation with Wiltshire Council and, within the WHS, the National Trust, Historic England, English Heritage in addition to Wiltshire Council.

Key Issues

25.6.11 Decommissioning of the A303

It has been stated that the existing A303 to the east of Longbarrow roundabout will be converted in to a green byway. In particular the byway will still provide farm access to adjacent fields and therefore it is very important that the new surface is suitable for agricultural vehicles. The surface dressing of the existing tarmac will need to be to a standard suitable for continuous use by agricultural vehicles.

25.6.12 16.2 Clarification is need on who will be responsible for the maintenance of this private access route.

Highways England response

- 25.6.13 The Public Rights of Way will have a bound surface to accommodate use by agricultural and land management vehicles where private access rights are also required. Inside the WHS, materials sympathetic to the setting of the WHS would be used.
- 25.6.14 Management and maintenance of the proposed new public rights of way is expected to pass to Wiltshire Council as the responsible highway authority.

25.7 Waste and Materials Management

Key Issue

25.7.1 Waste and Spoil

Highways England have highlighted within the scheme that an area of land to the west of the underpass (B3083) and east of the Parsonage Down National Nature Reserve is to be compulsory purchased to take the waste chalk excavated from the creation of the tunnel. It is not acceptable for Highways England to state that this avoids potential significant adverse effect with transporting the waste spoil/arising off site. It actually creates a very significant effect by taking 135 acres out of arable production and has a significant financial effect on a farm business. The area is 21% of the total arable area of the farm.

25.7.2 **Again the Applicant should not be authorised to acquire more land than is needed for the highway scheme itself and the waste should be taken off site.**

25.7.3 **Land should also not be acquired for soil re-profiling either side of the new tunnel.**

Highways England response

25.7.4 Land belonging to the affected business (Manor Farm, Stapleford) is required for three elements of the Scheme:

- a. Land required for the construction of the highway itself and for structural embankments – approximately 15 ha;
- b. Land required to mitigate the visual impact of the carriageway and embankment slope (essential landscape mitigation, using 400,000 m³ of tunnel arisings) – approximately 12.9 ha;
- c. Land required for the further deposition of the tunnel arisings (using the remaining 500,000 m³ of tunnel arisings) – approximately 28.2 ha.

25.7.5 It is acknowledged that Manor Farm, Stapleford would be significantly affected by the construction of the Scheme and would be entitled to compensation under the applicable statutory provisions. This is acknowledged in Table 13.23 (Summary of permanent effects on agricultural holdings) of the Environmental Statement, Chapter 13, People and Communities [APP-051].

25.7.6 In the absence of depositing the additional 500,000 m³ of tunnel arisings east of Parsonage Down, the area of land required from Manor Farm, Stapleford would be 27.9 ha and this represents 8.3% of the holding. The inclusion of the deposition of the additional 500,000 m³ of tunnel arisings east of Parsonage Down would require an additional 8.4% of the arable area of the affected holding, bringing the total area of land required from Manor Farm, Stapleford to 56.1ha which represents 16.7% of the (337ha) holding.

25.7.7 The Applicant's careful consideration of options for the management of tunnel arisings is reported in the Tunnel Arisings Management Strategy [APP-285]. As detailed in section 3 of that report, off-site deposition was considered favourable for two out of nine criteria. Deposition adjacent to, or in the immediate vicinity of the scheme, was considered favourable for 7 out of the 9 criteria and is the strongly preferred option.

Key Issue

25.7.8 **It is important that the cumulative effects for the particularly sensitive receptor Amesbury Abbey are considered.**

Highways England response

25.7.9 All of the receptors identified as part of the EIA were considered in respect of their potential to experience cumulative and combined effects. The findings of this assessment are reported in Chapter 15: Assessment of cumulative effects [APP-053].

25.7.10 Amesbury Abbey is not anticipated to experience cumulative or combined impacts, and was therefore not identified specifically within Chapter 15.

Key Issues

25.7.11 Construction Compound Sites

Highways England has identified some large areas of land to be taken for construction compound sites. The NFU would like to see the detail of use for each compound site being detailed in the DCO particularly within Schedule 7. At the present time it is stated that the areas will be used to provide temporary storage, laydown areas and working space. Working space needs to be clarified as there is concern over the chalk waste from the tunnel being treated within one of the compound sites.

25.7.12 **4.2 Further the two largest compound sites 05 -07 and 05 -15 have been highlighted under Schedule 4 “Land in which only New Rights ETC May Be Acquired” and the description only highlights the purpose for which rights over land may be acquired or restrictive covenants may be imposed. There is no description referring to the treatment of waste soil.**

25.7.13 **4.3 The NFU would like to see the description of works being explicitly detailed for each compound under Schedule 4 and 7 of the DCO.**

Highways England response

25.7.14 Details of the construction compounds are provided in Chapter 2 [APP-040], with the proposed locations shown on the General Arrangement Drawings [APP-012], with layouts shown indicatively in ES Figure 2.7 [APP-061].

25.7.15 Within each site area allowance has been made for ‘working space’, these are allowances for additional space around the perimeter of each specific site facility / installation to allow adequate, segregated and safe circulation of personnel and construction equipment. This would include for example forklifts unloading deliveries of construction materials from HGV articulated vehicles, consideration has been made on the space required for turning and reversing these large pieces of construction equipment.

25.7.16 The final site layout and actual equipment installed will be the choice of the contractor who will install, operate and decommission these facilities in accordance with the requirements of the approved CEMP, but is likely to include:

24. Main Site Compound: office and welfare facilities, tunnel support equipment, temporary stockpiles and material storage areas. Office and Welfare Facilities for the project team include the provision of office space to contracting and client personnel in addition to welfare (showers, toilets, changing rooms), medical facilities, visitor / induction / training rooms, parking and canteen space.

25. Tunnel Support Equipment: this includes facilities to produce pre-cast concrete tunnel linings including storage space for the concrete segments to cure, a concrete batching plant required to produce concrete for the pre cast tunnel linings and concrete supplies for the project works; a slurry treatment plant required to separate the solids from the slurry produced as the TBM excavates through the chalk and construction HV power and potable water supplies. The Slurry Treatment Plant (STP) at the main compound (ES Figure 2.7 B) will separate the solid chalk particles from the slurry produced by the TBM excavation and formed into chalk “cakes” suitable for stockpiling. This material will be stored temporarily at the main compound site (envisaged as a maximum of 7 days) prior to transportation to permanent landscaping at Parsonage Down. The STP is a material separation plant with minimal chemical treatment applied to balance pH levels.
 26. Stockpiles are temporary in nature and are primarily to store topsoil and chalk (excavated from the road works sections) for later incorporation in the works as structural or landscape fill. There is no intent to treat any TBM spoil at the eastern compound. The TBM spoil from the drive from east portal towards the western site is anticipated to be pumped along the first drive directly to the STP in the main compound.
 27. Material and Equipment Storage including workshops & support for satellite sites for items (e.g. cable drums and pipes to power the TBM and transport the slurry from the TBM to the slurry treatment plant).
- 25.7.17 The powers associated with 05-07 and 05-15 encompasses the temporary possession powers for use as a construction compound and waste soil treatment (05-07) and temp A303 diversion across (05-15). The other associated rights beyond the land being required as a compound are regarding utilities diversions and the requirement for these in this area once the A360 has been realigned.
- 25.7.18 The potential environmental impacts of the compounds and the activities associated with them during the construction phase will be controlled by measures to limit or avoid dust, noise, spillage and disruption by construction traffic, as detailed within the Outline Environmental Management Plan (OEMP), Appendix 2.2 of the ES [APP-187] (a revised version of which is submitted at Deadline 3), compliance with which is secured by paragraph 4 of Schedule 2 to the draft development consent order [REP2-003]. On completion, the construction compounds will be removed and the land reinstated as soon as practically possible. The Outline Environmental Management Plan Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) sets out the approach to the reinstatement of agricultural land (Item MW-COM4). In designing the Scheme and determining the Land to be subject to compulsory acquisition and temporary possession powers, Highways England has considered alternatives and modifications to minimise the potential land take.

26 Amesbury Abbey Group (REP2-048 to REP2-051 and AS-036)

26.1 General and cross-topic questions

Key Issue

- 26.1.1 **It is important that the cumulative effects for the particularly sensitive receptor Amesbury Abbey are considered.**

Highways England response

- 26.1.2 All of the receptors identified as part of the EIA were considered in respect of their potential to experience cumulative and combined effects. The findings of this assessment are reported in Chapter 15: Assessment of cumulative effects [APP-053].
- 26.1.3 Amesbury Abbey is not anticipated to experience cumulative or combined impacts, and was therefore not identified specifically within Chapter 15.

26.2 Cultural Heritage

Key Issue

- 26.2.1 **Unquestionably this development will cause substantial harm and the test will be whether the harm is necessary in order to deliver the alleged substantial benefits to the World Heritage Site, Stonehenge and whether that is wholly exceptional.**

Highways England response

- 26.2.2 It is assumed this representation relates specifically to Amesbury Abbey and Amesbury Abbey Registered Park and Garden.
- 26.2.3 Highways England disagrees that the Countess flyover will cause substantial harm to Amesbury Abbey or the Amesbury Abbey Registered Park and Garden.
- 26.2.4 The ES Appendix 6.9 – Cultural Heritage Setting Assessment [APP-218] sets out the setting assessments for a number of the assets in Amesbury Abbey Registered Park and Garden, including: Weir Bridge in Amesbury Abbey Park (Grade II); Diana’s House (grade II*); Estate Boundary Wall (grade II); and Gate Piers to Lord's Walk, to Amesbury Abbey, with flanking Estate Boundary Walls (grade II*). Other designated built heritage assets within Amesbury Abbey Park, including the Baluster Bridge, were scoped out of further assessment in paragraph 3.4.10 of the ES Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218].
- 26.2.5 In summary the ES Appendix 6.9 – Cultural Heritage Setting Assessment [APP-218] notes that “The Scheme does not contribute to the understanding and appreciations of the assets listed above (i.e. as set out in [APP-218,

para. 3.4.10]) and would cause no impact to them. It is recommended, therefore, that these assets are not taken forward for further assessment.” [APP-218, para. 3.4.17].

- 26.2.6 Non-significant effects are set out in Environmental Statement Appendix 6.8 - Cultural Heritage - Summary of non-significant effects [APP_217] for Amesbury Conservation Area, Amesbury Abbey Registered Park and Garden, Grey Bridge, Diana’s House, Estate Boundary Wall, Gate Piers to Lord’s Walk to Amesbury Abbey with flanking Estate Boundary Walls and Kent House.

Key Issue

- 26.2.7 **The only heritage asset in Amesbury Abbey Park which is being considered is Vespians Camp, no consideration has been given to the impact of the scheme on the setting of Amesbury Abbey Park nor the other heritage assets within it. This is justified on the basis of the zone of theoretical visibility of the scheme which has incorrectly concluded that the A303 and the flyover will not be visible from the park.**
- 26.2.8 **The conclusion of impact upon the setting of Amesbury Abbey is as follows no mention is made of the Park or other assets within it other than Vespians Camp.**
- 26.2.9 **"6.9.32 Non-significant adverse effects were also assessed for Amesbury Conservation Area (UID 6052) and Amesbury Abbey RPG (UID 6053)"**
- 26.2.10 **There will be a significant permanent adverse effect on the setting of the grade II*listed Amesbury Abbey Park and heritage assets within it resulting from the presence of the new Countess flyover. The setting of heritage assets will be negatively affected by this development in their background, both visually and as a result of traffic noise.**
- 26.2.11 **An assessment of the impact of the works on the setting of Amesbury Abbey its Park and the other heritage assets must be undertaken in accordance with Historic England's guidance HE2015 Good Practice Advice in Planning Note 3.**
- 26.2.12 **It is established policy that the significance of a heritage asset can be harmed through development within its setting.**

Highways England response

- 26.2.13 The potential environmental and heritage impacts of the proposed Countess flyover are considered in the relevant topic chapters of the Environmental Statement (ES), including Cultural Heritage [APP-044]. During construction, sensitive receptors in the vicinity of the Countess roundabout will be afforded protection through measures contained within the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) to, for example, control noise (PW-NOI1, PW,

NOI2, PW-NOI3, PW-NOI5, MW-NOI1, MW-NOI2, MW-NOI3 MW-NOI4, and MW-NOI6), and artificial lighting (MW-G29). Operational traffic noise mitigation will be delivered through 1.8m high noise barriers on the north and south sides of the flyover, as required by reference D-NOI2 in the OEMP and the use of a thin surfacing system, which results in lower levels of noise generation than a standard hot rolled asphalt surface, as required by reference D-NOI1 in the OEMP. Landscaping of the flyover embankments would be secured through requirement 8 of the draft development consent order [REP2-003].

- 26.2.14 In terms of heritage, there would be non-significant effects on the settings of Amesbury Abbey Registered Park and Garden. During construction, heritage assets in the vicinity of the Countess roundabout would be afforded protection through measures to, for example, control noise, dust, and artificial lighting contained within the OEMP.
- 26.2.15 Compliance with the OEMP is secured by requirement 4 of the draft development consent order [REP2-003].
- 26.2.16 Summaries of the assessments, including in relation to assets in the Park other than Vespasian's Camp are given below.
- 26.2.17 The ES Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218] sets out the setting assessment for the Grade II* Amesbury Abbey Park. This notes that "There would be an impact on the northern boundary and part of the eastern boundary of Amesbury Abbey RPG as a result of the Scheme. However, that impact would not extend far into the RPG due to screening provided by the dense vegetation that covers the majority of the northern part of the asset. The settings of the majority of assets (which would include the Amesbury Abbey) within the park would be unchanged as a result of the Scheme" [APP-218, para. 3.4.10].
- 26.2.18 The ES Appendix 6.4 – Historic Buildings Baseline Report [APP-213] identified all designated built heritage assets within the grade II* Amesbury Abbey Park. The ES Appendix 6.9 – Cultural Heritage Setting Assessment [APP-218] sets out the setting assessments for a number of these assets including Weir Bridge in Amesbury Abbey Park (Grade II); Grey Bridge (grade II); Diana's House (grade II*); Estate Boundary Wall (grade II); Gate Piers to Lord's Walk, to Amesbury Abbey, with flanking Estate Boundary Walls (grade II*); and Kent House (grade II*). Other designated built heritage assets within Amesbury Abbey Park, including Baluster Bridge, were scoped out of further assessment in paragraph 3.4.10 of the ES Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218].
- 26.2.19 In summary the ES Appendix 6.9 – Cultural Heritage Setting Assessment [APP-218] notes that "The Scheme does not contribute to the understanding and appreciations of the assets listed above (ie. as set out in APP-218, at paragraph 3.4.10) and would cause no impact to them. It is recommended,

therefore, that these assets are not taken forward for further assessment.” [APP-218, para. 3.4.17].

- 26.2.20 At paragraph 6.9.32, the ES Chapter 6, Cultural Heritage notes that a number of non-significant effects are assessed arising from changes to the setting of historic buildings. Of these, Diana’s House (UID 6062); Estate Boundary Wall (UID 6063); and Gate Piers to Lord's Walk, to Amesbury Abbey, with flanking Estate Boundary Walls (UID 6064) are located within Amesbury Abbey Park.
- 26.2.21 The methodologies of the Environmental Statement (ES) Chapter 6, Cultural Heritage [APP-044] and the ES Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218, Section 2.1] follow the Government’s planning policies for England regarding the assessment of setting and how that contributes to the significance of heritage assets (NPSNN; footnote 96 and NPPF; Annex 2 –Glossary) and Historic England guidance (Historic England’s Good Practice Advice in Planning Notes 2, Managing Significance in Decision-Taking; and 3: The Setting of Heritage Assets)

26.3 Flood risk, groundwater protection, geology and land contamination

Key Issue

- 26.3.1 **There are two issues to raise, firstly the integrity of the River Avon SAC, the concerns relate to the pollution impacts of surface water run-off and groundwater impacts in terms of changes in water table as a result of ground works.**
- 26.3.2 **This is of particular concern bearing in mind that the River Avon is less than 50 m from the boundaries of the works and the other watercourses in the area are adjacent to the road itself where is vitally important that there is not even a temporary adverse effect as a result of changes to the water environment in the area.**

Highways England response

- 26.3.3 The potential for the Scheme to affect European protected sites, including the potential for impacts on the River Avon SAC, has been fully assessed, as reported in ES Chapter 8, Biodiversity [APP-046], and, with regards to the habitats regulations assessment (HRA), ES Appendix 8.24 [APP-265] and 8.25 [APP-266]. The assessment has concluded that, with the implementation of the environmental mitigation measures, as described in Section 8.8 of the ES Chapter 8 and Appendix 2.1 of the ES [APP-186] (which will be implemented as part of the landscaping scheme required pursuant to requirement 8 of Schedule 2 of the draft development consent order [REP2-003], and those included within the Outline Environmental Management Plan [APP-187] (a revised version of which is submitted at Deadline 3) (PW-WAT1 and WAT2, and MW-WAT1, WAT2, WAT3, WAT4,

WAT5, WAT6, WAT7, WAT9, WAT10, WAT14, and WAT15), as secured through requirement 4 of schedule 2 of the draft development consent order [REP2-003], there will be no adverse effects on the integrity of the River Avon SAC. This is supported by the water assessment, as set out in ES Chapter 11, Road Drainage and the Water Environment [APP-049], which concluded that there would be no significant changes to hydrology, or to surface water quality or groundwater quality arising from sedimentation, dust or run-off during either the construction or operational phases of the Scheme. Instead there is likely to be a moderately beneficial residual effect for water quality in the River Avon SAC as a result of improved treatment and prevention of pollution from road run-off, compared with the current situation, as set out in ES Table 11.10 [APP-049].

- 26.3.4 The Scheme's potential impacts on groundwater levels and flows (including consideration of surface rainwater run-off to outfalls in the area of Blick Mead) have been assessed and the assessment shows there would not be any adverse effect on spring flows and the overall water regime at Blick Mead. Further information can be found in ES Appendix 6.8, Table 1.2 [APP-217], and ES Appendix 11.4, Annex 3, Blick Mead Tiered Assessment [APP-282].

Key Issue

- 26.3.5 **Secondly the changes to local drainage caused by the proposed flyover may alter the water table at Blick Mead irreparably, the consequence of this would be that the archaeology at Blick Mead may be lost forever if the 'water table' in which it is preserved is not maintained. This water table is an important reason why the archaeology at Blick Mead is so well preserved and consequently so valuable. This is because the water table keeps organic matter in a deoxygenated state preventing decay.**

Highways England response

- 26.3.6 A hydrological model has been developed to inform the assessment of groundwater effects. The main archaeological site exposed to risk of potential changes in hydrology is the Blick Mead site in the grounds of Amesbury Abbey, and the assessment shows there will not be any adverse effect on the spring flows which sustain the boggy ground at the Blick Mead site and the archaeology contained within it. Further information on the assessment of Blick Mead can be found in ES Chapter 11, Appendix 4, Annex 3, Blick Mead Tiered Assessment [APP-282]. Further information on the assessment of groundwater effects more generally can be found in ES Chapter 11, Road Drainage and Water Environment [APP-049]. Please also refer to the response to the Blick Mead Archaeology team, items 60.3.1 and 60.3.3 which contain more details and explain the existing fluctuations in the water table level.

Key Issue

- 26.3.7 **At a meeting between Highways England and Heritage England and David Jacques amongst others it was agreed that the water table at Blick Mead needed to be surveyed over a 12 month period in order to assess the effects of the works on the water table. These surveys have not concluded and without recourse to the information from these surveys it is questionable whether there is adequate information of environmental effects to enable the grant of the Development Consent Order.**

Highways England response

- 26.3.8 A twelve-month period is commonly used to define a hydrological baseline because it covers the seasonal lows and highs. A low water level and high-water level period have already been recorded (autumn 2018 and spring 2019) at Blick Mead [AS-022] and span the extremes of a typical twelve-month period. This is sufficient as a baseline and for correlation with long term records. There is no guarantee that conditions recorded over a typical twelve months will be representative of extremes. Therefore, the effects of the Scheme were assessed under a wider range of conditions than those likely to be experienced in a single year and include data from the drought of 1976 and floods of 2014. There is no prediction of significant effects of the assessed Scheme on the hydrology at Blick Mead and therefore mitigation is not necessary [Chapter 11, APP-049 paragraphs 11.9.6 and 11.9.7]. The information provided therefore represents an assessment over a time frame that is longer than 12 months and takes a conservative approach to extremes, providing robust assessment.

Key Issue

- 26.3.9 **The controlled waters assessment should include unlicensed wells and springs that do not have a license but may be significantly affected. There is a spring in the grounds of the Abbey and the scheme's impact on this should also be assessed.**

Highways England response

- 26.3.10 The Scheme's potential impacts on groundwater levels and flows have been assessed and the assessment has shown that there will not be any adverse effect on groundwater levels in the grounds of Amesbury Abbey at Blick Mead, or the preservation of its archaeological remains. Supporting information can be found in ES Chapter 11, Appendix 4, Annex 3, Blick Mead Tiered Assessment [APP-282], which was completed in accordance with Historic England's guidance. Given the interest in the site, both from members of the public and heritage bodies, hydrological monitoring at Blick Mead is continuing and includes monitoring of water levels and springs at shallow depths.

- 26.3.11 Springs and abstractions, including unlicensed wells, are also assessed in ES Chapter 11, Road Drainage and Water Environment [APP-049]. Details of non-significant effects are presented in Table 1 of Appendix 11.6 - Non-Significant Effects [APP-284].

26.4 Landscape and Visual

Key Issue

- 26.4.1 **HIA Figure 11B shows the location of Asset Groups in relation to the zone of theoretical visibility of the scheme. The park is not shown within the zone of theoretical visibility.**

Highways England response

- 26.4.2 The HIA was prepared in line with the Guidance on Heritage Impact Assessments for Cultural World Heritage Properties adopted by the International Council on Monuments and Sites (ICOMOS, the Advisory Body to the World Heritage Committee) in January 2011 (ICOMOS 2011).
- 26.4.3 The Asset Groups referred to are groups of designated archaeological assets e.g. barrows. Historic Buildings and the Amesbury Abbey Registered Park and Garden (RPG) do not contribute to the World Heritage Site's Outstanding Universal Value (OUV) and historic buildings and the RPG are not therefore assessed within the HIA.

Key Issue

- 26.4.4 **The impact of the scheme upon dark skies as they are part of the setting for the Outstanding Universal Value of the World Heritage Site and lighting schemes must be taken into account. Countess Roundabout is to be updated with directional LEDS and the impact of road lighting and vehicle lights on the flyover will also negatively impact on the setting of Amesbury Park and the heritage assets within it.**

Highways England response

- 26.4.5 Paragraph 2.3.51 of Chapter 2 [APP-040] states that the existing lighting provision at Countess roundabout would be replaced with a modern system that would reduce light spill, which is also assessed in APP-045 paragraph 7.9.130. Vehicle headlights on the flyover would be screened by the 1.8m high acoustic barriers while headlights on the slip roads would reflect the existing context of headlights from vehicles on the A303.
- 26.4.6 The Scheme's design has been developed and refined to minimise as far as is practicable the potential for visual (light) impacts. This includes restrictions on lighting at relevant locations. These lighting restrictions are set out in the Outline Environmental Management Plan (OEMP) [APP-187], (a revised version of which is submitted at Deadline 3) at items D-CH8 to D-CH12,

compliance with which is secured through requirement 4 of Schedule 2 of the draft development consent order [REP2-003]. Within the WHS, vehicle lights will be invisible or screened, within the tunnel, under the wide Green Bridge No.4 or in deep cutting. The potential impact of the Scheme upon dark skies has been assessed in the Heritage Impact Assessment [APP-195], Section 9.3, paragraphs 9.3.13 – 9.3.19, which concludes that the Scheme would have a Moderate Positive impact on this aspect of the WHS, resulting in a Large Beneficial effect. Due to the deep road cutting in the western portal approaches, vehicular lights would not intrude on the winter solstice sunset alignment and would not create a night time glow. It is assessed that the Scheme would have a large beneficial effect overall on this Attribute of the OUV of the WHS, as concluded in the Heritage Impact Assessment (HIA), ES Appendix 6.1 [APP-195].

- 26.4.7 The impact of road lighting and the flyover are assessed within the Landscape and Visual Impact Assessment as not resulting in significant adverse effects to the local landscape character. The existing vegetation between the Abbey and the flyover is assessed as reducing the visual impact of the Scheme, such that representative visual receptor 31B Bowles Hatches is predicted not to experience a significant adverse effect in operation [APP-228, page 20].

Key Issue

- 26.4.8 **The Scheme's Zone of Theoretical Visibility (ZTV) established by the Landscape and Visual Impact Assessment, is incorrect in showing at figure 7.9 that there is no visibility of the present A303 nor any future visibility of the flyover and consequently its conclusions of impact and harm are incorrect.**

Highways England response

- 26.4.9 Figure 7.9 [APP-087] is based upon the proposed Scheme with woodland block information at a standard height of 10 metres which presents a standard height of vegetation which the Applicant acknowledges will differ from vegetation heights on the ground. The landscape and visual impact assessment has therefore also included Zones of Theoretical Visibility (ZTV) without the vegetation, termed 'bare earth', within the Area of Search [APP-223]. This ZTV modelling indicates Countess Flyover would be theoretically visible from within the Abbey grounds.
- 26.4.10 Field work was undertaken during the assessment process to ascertain likely visual receptors and the visibility of the flyover given the difference between the bare earth ZTV and that presented in Figure 7.9.
- 26.4.11 Whilst not publicly accessible, Bowles Hatches was included in the landscape and visual impact assessment as receptor 31B within APP-228.
- 26.4.12 The ZTV does not form the basis of the visual assessment in any event; it is the desk study component of the of the visibility analysis, as set out in

paragraph 6.10 of the Guidelines for Landscape and Visual Impact Assessment, Third Edition, 2013.

Key Issue

- 26.4.13 **"6.9.4 All temporary impacts derive from non-physical impacts of the Scheme. These comprise changes to the setting of heritage assets arising from views of project A303 Amesbury to Berwick Down 6.1 Environmental Statement, October 2018"**
- 26.4.14 **This is incorrect the impact of the construction of the flyover will be considerable and permanent.**

Highways England response

- 26.4.15 This paragraph has been copied and pasted from the Environmental Statement (ES) Chapter 6, Cultural Heritage [APP-044]. Text in the header and footer of the document has been included in the cut and paste, the original paragraph 6.9.4 reads as follows: "All temporary impacts derive from non-physical impacts of the Scheme. These comprise changes to the setting of heritage assets arising from views of project infrastructure (principally compounds (including, for example the presence of the slurry treatment plant (STP) within the tunnelling compound), and haul roads) and from construction plant and traffic. Impacts from associated construction noise are also identified. These impacts are transitory and of varying duration. All will have ceased by the end of the construction phase, leaving the permanent impacts upon monument settings as described in Appendix 6.9."
- 26.4.16 What the above is saying is that temporary construction impacts can impact setting, not that all setting impacts are temporary. Permanent construction impacts are described in Environmental Statement (ES) Chapter 6, Cultural Heritage [APP-044, 6.9.23-6.9.33 and Table 6.11] and in Environmental Statement Appendix 6.8 - Cultural Heritage - Summary of non-significant effects [APP-217, Tables 1.2 – 1.5].

Key Issue

- 26.4.17 **The Abbey will be permanently adversely affected by this development in such close proximity. The Environmental Statement, HIA and the LVIA are based on the premise that neither the existing road nor the proposed flyover can be seen from Amesbury Abbey Park, this is incorrect. Consequently, conclusions of impact and harm are incorrect. Clearly, the flyover will be visible for a much larger area than the study area. The road and traffic upon it is clearly visible all year around and once the 9.8 metre flyover is in place it will be clearly visible, particularly when used by lorries and vans, from the Balustrade Bridge, and the North Eastern part of the park; and the top floor flats in the main house. Presently there is no view of the road from the top flat in the Abbey however when the flyover is built it may well be visible.**

- 26.4.18 **No photomontages have been produced of the Countess Flyover other than the ones in the public consultation document which focus on the roundabout and the view from the approaching road and one from 800 m away. There is no drawing that shows the whole extent of the flyover, sheets 9 and 12 of the General Arrangement Drawing only show the central section.**
- 26.4.19 **The computer-generated image (App1) of the flyover provided shows the view from the bench at point 16 on the highways proposals plan copy attached (App 2) is clearly misleading as it shows the flyover and white van at such a low level that the surrounding trees would have to be over 100 foot tall, which they are not.**
- 26.4.20 **It is clear however that it will have a marked effect on the landscape and will be seen as a hard engineered, over dominant feature set against the foreground of established deciduous trees. The impact of the construction of the flyover will be considerable and permanent and will effect the historic landscape character of the park.**
- 26.4.21 **There will be a significant permanent adverse effect on the key view and sight line from the Balustrade Bridge along the River Avon to the north east.**

Highways England response

- 26.4.22 As a point of factual clarification, the Environmental Statement (ES) is not based on a premise that neither the existing road nor the flyover would be visible from within Amesbury Abbey Park.
- 26.4.23 The Cultural Heritage Setting Assessment [APP-218, Section 4, page 127 ref: 6053 - Amesbury Abbey - grade II* registered park and garden, section 'effect of the present A303'] in relation to Amesbury Abbey Park states:
- “The A303 runs directly to the north of the northern boundary of Amesbury Abbey where traffic movement and noise are very apparent when traffic is flowing as is traffic congestion during busy periods. Traffic noise and movement are also discernible to a lesser degree on the eastern boundary of the park to the west side of Countess Road and on Lord’s Walk, especially towards its east end. The road is obscured from view from the rest of the park and traffic noise does not appear to be present, even as background”.*
- 26.4.24 The study area for historic buildings, registered parks and gardens and conservation areas was 1km as noted in paragraph 1.1.2 of the Historic Buildings Baseline Report [APP-213] which advises that “A study area for historic buildings, in keeping with the other aspects of the cultural heritage assessment, was originally adopted including an original search area for listed buildings of 2km (i.e. the 2km study area). During assessment this was reduced to 1km because impacts were determined as being limited to a smaller envelope. The same considerations led to a reduction of the baseline study area for registered parks and gardens and conservation areas. Non-

designated historic buildings were also considered within the 1km study area." The study area therefore takes in the entirety of Amesbury Abbey Park and the Amesbury Conservation Area. The reduced study area (to 1km) was discussed with the Local Planning Authority Conservation Officer during a site walkover survey and no concerns or issues with the reduced envelope were raised.

- 26.4.25 The field work undertaken during the landscape and visual impact assessment [APP-045] from around Countess Roundabout and within the private grounds of Amesbury Park considered that views were limited by the extent of vegetation [APP-045 para 7.6.147].
- 26.4.26 Therefore, photomontages in the Environmental Assessment were not undertaken from the flats; the locations which were chosen for the photomontages were from publicly accessible locations where views would be of the tallest part of the flyover structure, i.e. as it crosses the existing roundabout as indicated by APP-010: Engineering Section Drawings.
- 26.4.27 There is an image of the whole flyover within the Design and Access Statement [APP-295, Figure 6.18]. Drawings of the flyover are also presented in APP-017 (Sheet 12 of 13) and APP-059 (Section to H1). This information was also verbally communicated for factual clarity on the Accompanied Site Visit (ASI) on the 21/05/2019.
- 26.4.28 The computer-generated image (referenced as being in Appendix 1 in 26.4.19) was a sketch graphic issued during the design process following discussions on the likely visibility of the Scheme from within the Abbey Gardens. The draft graphic is not complete (i.e. does not include noise barriers) nor is it a verifiable view (surveyed and camera matched) and therefore it should not be given any status other than a sketch.
- 26.4.29 In terms of the predicted effect of the Scheme, the methodologies of the Environmental Statement (ES) Chapter 6, Cultural Heritage [APP-044] and the ES Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218, Section 2.1] follow the Government's planning policies for England regarding the assessment of the significance of heritage assets, including any contribution made by their setting {NPSNN, para. 5.127 (setting is as defined in NPSNN footnote 96 and NPPF; Annex 2 –Glossary) and Historic England guidance (Good Practice Advice in Planning Notes 2, Managing Significance in Decision-Taking; and 3: The Setting of Heritage Assets)}.
- 26.4.30 The ES Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218] sets out the setting assessment for the Grade II* Amesbury Abbey Park. This notes that "There would be an impact on the northern boundary and part of the eastern boundary of Amesbury Abbey RPG as a result of the Scheme. However, that impact would not extend far into the RPG due to screening provided by the dense vegetation that covers the majority of the northern part of the asset. The settings of the majority of assets (which would include the Blick Mead archaeological site) within the park would be unchanged as a

result of the Scheme" [APP-218, para. 3.4.10]. "The Scheme would run from west to east to the north of the northern boundary of the park, taking much the same route as the current A303 apart from the approach to the eastern tunnel portal to the north of Vespasian's Camp in the north-west corner of the park. Here, the new road would run in cutting (Amesbury cutting), climbing gently to the east towards the proposed new grade separated Countess junction in the location of the present Countess Roundabout. The junction would comprise a flyover (Countess Flyover) across the centre of the current roundabout with bridges over the carriageways of Countess Road and ramps (Countess eastern and western diverges) to the east and west. The flyover would be provided with acoustic fencing to both sides. The majority of the park (including the Blick Mead archaeological site) would be screened from the Scheme by the natural landform and the dense vegetation along the northern boundary of the park to the west of the proposed new grade separated Countess junction." [APP-218, pp. 127-128].

- 26.4.31 The ES Appendix 6.4 – Historic Buildings Baseline Report [APP-213] identified all designated built heritage assets within the grade II* Amesbury Abbey Park. The ES Appendix 6.9 – Cultural Heritage Setting Assessment [APP-218] sets out the setting assessments for a number of these assets, including: Weir Bridge in Amesbury Abbey Park (Grade II); Diana's House (grade II*); Estate Boundary Wall (grade II); and Gate Piers to Lord's Walk, to Amesbury Abbey, with flanking Estate Boundary Walls (grade II*). Other designated built heritage assets within Amesbury Abbey Park including Baluster Bridge were scoped out of further assessment in paragraph 3.4.10 of the ES Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218].
- 26.4.32 In summary the ES Appendix 6.9 – Cultural Heritage Setting Assessment [APP-218] notes that "The Scheme does not contribute to the understanding and appreciations of the assets listed above (i.e. as set out in [APP-218, para. 3.4.10]) and would cause no impact to them. It is recommended, therefore, that these assets are not taken forward for further assessment." [APP-218, para. 3.4.17].
- 26.4.33 Non-significant effects are set out in Environmental Statement Appendix 6.8 - Cultural Heritage - Summary of non-significant effects [APP_217] for Amesbury Conservation Area, Amesbury Abbey Registered Park and Garden, Grey Bridge, Diana's House, Estate Boundary Wall, Gate Piers to Lord's Walk to Amesbury Abbey with flanking Estate Boundary Walls and Kent House.
- 26.4.34 The Landscape and Visual Impact Assessment Schedule of Landscape Effects [APP-227] has predicted that there would be significant adverse effects during the construction phase to Local Landscape Character Areas (LLCA) 21 and LLCA 22 (which cover the Abbey Grounds) due to the construction activity.

- 26.4.35 APP-227 predicts that there would not be significant adverse effects to LLCA 21 during the year 1 operation phase, as the Scheme is situated within the existing A303 road corridor which would minimise the impact of the Scheme.
- 26.4.36 In respect of LLCA 22 there is a predicted significant adverse effect at year 1, with APP-227 stating:
- “vehicles and the side walls of Countess Flyover would be visible, particularly to the immediate south of the new A303, within part of the Registered Park and Garden”.
- 26.4.37 This assessment is considered to cover the location of point 16. But, by year 15 and with the existing vegetation in leaf, the impact to both LLCA 21 and LLCA 22 are assessed as not significant due to the existing vegetation being in leaf.

Key Issue

- 26.4.38 **The re-use of the existing road cannot be said to minimize the impact of the new highway sections when the reality of the new highway section is an 9.8 metre high flyover immediately north of the park. Visually the development is incapable of screening and the 9.8metre flyover. There are no mitigation proposals for the flyover to minimize harm to the designated landscape adjacent to it. No land is being acquired to enable any planting or mitigating landscaping nor has an enhanced landscaping scheme on my client's land been offered. Furthermore, the screening effect of the existing woodland is not sufficient to obscure it.**
- 26.4.39 **Landscape Architects Nicholas Pearson Consulting have been instructed to prepare a planting plan to achieve what screening can be achieved on land belonging to Amesbury Abbey Group Limited which could be undertaken by Highways England in order to mitigate the harm. This will be produced at a later date.**

Highways England response

- 26.4.40 The re-use of the existing road would minimise the impact of the Scheme as it (the Scheme) would be located within the existing road corridor which defines the character of this part of the landscape, as well as the visual context which includes views of vehicles. The height of the viaduct structure is indicated on Sheet 9 of 24 of the Engineering Section Drawings [APP-010] with a varying range of heights above existing ground levels to the north of the park.
- 26.4.41 There are mitigation proposals for the flyover as set out in the Environmental Masterplan [APP-059] which indicates new planting at Countess Roundabout and between the slip roads and the proposed A303 alignment, as indicated on section H-H1 of APP-059. There would also be screening from the existing vegetation in the northern part of the Park, with the effects

of the Scheme set out on page 128 of Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218].

- 26.4.42 The Applicant can confirm having received the planting plan by Nicholas Pearson Consulting referred to in 26.4.38 on the 22/05/2019. The Applicant is currently reviewing this and will request permission to access the location to review the findings of the report before providing a Written Response.

26.5 Noise and Vibration Effects

Key Issue

- 26.5.1 **The elevation of the traffic will increase the level of noise and the distance it will travel, this was accepted by Highways England on p25 of the Environmental Report Summary. It is also accepted that there will be an increase in the volume of traffic which together with the presence of the flyover, will lead to an inevitable reduction in tranquility. An increase in noise levels and a loss of tranquility is of primary significance to my client's business which sells accommodation based upon the Abbey's beauty tranquility and grounds, all of which will be irreparably and detrimentally effected if the proposed works go ahead.**
- 26.5.2 **Amesbury Abbey residential home is not included in this as a non-residential noise sensitive building, however nor is it or the Mews houses which are adjacent to Bowles Hatches, mentioned at all or identified as residential properties in the Environmental Statement. It is said at para 9.9.6 that Bowles Hatches will experience an increase in noise during construction of 7 dB and will exceed SOAEL and LOAEL, however no assessment of the effect on the Mews is made. The impact of the scheme on the Mews should be assessed.**

Highways England response

- 26.5.3 The potential environmental and heritage impacts of the proposed Countess flyover are considered in the relevant topic chapters of the Environmental Statement (ES), including Chapter 6, Cultural Heritage [APP-044], Chapter 7 Landscape and Visual [APP-045], and Chapter 9, Noise and Vibration [APP-047]. The assessment reported in the ES has concluded that there would be temporary significant adverse visual effects on nearby residents during construction; and temporary significant adverse noise effects for nearby residents during construction. Estimates of reasonable worst case construction noise levels have been made for a selection of 19 of the closest identified potentially sensitive receptors to the works. These selected receptors are also representative of neighbouring properties in their vicinity. By choosing a selection of the closest identified potentially sensitive receptors (which were agreed with Wiltshire Council) the reported impacts are, therefore, typical of the worst affected receptors and all potentially significant effects are identified. At receptors further away from the works the

impact would be reduced. In the vicinity of Amesbury Abbey receptor C11 (Bowles Hatches) has been used. Paragraph 9.9.6 of the ES identifies that the construction Significant Observed Adverse Effect Level (SOAEL) is exceeded at receptors C4-C11 by 2-7dB. At C11 (Bowles Hatches) the exceedance is 2dB. This exceedance relates to the highest predicted construction noise levels throughout the works. For the majority of the works construction noise levels are anticipated to be below the SOAEL at this location. Based on the limited duration of the predicted exceedance of the SOAEL a significant adverse construction noise effect has not been identified at C11 Bowles Hatches. Amesbury Abbey is located slightly further back from the works, therefore a significant adverse effect due to construction noise is not anticipated.

- 26.5.4 During construction, sensitive receptors in the vicinity of the Countess roundabout will be afforded protection through measures contained within the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) to, for example, control noise (PW-NOI1, PW-NOI3, PW-NOI5, MW-NOI1, MW-NOI3 MW-NOI4, and MW-NOI6), and artificial lighting (MW-G29).
- 26.5.5 The operational traffic noise assessment includes all identified residential and non-residential sensitive properties in the operational traffic noise study area, this includes Amesbury Abbey, and the adjacent Mews and Cottages. At the worst affected facades of these properties a minor increase in traffic noise is anticipated. Operational traffic noise mitigation will be delivered through 1.8m high noise barriers on the north and south sides of the flyover, as required by reference D-NOI2 in the OEMP; and the use of a thin surfacing system, which results in lower levels of noise generation than a standard hot rolled asphalt surface. As required by reference D-NOI1 in the OEMP. Landscaping of the flyover embankments would be secured through requirement 8 of the draft development consent order [REP2-003], through the submission for approval of a detailed landscaping scheme.
- 26.5.6 Impacts to tranquillity have been assessed within the landscape and visual impact assessment [APP-045] as part of the assessment of the effects to Local Landscape Character Area (LLCA) 21: Avon Valley Slopes (which covers the nursing home and part of the Abbey grounds) and LLCA 22: Avon Valley Floodplain and Meadows (which covers part of the Abbey grounds. With reference to the Schedule of Landscape Effects [APP-227, page 20] significant adverse effects are predicted during the construction phase to LLCA 21 and LLCA 22 due to the presence of the construction activity. As noted above, the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) includes measures to control noise and lighting during the construction phase,
- 26.5.7 APP-227 predicts that there would not be significant adverse effects to LLCA 21 during the operation phases, due to the distance between the LLCAs in question and the A303 as existing (i.e. there is already the perception of

vehicles) and as set out above for Noise, the flyover includes 1.8m high barriers as mitigation. Significant adverse effects are predicted for LLCA 22 due to the flyover at year 1, but these are predicted to be not significant at year 15.

- 26.5.8 The assessment of heritage assets and the impact of the Scheme on their setting is considered above in response to issue 26.4.17.

Key Issues

- 26.5.9 **Para 13.6.33 states there are no business premises lying directly on the alignment of the Scheme, this is clearly incorrect as the Abby grounds are adjacent to the scheme. No account has been taken on the visual effects of the flyover on the 87 residents of Amesbury Abbey.**
- 26.5.10 **Construction 13.9.69 Taking into account the results of the air quality, noise and visual assessments, there are no residents or users of public rights of way, community facilities or businesses that would experience a significant effect on their amenity during construction.**
- 26.5.11 **Operation 13.9.70 Taking into account the results of the air quality, noise and visual assessments, there are no residents or users of public rights of way, community facilities or businesses that would experience a significant effect on their amenity during operation".**
- 26.5.12 **We clearly disagree with this conclusion and are of the opinion that there is major detrimental impact of this scheme on Amesbury Abbey its park, heritage assets and its residents.**
- 26.5.13 **Para 13.9.83 concludes that due to the use of best practicable means included in the OEMP and the use of temporary noise barriers where possible the effect of the Scheme on air quality, noise and neighbourhood amenity as a determinant of human health during construction is assessed to be neutral (0).**
- 26.5.14 **The detrimental effects discussed above due to the increase in traffic, the development itself and the disruption will all have a permanent detrimental effect on the business, the value of the properties and residential amenity.**
- 26.5.15 **The noise vibration and air quality impact may impact on the health of residents.**

Highways England response

- 26.5.16 Reference to 'on the alignment' means within the Scheme boundary in the context in which it is used. There are no businesses, other than agricultural holdings which lie within the Scheme boundaries. This reference does not include businesses which lie wholly outside the Scheme boundary.
- 26.5.17 The potential environmental and heritage impacts of the proposed Countess flyover are considered in the relevant topic chapters of the Environmental

- Statement (ES), including Chapter 5 Air Quality [APP-043], Chapter 6, Cultural Heritage [APP-044], Chapter 7 Landscape and Visual [APP-045], Chapter 9, Noise and Vibration [APP-047] and Chapter 13 People and Communities [APP-051], and in the Transport Assessment [APP-297].
- 26.5.18 During construction, in relation to construction noise, as set out at Paragraph 9.9.9 [APP-047], there would be no significant temporary adverse construction noise effects experienced at location C11 which is slightly closer to the works than Amesbury Abbey. In respect of visual effects, a representative visual receptor at Bowles Hatches (Amesbury Abbey) has been included within the visual assessment as receptor 31B [APP-228] page 20]. Temporary significant visual effects will be experienced by some residents adjacent to the Abbey Grounds, at Bowles Hatches during construction [APP. APP-228 visual receptor 31B, page 20]. As no other significant adverse effects have been reported in respect of traffic, air quality or noise, there would be no in-combination effect arising to be experienced by residents here. This is based on the methodology for assessing amenity effects as set out at section 13.3.41.
- 26.5.19 During construction, sensitive receptors in the vicinity of the Countess roundabout including Amesbury Abbey will be afforded protection through measures contained within the Outline Environmental Management Plan (OEMP) [APP-187] to, for example, control noise (PW-NOI1, PW-NOI2, PW-NOI3, PW-NOI5, MW-NOI1, MW-NOI2, MW-NOI3 MW-NOI4, and MW-NOI6), dust (PW-AIR1 and MW-AIR1), and artificial lighting (MW-G29). Compliance with the OEMP is secured through the requirement contained in paragraph 4 of Schedule 2 to the draft Development Consent Order.
- 26.5.20 During operation, no significant adverse noise effects have been assessed at residential receptors in the vicinity of Countess, including Amesbury Abbey and the adjacent Mews and Cottages. No significant adverse visual effects have been assessed at the nearby representative receptor Bowles Hatches which is adjacent to the Abbey [APP-228 visual receptor 31B, page 20). No significant adverse traffic and air quality effects have been assessed either and therefore there would be no in-combination amenity effect experienced by residents at Amesbury Abbey during operation of the proposed scheme [APP-051 paragraph 13.9.70]..
- 26.5.21 Operational traffic noise mitigation will be delivered through 1.8m high noise barriers on the north and south sides of the flyover, as required by reference D-NOI2 in the OEMP; and the use of a thin surfacing system, which results in lower levels of noise generation than a standard hot rolled asphalt surface, as required by reference D-NOI1 in the OEMP. Landscaping of the flyover embankments would be secured through requirement 8 of the draft development consent order [REP2-003].
- 26.5.22 Human health assessment findings have been reached based on an overall consideration of the assessment of effects in the ES principally in Chapter 9 Noise and Vibration, Chapter 5 Air quality [APP-043] and elsewhere in

Chapter 13 People and Communities [APP-051] in respect of neighbourhood amenity. The assessed outcomes have been informed by the assessment conclusions presented in the relevant ES chapters to provide an overall outcome for the human health determinant for construction and operation. These outcomes are based on consideration of the following: noise effects experienced at residential properties in the study area with the majority of residential properties experiencing no significant adverse effects; no significant adverse effects experienced by human receptors in the study area in respect of air quality; and no significant adverse effects on the amenity of residents, users of public rights of way, community facilities or businesses from construction activities or construction traffic.

- 26.5.23 The assessment of heritage assets and the impact that the Scheme has on their setting is considered above in response to issue 26.4.17.

26.6 Traffic and Transport

Key Issue

- 26.6.1 **We need to be pre-consulted on any proposed road closures or diversions, alternative access arrangements and hours of working.**
- 26.6.2 **We need to ensure that the arrival and departure of staff is not disrupted through full advance consultation by Highways England at appropriate times and that we are consulted on the draft construction traffic management plan. The late arrival of a nurse or a care assistant could put lives at risk.**
- 26.6.3 **It is vital for the reasons set out above that access to Amesbury Abbey residential home is not restricted, and that staff and emergency vehicles are not hindered in accessing the property with the consequent potential risk to human health.**

Highways England response

- 26.6.4 The existing A303 and A345 would remain in operation throughout construction, other than necessary short term (eg overnight) periods and flows on local roads are not anticipated to change to a degree that would cause significant local impacts affecting access. Further information can be found in the Transport Assessment [APP-297], section 9.5.
- 26.6.5 A Traffic Management Plan (TMP) will be developed with reference to the Traffic Management Act 2004 and New Roads and Street Works Act 1991 and will include the requirements for a TMP set out in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) measures MW-TRA2-11. This includes procedures for informing local communities of all traffic management schemes in advance and the works and a site access plan to limit disruption to road users due to use of site access points. A Traffic Control Officer will be appointed to manage the TMP as set out in Table 2.1 in the OEMP.

26.6.6 Item MW-G31 in the OEMP also notes that the contractor will be required to issue Works Notices to occupiers of nearby or affected properties, businesses and adjacent or affected parish councils, at least two weeks in advance, of the nature and anticipated duration of planned construction works that may affect them. Information included in the notifications will include, as appropriate: i. The location of the planned works; ii. The activities to be carried out; iii. The duration of the planned works and the periods within which works will be undertaken (i.e. whether during normal working hours, during the evening or overnight); iv. The anticipated effects of the planned works; and v. The measures to be implemented in line with the CEMP to mitigate the impact of the planned works.

27 Avebury Society (REP2-057)

27.1 General and cross-topic questions

Key Issue

- 27.1.1 **This increased footfall also creates problems for the management of erosion of the henge which has led to some intrusive repairs to pedestrian routes, digging into the monument instead of the use of lightweight structures placed on the surface, and not following best practice as advised by Historic England (Advice Note 2: Making Changes to Heritage Assets, 2016).**

Highways England response

- 27.1.2 The Scheme includes measures to manage changes in visitor footfall and to ensure appropriate mitigation is in place. The new public rights of way, linking with existing byways, will make it easier for people to access and enjoy the Stonehenge part of the WHS as a whole. In the northern half of the WHS impacts from footfall are currently managed by English Heritage and the National Trust, with designated paths and routes to and from Stonehenge and the visitor centre, fenced public rights of way and the National Trust's open access policy. This management strategy will continue during scheme construction and operation. In the southern half of the WHS, monuments are within private land and not directly accessible to the public. In order to mitigate against potential impacts and manage footfall damage, visitors to this part of the WHS will only be able to explore the landscape using the proposed public right of way route along the existing A303 alignment, or by using the existing fenced public rights of way either side of the existing road. The proposed public rights of way will be suitably surfaced and fenced in order to minimise impacts from visitor footfall on buried archaeological remains. These design principles have been agreed with heritage partners and the fencing and surfacing within the WHS shall be developed in consultation with the National Trust, Historic England, English Heritage and Wiltshire Council, as secured in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) (D-CH14).

Key Issue

- 27.1.3 **Whilst the Stonehenge project in any form would cost millions, some of its 'legacy' funding ought to be extended to Avebury to enhance and secure the visitor experience in this portion of the World Heritage Site and we do not believe that this is intended at present. This would be most welcome due to the limited funds available to Wiltshire County Council and the National Trust.**

Highways England response

- 27.1.4 With regard to the wider WHS (and outside the scope of the Scheme), Highways England have obtained Designated Fund money to support the WHS in pursuing three of the 2015 WHS Management Plan objectives, including the Land Access Strategy, Sustainable Tourism Strategy and Sustainable Transport Strategy. By funding these key priorities of the 2015 WHS Management Plan, Highways England will be able to assist its partners to move these aspects forward in pursuit of the full potential benefits that the Scheme can bring to the WHS, its visitors and local communities. Highways England will continue to work collaboratively with the World Heritage Site Partnership Panel to plan for the post-scheme future, and working with National Trust and English Heritage Trust as they develop the ongoing Partnership Plan. The allocation of Designated Funds in the future will be informed by the results of the work commissioned into the three strategies.

Key Issue

Impact on the World Heritage Site and the need for its conservation

- 27.1.5 **Our second point is that the evaluation of the project by Highways England shows low to poor value for money whilst justification being offered for the project is an increase in benefit to the cultural heritage. This evaluation is more than surprising bearing in mind the 'assault' on the WHS by the intrusions of the short tunnel and the impact of the tunnel portals and cuttings. We think this methodology must be called into serious question, which ignores advice given for evaluation in World Heritage Sites, especially cultural impacts, from the World Heritage Convention to planning policy and the Management Plan for the Site. We raise this again because should Highways England or any other potential developer generate proposals for Avebury in the future based on the same assumptions, this could be very detrimental to our half of the WHS.**

Highways England response

- 27.1.6 The Scheme is part of the Government's programme of improvements along the A303/A358 corridor designed to upgrade the route to a high-quality dual carriageway, in recognition of the problems along the corridor and the need to improve connectivity to the South West. The proposed tunnel solution is value for money and has been identified from an exhaustive appraisal of options. In addition to delivering benefits in terms of improved journey times, reduced accidents and community benefits, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained. This all adds up to the Scheme providing clear value for money. Further information can be found in The Case for the Scheme [APP-294].

- 27.1.7 The increase in benefit to cultural heritage that is incorporated into the scheme's "benefit cost ratio" is based on a survey which asked respondents to consider how they would value changes to the landscape, noise and visual amenity from removing the road and putting it in a tunnel. It is important to note that this work around the contingent valuation report (CVR) was primarily relevant to the Department for Transport's (DfT) investment decision in the Scheme, not the planning merits of the Scheme.
- 27.1.8 It is not usual for Cultural Heritage Assets to be attributed a monetary value in the appraisal of transport schemes, but irrespective of whether they are ascribed a monetary value, impacts on cultural heritage assets are routinely assessed and incorporated qualitatively into appraisal of transport schemes. However, enhancing the cultural heritage of the Stonehenge World Heritage Site, through the delivery of the A303 Amesbury to Berwick Down Road Scheme, is of such significance that it formed an integral part of the Client Scheme Requirements and, therefore, it is appropriate to attempt to express these qualitative impacts in a comparable unit to other elements of the appraisal. The appraisal methods are fully aligned to the Guidance issued by HM Treasury, the Department for Transport and Highways England.
- 27.1.9 The relevant tests for the Examining Authority and Secretary of State in determining whether to grant consent for the Scheme are set out in section 104 of the Planning Act 2008, and as a result of those provisions, the decision maker must decide the application in accordance with the National Policy Statement for National Networks (NPSNN). That requirement is subject to certain exceptions, including under section 104(7) which requires that the application should be determined in accordance with the NPSNN unless the adverse impact of the proposed development would outweigh its benefits. This requires a balancing exercise to be undertaken of the adverse and beneficial impacts of the Scheme.
- 27.1.10 Another exception makes the requirements of the World Heritage Convention relevant to the decision to grant consent. Other prescribed matters and any other important and relevant matters will also be relevant to the decision, including conformity with local planning policy and the WHS Management Plan.
- 27.1.11 With respect to the NPSNN requirements, NPSNN is concerned to avoid substantial harm to heritage assets, and includes requirements in relation to the balancing of less than substantial harm against the public benefit of the development. The Scheme's compliance with the NPSNN requirements is demonstrated in the NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294].
- 27.1.12 The requirements of the World Heritage Convention and the Scheme's compliance with those requirements are addressed in response to Written Question G.1.1 [REP2-021].

27.1.13 Local planning policy compliance is addressed in Appendix B of the Case for the Scheme and NPS Accordance [APP-294].

27.2 Draft Development Consent Order

Key Issue

27.2.1 **We note, finally, that not only is there continuing lack of information on many subjects for proper assessment of the application but also a very marked lack of engagement in the application documents for the potential impacts at Avebury if the Scheme should go ahead.**

Highways England response

27.3 The Applicant has set out full and comprehensive information regarding the Scheme. If there are any specific topics in respect of which the Avebury Society would like more information then please advise. In terms of community engagement with the application, all views expressed in response to the consultation, including the views of local people and groups such as the Avebury Society, were considered and taken into consideration as set out in the Consultation Report [APP-026]. The DCO examination process provides a further opportunity to express views and make representations about the Scheme. Local views are also continuing to be heard via the Local Community Forum that has been established for representatives of community bodies/groups to engage about the Scheme.

27.3.1 The Applicant notes also that given the distance of the works from the Avebury element of the WHS (40km) the Scheme will have no direct physical impacts on it. In terms of indirect impacts it is pertinent to note that the characteristics of visitors to Stonehenge and Avebury are distinct; those visiting Stonehenge are often either from the international market, visiting iconic tourist attractions, or part of an organised tour; those visiting Avebury are often more dedicated, in-country visitors interested in the prehistoric period and its monuments. As the existing A303 will remain open throughout construction, and because of the different nature of visitor each site attracts, it is not anticipated that visitors and tour operators will change their tour schedule to visit Avebury rather than Stonehenge during construction, or following scheme opening and in the operational phase. It is therefore expected that the construction or operation of the Scheme will not have an indirect impact on Avebury.

27.4 Socio-economic effects

Key Issue

Increase in visitor numbers

27.4.1 **According to the National Trust, Avebury currently attracts between 300,000 and 350,000 visitors each year. This number is expected to increase as tourism intensifies, stimulated by Wiltshire Council's Great**

West Way project and other initiatives, and as a result of successful attempts by the National Trust to attract more visitors. At peak periods, of which there seem to be more and more, the site is saturated or nearly so. The proposed works to the A303 seem likely to add to the pressures on Avebury by deflecting visitors from Stonehenge to the northern part of the World Heritage Site. In feedback from visitors to Avebury we hear that those who have also visited Stonehenge have found that experience less satisfactory than walking amongst the stones in the Avebury Circle. This may be because, unlike Stonehenge, it is an open access site, offers a range of attractions other than the stone circle (for example, Avebury Manor), and is free although vehicles using the National Trust car park pay a charge, which some find sufficiently significant to be encouraged to find parking illicitly wherever they can (such as on the B4003 alongside the Avenue).

- 27.4.2 **Removal of the much valued sight of the Stones from the A303 would inevitably persuade more visitors to Avebury where only the parking is charged for and I know that Avebury Parish Council has written to you on this point. We had direct experience of this in the 1980s when the Stonehenge free festival was stopped and large numbers of festival-goers came to Avebury, creating chaos on the roads and other problems, including camping (plus damage to the fabric of the monuments such as the henge, Silbury Hill and West Kennet Long Barrow), and the inevitable quantities of litter. At Avebury the visitors now run some risk in twice crossing the busy commuter route between Swindon and Devizes to visit the four quadrants of the ring**

Highways England response

- 27.4.3 There were no significant adverse effects on Avebury identified in the People and Communities chapter resulting from construction of the proposed scheme.
- 27.4.4 A baseline overview of the Avebury element of the WHS is provided in the HIA [APP-195, section 6.11], and relevant summary information on Avebury is also incorporated into the HIA sections on tourism and visitor experience [APP-195, section 6.12] and impacts and effects on the Avebury part of the WHS [APP-195, section 9.3].
- 27.4.5 The HIA acknowledges that the effects of the Scheme may extend beyond the boundaries of the Stonehenge part of the WHS, and therefore also considers indirect, secondary, in-combination and cumulative impacts and effects upon the OUV of the Avebury part of the WHS [APP-195, para. 5.10.2]. The HIA notes that "In the main, only the Stonehenge element of the WHS would be affected by the Scheme, and this part of the combined WHS is the predominant focus of this HIA. However, where the Scheme has the potential for temporary effects on the Avebury part of the WHS, for instance

following possible changes in visitor patterns during construction, these are also assessed." [APP-195, para. 6.6.5].

- 27.4.6 Given the distance of the works from the Avebury element of the WHS (40km), the Scheme will have no direct physical impacts on it.
- 27.4.7 In terms of indirect impacts on Avebury, as set out in the Heritage Impact Assessment, paragraphs 9.3.66 and 9.3.67 [APP-195], there was insufficient baseline data from heritage partners regarding current visitor flows and characteristics to enable assessment of potential change during scheme construction or operation. However, it is pertinent to note that the characteristics of visitors to Stonehenge and Avebury are distinct; those visiting Stonehenge are often either from the international market, visiting iconic tourist attractions, or part of an organised tour; those visiting Avebury are often more dedicated, in-country visitors interested in the prehistoric period and its monuments. As the existing A303 will remain open throughout construction, and because of the different nature of visitor each site attracts, it is not anticipated that visitors and tour operators will change their tour schedule to visit Avebury rather than Stonehenge during construction, or following scheme opening and in the operational phase. It is therefore expected that the construction or operation of the Scheme will not have an indirect impact on Avebury.
- 27.4.8 Whilst Stonehenge will not be visible from the A303 once the tunnel is built, there will be a significant opportunity for the public to view Stonehenge from the enhanced public rights of way network, notably the restricted byway being created on the line of the existing road. Visitors will continue to have free access by using the public rights of way that cross the WHS landscape and via the National Trust's right to roam policy.

28 English Heritage (REP2-090 to REP2-092)

28.1 General and cross-topic questions

Key Issue

- 28.1.1 **EHT are unsure what temporary infrastructure (during construction) will be in place and therefore EHT is unable to assess its impact on the WHS and our visitor operation in particular. EHT seeks further clarity on construction impacts.**

Highways England response

- 28.1.2 Highways England confirms that Technical Note 022 in Appendix 9.1 of the Transport Assessment [APP-297] sets out the assumptions made for the traffic management measures during the construction phase(s). This includes assumptions and outline proposals relating to:
- Traffic management for construction of western tie-in to A303
 - Traffic management for construction of Longbarrow junction
 - Traffic management for construction of Countess junction
 - Temporary speed limits on existing roads
 - HGV movements to and from site
 - Workforce numbers
- 28.1.3 The development of mitigation measures in relation to managing the impacts of construction traffic are secured via the Outline Environmental Management Plan (OEMP) (Environmental Statement Appendix 2.2 [APP-187]) at items MW-TRA1 to MW-TRA11.
- 28.1.4 Further information is included in the Environmental Statement Chapter 2 – The Proposed Scheme [APP-040] which includes, in section 2.4, a description of the assumptions applied to the environmental assessment of the construction phase. This includes information on:
- Construction Activities
 - Construction Programme and working hours
 - Construction compounds and site accesses
 - Haul routes
 - Construction traffic
- 28.1.5 Environmental Statement [APP-040] Figure 2.7 - Illustrative Construction Layout shows indicative locations and layouts for:
- Construction compounds
 - Temporary diversion routes

- Site haul roads
- 28.1.6 The approach to haul roads and to mitigate their impacts is set out in 'Approach to Haul Roads and Archaeological Protection' (April 2019) [REP1-005], submitted at Deadline 1, which includes haul roads located along the alignment of the Scheme and built under a 'no-dig' solution to retain topsoil in situ.
- 28.1.7 Construction traffic outside of the Scheme boundary would utilise the public highway and would be controlled by measures identified within the Contractor's Traffic Management Plan, developed pursuant to requirement 9 of Schedule 2 of the draft development consent order [REP2-003].
- 28.1.8 Dust management measures are set out in items MW-AIR1 and MW-AIR2 of the Outline Environmental Management Plan [APP-187].
- 28.1.9 A traffic management plan is required to be developed and implemented pursuant to Requirement 9 of Schedule 2 of the draft development consent order [REP2-003]. As required by the Outline Environmental Management Plan (OEMP) [APP-187], which is secured through Requirement 4 of Schedule 2 of the draft development consent order [REP2-003], this plan would include details of temporary traffic management layouts, signage, and other apparatus as well as access arrangements, and would be developed in consultation with relevant organisations, including the English Heritage Trust (OEMP, MW-TRA2).
- 28.1.10 Further detail required for completion of the Traffic Manage Plan (TMP) will be dependent on the Contractor's chosen methodology and construction programme, both of which are currently unknown. Each ES Chapter also assesses the impacts of construction and temporary construction activities on each discipline.
- 28.1.11 Highways England consider that, as identified above, there is sufficient information available within the application documentation to understand the likely impacts of temporary infrastructure, construction activities and traffic.

Key Issue

- 28.1.12 **Stonehenge Cottages are let to tenants. Construction works will have negative impacts for the tenants of the cottages including vibration, noise, dust, air pollution and potential lost rental income for EHT.**

Highways England response

- 28.1.13 Stonehenge Cottages in included as a receptor in the construction noise and vibration assessment. Based on the distance between the Cottages and the construction works on the surface, a significant construction noise effect has not been identified at the Cottages, see Table 9.14 in the Noise and Vibration Chapter of the Environmental Statement (ES) [APP-047].

- 28.1.14 The prediction methodology for vibration from the Tunnel Boring Machine (TBM) follows the tunnelling vibration methodology prescribed in BS 5228:2009 + A1:2014 'Code of Practice for noise and vibration control on construction and open sites'. This methodology is conservative as it is derived from worst case source data for tunnelling in rock using a hydraulic hammer. Source data for TBM works and chalk ground conditions indicates lower levels of vibration are likely to be generated, however as a precautionary approach the BS 5228 tunnelling vibration prediction methodology has been used.
- 28.1.15 The predicted vibration levels at Stonehenge Cottages due to tunnelling are reported in Table 9.15 of the ES, Chapter 9 [APP-047]. Paragraph 9.9.20 reports the impact at Stonehenge Cottages as being above the Significant Observable Adverse Effect Level (SOAEL) for annoyance, but well below the onset of cosmetic damage criteria.
- 28.1.16 The risk of exceeding the SOAEL for construction vibration annoyance is estimated to occur when the tunnel boring machine (TBM) is within a distance of approximately 55m.
- 28.1.17 The Outline Environmental Management Plan (OEMP) [APP-187] requires the contractor to undertake a vibration scoping appraisal of the works to construct the Scheme (MW-NOI5), and vibration monitoring at Stonehenge Cottages commencing when the TBM is approaching (MW-NOI6).
- 28.1.18 As a conservative approach monitoring of vibration at Stonehenge Cottages is proposed to start when the TBM is within 250m of the Cottages. This will be made clear in the latest revision of the OEMP submitted at Deadline 3. At this distance the predicted vibration level is less than half the Lowest Observed Adverse Effect Level (LOAEL) for vibration annoyance effects, and therefore this would allow for a period of monitoring to occur before there is a risk of perceptible vibration.
- 28.1.19 Construction dust and any potentially negative impacts will be managed through the Outline Environmental Management Plan (OEMP) [APP-187]. Specifically, dust will be managed for Stonehenge Cottages with standard mitigation measures (MW-AIR1).

28.2 Air quality and emissions

Key Issue

- 28.2.1 **Air Quality: EHT hopeful that the air quality around Stonehenge will not be affected by the road scheme. Seeks reassurances that this is the case. Requests more information about the likely impact this might have during construction and after build.**

Highways England response

- 28.2.2 Air quality in the study area for the Scheme is good in the existing situation with concentrations of pollutants within required air quality objectives. This includes Stonehenge Cottages (R104) that is within 25m of the existing A303. Stonehenge is approximately 140m further from the A303 than Stonehenge Cottages. As contributions of pollutants from roads reduce with increased distance, even lower pollutant concentrations well within relevant air quality objectives can be expected at Stonehenge. Full sets of results for the existing baseline situation are presented in Appendix 5.3 Air Quality Results Tables [APP-192].
- 28.2.3 Good air quality along the section of the A303 south of Stonehenge is also shown through air quality monitoring undertaken for the Scheme using a nitrogen dioxide diffusion tube. The monitor (AMES_010) was sited adjacent to the A303 and recorded a concentration of 20 µg/m³ of nitrogen dioxide (NO₂), which is half of the annual average air quality objective of 40 µg/m³. This monitoring location is shown on Figure 5.1 (green triangle south west of Stonehenge) and in Table Appendix 5.1 Air Quality Monitoring Data [APP-190].
- 28.2.4 In the construction phase, improved air quality is expected, as demonstrated by predictions for Stonehenge Cottages (R104) which show improved concentrations of NO₂ that are well within the air quality objective. This is described in the ES paragraph 5.9.20 of Chapter 5 on Air Quality [APP-043].
- 28.2.5 Once the Scheme is constructed, even better air quality is predicted to occur at Stonehenge Cottages (R104) and Stonehenge as the section of the A303 to the south of Stonehenge will be located within a tunnel. This will remove vehicle emissions from this section of the A303. This is described in the ES paragraph 5.9.51 of Chapter 5 on Air Quality [APP-043].
- 28.2.6 In summary, air quality is already good along the section of the A303 south of Stonehenge and this is still expected to be the case in the future situation and additionally further improvements are expected in both the construction and operational phases of the Scheme.

28.3 Cultural Heritage

Key Issue

- 28.3.1 **Future archaeology: Potential for the restriction of future archaeological works where the tunnel will be situated. Restriction contrary to the WHS Management Plan. Seeks formal confirmation from HE on this matter.**

Highways England response

- 28.3.2 As noted in the Statement of Reasons [APP-023], restrictions are required above the tunnel in order to secure protection of the tunnel from potentially conflicting future development and works that might jeopardise the structural integrity of the tunnel. Highways England acknowledges English Heritage Trust's concerns regarding the tunnel restriction areas and is undertaking further work to provide details of the type of restrictions required. Highways England will continue to engage with English Heritage Trust on this issue. For further detail on the extent of the restrictions proposed and the points under discussion, please see Highways England's response to Written Question CH.1.27 [REP2-025].

28.4 Design

Key Issue

- 28.4.1 **More information about the presentation and appearance of the completed scheme including design principles and parameters to work within now and if they are not able to be provided by HE at this time, provision within the DCO securing EHT's involvement in the future.**

Highways England response

- 28.4.2 Highways England considers that the application has provided sufficient information to allow Historic England to understand and comment on the Scheme. Highways England has prepared a signposting document [AS-009] to support or enhance interested parties' understanding of the nature of the Scheme.
- 28.4.3 Further details of junctions, the tunnel approaches and portals (including engineering design, levels in relation to existing topography, approach to materials selection and surface treatments and landscape integration) will be developed through the detailed design process. The updated OEMP submitted for deadline 3 includes further design commitments, together with design principles to guide the detailed design and information on the aspects of the detailed design of the Scheme on which Highways England will consult Historic England, and other heritage stakeholders, together with a robust process for doing so.

- 28.4.4 **Longbarrow Junction.** The layout of the proposed Longbarrow junction is shown on sheet 5 of the Works Plans [APP-008], described in Schedule 1 and shown indicatively on Sheet 5 of the General Arrangement Drawings [APP-012]. The junction has been located as close as possible to the point of intersection of the A303 and A360 alignments while at the same time minimising impact on the WHS and other environmental constraints.
- 28.4.5 **Tunnel Approaches and Portals.** Visualisations of the tunnel approaches and portals can be found in section 6.4 of the Design and Access Statement [APP-295]. Further detail is shown illustratively on sheets 7, 8, 10 and 11 of the Structures Drawings [APP-017].
- 28.4.6 **Levels in relation to existing Topography.** Proposed road levels in relation to existing ground levels are shown in the Engineering Drawings (Plans and Profile) [APP-010]. These drawings show the difference between existing and proposed levels at 100m intervals. Further information can be seen in the Engineering Drawings (Cross Sections) [APP-011] which show both existing and proposed levels at selected cross sections along the Scheme.
- 28.4.7 **Approach to Materials selection and surface treatments.** Further details, including width and surface treatment of new rights of way, fence lines and structural finishes, are under discussion with heritage stakeholders and Wiltshire Council. As noted above, the updated OEMP includes further design commitments on these matters, design principles and a mechanism for consultation with heritage stakeholders, including Historic England, on the detailed design of aspects of the Scheme within the World Heritage Site.
- 28.4.8 **Landscape Integration.** A description of the earthwork landscape proposals is included in paragraph 2.3.55 of Chapter 2 of the ES [APP-040]. For further detail, refer to ES chapter 7 - Landscape and Visual Effects [APP-045]. The final landscaping for the Scheme is controlled by requirement 8, which requires a landscaping scheme to be approved by the Secretary of State for each part of the Scheme before it is commenced.
- 28.4.9 **Lighting.** The majority of the Scheme would not be lit. There would be no external road lighting within the WHS outside the tunnel. The existing lighting provision at Countess roundabout will be replaced with a modern system that will reduce light spill. Note that lighting under Green Bridge No. 4 would only occur during the day time and would be dimmer controlled at dusk and dawn to avoid sudden bursts of light emitting into the landscape at these specific times of the day. This lighting is provided for in the Outline Environmental Management Plan (OEMP) [APP-187] (D-CH9 to D-CH12), and paragraph 4 of Schedule 2 of the draft development consent order [REP2-003] which requires the Scheme to be carried out in accordance with the OEMP.
- 28.4.10 **Signage.** Within the WHS, the Scheme has committed to no signage above the top of the cutting and no lighting of signs at the western end of the

Scheme in order to protect the WHS's OUV [see OEMP, D-CH8], as well as further items included in the updated OEMP submitted at Deadline 3. Appropriate signage and infrastructure will also be provided outside the WHS to manage traffic through the corridor.

28.5 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

- 28.5.1 **EH is also an “affected person” under S59 of the Planning Act 2008 in that Highways England (HE) proposes to acquire EHT’s and the Historic Buildings and Monuments Commission for England’s land and land interests: 08-04; 08-12; 14-07; and 07-09. EHT is therefore responding to the DCO as a landowner, and representative of HBMCE’s land interests. There is not a compelling case in the public interest for the compulsory acquisition of plot 14-07 (part of the land of the Stonehenge Visitor Centre site for the A360 PROW). This is subject to on-going discussions with HE, but HE has not provided an acceptable solution and should take the requisite steps under the NSIP legislation to add land into the compulsory acquisition under the DCO to provide the route outside of the Visitor Centre site.**
- 28.5.2 **A360 PROW: EHT objects to the section of the proposed restricted byway running alongside the A360 within the boundary of the Stonehenge Visitor Centre. Discussions with HE are on-going and alternatives are being explored.**
- 28.5.3 **Objects to this on the following grounds:**
- **Potential negative impact on English Heritage visitor operation.**
 - **Potential conflict between non-motorised byway users and motorised visitors.**
 - **Potential negative knock-on impacts for A360/B3086 road users.**
 - **Potential safety risks.**
 - **Negative impact on design principles.**
 - **Negative impact on recent investment.**
 - **Potential security risks.**
 - **Potential negative heritage impacts.**

Highways England response

- 28.5.4 The proposed public rights of way, labelled reference U and UA on sheet 14 of the Rights of Way and Access Plans [APP-009] and described in Schedule 14 to the draft development consent order [REP2-003], together provide a link between Longbarrow in the south and Airman’s Corner in the

north. This link provides a connection to the proposed public right of way network at Longbarrow junction and to the wider public rights of way network. In addition, this route also facilitates connection to the Stonehenge Visitor centre, which is a major tourist attraction in the area, allowing sustainable travel to this destination. As this route runs parallel to the A360, it minimises additional infrastructure within the World Heritage Site. Being situated to the east of the A360 gives the route good views over the World Heritage Site making it more attractive to non-motorised users. This route was included in the briefing provided to the Walking Cycling and Horse Riding Workshop held on 24 July 2018.

- 28.5.5 This route would also provide a key link in a restricted byway route north beyond Rollestone crossroads which is an aspiration of Wiltshire Council. This would provide access to the extensive network of byways on Salisbury Plain.
- 28.5.6 The compulsory acquisition power is required to ensure that the new restricted byways can be delivered. The Applicant would prefer to achieve its objectives through a voluntary arrangement, which English Heritage have alluded to and discussions on this matter are ongoing.
- 28.5.7 With respect to English Heritage Trust's (EHT's) specific objections:
- **Potential negative impact on English Heritage visitor operation** – This point is understood to mean impact on access to the car and coach parks, and on the visitor experience. As vehicles will have right of way at any NMU crossing point, these crossings are unlikely to have a significant impact on vehicle flows. Providing for more sustainable travel choices may improve the visitor experience;
 - **Potential conflict between non-motorised byway users and motorised visitors** – While Highways England recognises this is perceived as a high risk for EHT, the interface between pedestrians, cyclists and motor vehicles at junctions is frequently managed elsewhere by highway authorities and site operators such as other visitor attractions, supermarkets, shopping centres, etc. without an unacceptable level of incidents;
 - **Potential negative knock-on impacts for A360/B3086 road users** - As vehicles will have right of way over NMUs at any crossing point, these crossings are unlikely to have a significant impact on vehicle flows, which might cause tail-backs onto A360 or B3086;
 - **Potential safety risks** – As above, the interface between pedestrians, cyclists and motor vehicles at junctions is frequently managed elsewhere without an unacceptable level of incidents;
 - **Negative impact on design principles** – The detailed design will be governed by a set of design principles included within the Outline Environmental Management Plan and agreed by heritage stakeholders;

- **Negative impact on recent investment** – The Visitor Centre is a significant investment, but it is not clear how the new right of way negatively impact on this;
- **Potential security risks** – While Highways England recognises the security concerns of EHT, it does not consider access by NMUs significantly increases this risk;
- **Potential negative heritage impacts** – The Applicant has prepared an update to the OEMP for submission at Deadline 3 to include additional design commitments, design principles to guide the detailed design and a robust stakeholder consultation mechanism to consult heritage stakeholders on aspects of the detailed design of the Scheme within the World Heritage Site.

28.5.8 Highways England is working with English Heritage Trust to seek to explore an alternative route which addresses its concerns and meets the objective of improving access for non-motorised users. Details of these discussions and any agreement will be recorded in the SOCG with the English Heritage Trust to be submitted to the Examination in due course. Highways England note that English Heritage Trust's alternative route is on land in third party ownership and outside Order limits, and so could only be delivered by agreement outside of the DCO, or alternatively within the Order but subject to the established procedures for changes to development consent orders during an examination.

Key Issue

28.5.9 **The parcel of land needed by HE near Stonehenge cottages (08-12) relates to the acquisition of rights rather than land per se. HE have suggested that shallow excavation will be permitted but deeper excavation would be under negotiation with HE. EHT seeks formal confirmation of this position.**

Highways England response

28.5.10 Plot 08-12 is shown hatched pink on the Land Plans which denotes that it is subsoil to be acquired permanently, with rights and restrictive covenants imposed over the remaining subsoil and surface, in accordance with article 27 of the draft development consent order [REP2-003]. As is explained in paragraph 5.3.6 and 5.3.7 of the Statement of Reason [APP-023], the Applicant seeks powers to acquire compulsorily subsoil, to the extent necessary to construct, operate and maintain the tunnel and new rights above the tunnel, up to and including the surface, to protect the tunnel. However, the surface of plot 08-12 would remain in its current ownership. Figure 1 in the Statement of Reasons includes a cross-section to illustrate this land acquisition for the plots hatched pink on the land plans and listed in Schedule 6 of the draft development consent order [REP2-003].

28.5.11 As noted in the Statement of Reasons [APP-023], restrictions are required above the tunnel in order to secure protection of the tunnel from potentially conflicting future development and works that might jeopardise the structural integrity of the tunnel. Highways England acknowledges English Heritage Trust's concerns regarding the tunnel restriction areas and is undertaking further work to provide details of the type of restrictions required. Highways England will continue to engage with English Heritage Trust on this issue.

Key Issue

28.5.12 **Ownership of old A303: EHT understands that part of the 'old' A303 will be owned by HE and maintained by Wiltshire Council. EHT seeks assurances that, if this land subsequently falls into private ownership, EHT would have the right to own the land adjacent to our property.**

Highways England response

28.5.13 Existing highway is proposed to be acquired under the powers granted within the DCO. This land would then be vested within the ownership of Highways England and rights transferred to Wiltshire Council as the local public right of way authority.

28.5.14 The frontage interest of English Heritage Trust would be acquired through this process with suitable compensation agreed.

28.5.15 In respect of the stopped up part of the existing A303 which is not required in connection with the new restricted byway the *ad medium filum* presumption would apply and it would be open to English Heritage to assert its ownership of that land.

28.5.16 While Highways England would seek to acquire the minimum land necessary to deliver the Scheme, should land be acquired that proves surplus to requirements it would be disposed of in accordance with the Crichel Down Rules, which require land to be offered for re-sale back to the original owner before being placed on the open market.

28.6 Draft Development Consent Order

Key Issue

28.6.1 **EHT seeks provisions to be made within the DCO, to ensure HE (and its contractors) work with and consult EHT in a meaningful way through the entire life of the project, particularly the tender design stage, to ensure the final design and delivery of the scheme is well designed and located sensitively.**

Highways England response

28.6.2 Highways England welcomes further engagement with English Heritage Trust with regards to the detailed design. Highways England has updated the OEMP to be submitted at Deadline 3. The updated OEMP includes

additional design commitments, design principles to guide the development of the detailed design and a robust stakeholder consultation mechanism to seek heritage stakeholder's views on aspects of the detailed design within the World Heritage Site.

28.7 Health and wellbeing

Key Issue

- 28.7.1 **Concerned regarding impact of construction on tranquillity and enjoyment of the WHS giving a negative visitor experience.**
- 28.7.2 **EHT seeks assurances from HE that they will mitigate this potential negative impact on our visitors and financial impact on EHT.**

Highways England response

- 28.7.3 Environmental Statement Appendix 2.2 - Outline Environmental Management Plan (OEMP) [APP-187] contains the mitigation measures that would form part of the main works contractor's construction environmental management plans. This includes measures to reduce the visual impact associated with construction works, such as compound and lighting measures (items MW-G28 and MW-G29 of the OEMP [APP-187]); fencing within the World Heritage Site (WHS) to be agreed in consultation with Heritage Monitoring and Advisory Group (HMAG) (which includes the English Heritage Trust) (item MW-CH3 of the OEMP [APP-187]); the retention of trees / hedgerows and the early planting of the landscaping scheme, where practicable, to assist in landscape integration and screening (items MW-LAN3 and MW-LAN4 of the OEMP [APP-187]); community engagement specifically with the Visitor Centre and notifications to local businesses and residents about upcoming works (item MW-G31); and traffic management (requirement 9 of the draft development consent order [REP2-003] and item MW-TRA2 of the OEMP).
- 28.7.4 The use of a bored tunnel will also remove construction of the dual carriageway from the central part of the WHS past Stonehenge; the only visible construction works in this section being the downgrading of the existing A303 to a Non- Motorised User (NMU) route and chalk grassland. Temporary fencing requirements for these short-duration downgrading works along the existing A303 will be confirmed in consultation with HMAG. These measures will help to minimise impacts to the attractiveness of the site as a tourist attraction during the construction programme.
- 28.7.5 Construction dust and any potentially negative impacts will be managed through the Outline Environmental Management Plan (OEMP) [APP-187]. Specifically, dust will be managed using standard good practice mitigation measures (MW-AIR1).
- 28.7.6 Detailed steps are therefore already committed to in order to mitigate any potential negative impact on visitors, moreover the Applicant's Statement of

Common Ground explains that matters relating to visitor operations are being discussed between parties.

- 28.7.7 Those discussions centre on communication being maintained and that all seek to proactively mitigate through forward planning and cooperation to make the best of the opportunities and approach to positive management of information to create interest in the progress and benefits the project can bring as part of the visitor information program and experience. Highways England will continue to engage on how this is best managed to seek to avoid, manage and mitigate against any potential compensatable loss.

28.8 Needs and Benefits

Key Issue

- 28.8.1 **Concerned that drivers (particularly tourists to Stonehenge) will be put off travelling to the site due to construction. EHT is in talks with HE about how this can be mitigated.**

Highways England response

- 28.8.2 The response to Written Question Tr.1.45 explained that delays of 2-4 minutes during construction would not be material in the context of journeys along the A303 that vary in duration to a much larger extent.
- 28.8.3 A traffic management plan is required to be developed and implemented pursuant to Requirement 9 of Schedule 2 of the draft development consent order [REP2-003]. As required by the Outline Environmental Management Plan (OEMP) [APP-187], which is secured through Requirement 4 of Schedule 2 of the draft development consent order [REP2-003], this plan would include details of temporary traffic management layouts, signage, and other apparatus as well as access arrangements, and would be developed in consultation with relevant organisations, including the English Heritage Trust (OEMP Ref: MW-TRA2).
- 28.8.4 Confirmation that the English Heritage Trust would be consulted on the development of these elements of the Scheme will be included within an updated Statement of Common Ground between the parties.

Key Issue

- 28.8.5 **Potential for negative impacts for our charitable business during construction - poor air quality, noise and vibration, visual impact and pollution.**
- 28.8.6 **This impact could extend to potential visitors who choose not to visit.**
- 28.8.7 **EHT believes there is a need for a plan to mitigate this and additional monitoring of unintended consequences on the EHT charitable business during the construction phase.**

Highways England response

28.8.8 The impacts referred to are discussed below. It is considered that appropriate measures are in place to manage construction impacts where necessary.

28.8.9 **Socio-Economic impacts**

Environmental statement Chapter 13 - People and Communities [APP-051] assesses the construction phase of the Scheme's effect on businesses, people and communities in respect of disruption arising from: land required temporarily and/or permanently; severance/changes to travel patterns experienced by drivers and non-motorised users; the amenity of local residents and workers; and their health. No significant adverse effects were identified in these assessments.

28.8.10 **Traffic impacts**

With regard to disruption arising directly from traffic, Chapter 7 of the Combined Modelling and Appraisal Report – Appendix C [APP-301] sets out the traffic impacts anticipated during the construction phase. Tables 7-1, 7-2 and 7-3 and paragraphs 7.2.7 to 7.2.13 set out analysis of the changes in journey times and relevant flows on the A303 and surrounding roads by phase of construction. Based on the analysis presented, the predicted results assess that, although there will be traffic related construction impacts potentially resulting in disruption to businesses, people and communities, these will not be significant.

28.8.11 **Noise & vibration impacts**

Both Stonehenge and the Stonehenge Visitor Centre are included as receptors in the construction noise and vibration assessment. Based on the distance between Stonehenge, and the Stonehenge Visitor Centre, and the construction works on the surface, a significant construction noise effect has not been identified at Stonehenge or Stonehenge Visitor Centre, see Table 9.14 in the Noise and Vibration Chapter of the Environmental Statement (ES) [APP-047].

28.8.12 The prediction methodology for vibration from the Tunnel Boring Machine (TBM) follows the tunnelling vibration methodology prescribed in BS 5228:2009 + A1:2014 'Code of Practice for noise and vibration control on construction and open sites'. This methodology is conservative as it is derived from worst case source data for tunnelling in rock using a hydraulic hammer. Source data for TBM works and chalk ground conditions indicates lower levels of vibration are likely to be generated, however as a precautionary approach the BS 5228 tunnelling vibration prediction methodology has been used.

28.8.13 The predicted vibration levels from the TBM at Stonehenge are reported in Table 9.15. Paragraph 9.9.21 reports the impact at Stonehenge as half the Lowest Observable Adverse Effect Level (LOAEL) for annoyance. At levels

below the LOAEL, vibration is not generally perceptible. The Stonehenge Visitor Centre is remote from works which are a potentially significant source of vibration.

28.8.14 Construction noise and vibration mitigation measures are contained in the Outline Environmental Management Plan (OEMP) (a revised version of which is submitted at Deadline 3), compliance with which is secured by Paragraph 4 of Schedule 2 of the draft development consent order [REP2-003]. The OEMP applies throughout the extent of the works and therefore will also benefit visitors. Working hours are controlled in the OEMP by MW-G12 to G16. MW-NOI1 requires the contractor to adopt Best Practicable Means (BPM) to control noise and vibration. As set out in the OEMP a Noise and Vibration Management Plan will be prepared by the contractor appointed to construct the scheme (MW-NOI3), in consultation with Wiltshire Council (MW-G5), which will contain further details on noise and vibration mitigation and monitoring measures. The OEMP also requires the main works contractor to liaise regularly with the Stonehenge Visitor Centre and maintain/update information at the centre to advise visitors of the works taking place (MW-G31).

28.8.15 **Visual impacts**

In respect of impacts to views, a range of representative receptors have been indented within the landscape and visual impact assessment [APP-045] with their locations illustrated on APP-089, 090 and 091.

28.8.16 APP-045 has predicted significant adverse visual effects to receptors (including visitors and tourists) to the Stonehenge and Avebury World Heritage Site during the construction phase as set out in paragraph 7.9.80 seq and Table 7.8 for visual receptors of APP-045.

28.8.17 Measures to aid in reducing the visual impacts to receptors during the construction phase are set out within the Outline Environmental Management Plan (OEMP) [APP-187] General Provisions for Site Management (OEMP page 37 seq.) and are referenced in Table 7.4 of the Landscape and Visual Impact Assessment [APP-045] are secured by OEMP section MWG28 which includes:

“all buildings within compounds shall be restricted to one storey in height and rendered / painted in suitable colours to aid in their integration within the landscape; and hoarding shall be installed around the perimeter of the compounds, stained in suitable approved colours, to aid in its integration within the landscape.”

28.8.18 MW-CH3 states in relation to fencing in the WHS and in the WHS setting that:

“The main works contractor shall consult with HMAG to determine the type of construction boundary fencing to be used within the WHS or within the setting of WHS. The type of fencing will be sympathetic to the setting of the WHS. The main works contractor shall prepare an archaeological Method

Statement, in consultation with HMAG, for the installation of fencing. Any associated archaeological mitigation requirements in accordance with the Detailed Archaeological Mitigation Strategy shall be set out in a SSWSI.”

28.8.19 The OEMP also includes protecting retained vegetation (Table 3.2a PWLAN1), site hoardings around construction compounds (Table 3.2b MWG28) and clearance and re-instatement of sites on completion measures (Table 3.2b MWG30).

28.8.20 These measures within Table 7.4 of APP-045 and the OEMP are considered to reduce the potential adverse impact of the construction phase by reducing the visibility of the elements of the construction activity by their height in the landscape, softening of views by retained vegetation and achieving sympathetic toning to hoardings to aid in their integration in the landscape.

28.8.21 **Air quality impacts**

Air quality at the Stonehenge Visitor Centre is also expected to be good during the construction phase. This is because air quality at the nearest worst case receptor (R79) which is located along the A360 (within 40m) is good and so even better air quality is expected at the Visitor Centre. This is because, as described above, air quality improves with increased distance from roads and the Visitor Centre is an additional 135m from the A360. Full sets of results for the existing baseline situation are presented in Appendix 5.3 of the Air Quality Results Tables [APP-192].

28.8.22 The Visitor Centre is also remote from the main construction works associated with the Scheme route to not be affected by dust effects. However, any construction works that are undertaken in the area along the A360 will still be managed through the OEMP. Specifically, dust will be managed with standard mitigation measures (MW-AIR1).

28.9 **Noise and vibration Effects**

Key Issue

28.9.1 **Noise and Vibration during construction - Further discussions needed to assure this is kept to a minimum. Not only the Stonehenge site but also our property holdings at Stonehenge Cottages which are currently tenanted.**

Highways England response

28.9.2 Both Stonehenge and Stonehenge Cottages are included as receptors in the construction noise and vibration assessment. Based on the distance between both Stonehenge and Stonehenge Cottages, and the construction works on the surface, a significant construction noise effect has not been identified at Stonehenge or Stonehenge Cottages; see Table 9.14 in the Noise and Vibration Chapter of the Environmental Statement (ES) [APP-047].

- 28.9.3 The prediction methodology for vibration from the Tunnel Boring Machine (TBM) follows the tunnelling vibration methodology prescribed in BS 5228:2009 + A1:2014 'Code of Practice for noise and vibration control on construction and open sites'. This methodology is conservative as it is derived from worst case source data for tunnelling in rock using a hydraulic hammer. Source data for TBM works and chalk ground conditions indicates lower levels of vibration are likely to be generated, however as a precautionary approach the BS 5228 tunnelling vibration prediction methodology has been used.
- 28.9.4 The predicted vibration levels at Stonehenge Cottages and Stonehenge are reported in Table 9.15. Paragraph 9.9.20 reports the impact at Stonehenge Cottages as being above the Significant Observable Adverse Effect Level (SOAEL) for annoyance, but well below the onset of cosmetic damage criteria. Paragraph 9.9.21 reports the impact at Stonehenge as half the Lowest Observable Adverse Effect Level (LOAEL) for annoyance. At levels below the LOAEL, vibration is not generally perceptible.
- 28.9.5 The Outline Environmental Management Plan (OEMP) [APP-187] requires the contractor to undertake a vibration scoping appraisal of the works to construct the Scheme (MW-NOI5), and vibration monitoring at Stonehenge and Stonehenge Cottages commencing when the TBM is approaching (MW-NOI6).

Key Issue

- 28.9.6 **Noise and Vibration during construction – The effect on our collections at the Visitor Centre by vibration needs to be understood. EHT want assurances from HE that vibration at the Visitor Centre will not be an issue.**
- 28.9.7 **EHT will require advance warning of works near the Visitor Centre, so they can instigate independent monitoring.**

Highways England response

- 28.9.8 The closest construction works to the Visitor Centre (receptor C15 in the construction assessment detailed in the Noise and Vibration Chapter of the Environmental Statement (ES) [APP-047]) are associated with the realignment of the A360 and are approximately 500m away. The distance to the closest approach of the Tunnel Boring Machine (TBM) is over 1.4km. At these separation distances the level of vibration generated by construction works will not be perceptible. The Outline Environmental Management Plan (OEMP) [APP-187] requires the main works contractor to liaise regularly with the Stonehenge Visitor Centre and maintain/update information at the centre to advise visitors of the works taking place (MW-G31). Compliance with the OEMP is secured by the requirement contained in paragraph 4 of Schedule 2 to the draft development consent order [REP2-003].

28.10 Socio-economic effects

Key Issue

- 28.10.1 **Clarification on impacts on access to the EHT Visitor Centre and monument during construction and after including a signage strategy.**

Highways England response

- 28.10.2 A traffic management plan is required to be approved and implemented pursuant to paragraph 9 of Schedule 2 of the draft development consent order [REP2-003]. As required by the Outline Environmental Management Plan (OEMP) (a revised version of which is submitted at Deadline 3), which is secured through paragraph 4 of schedule 2 of the draft development consent order [REP2-003], the main works contractor would prepare and implement a detailed Traffic Management Plan (TMP), which would include details of temporary construction signage and access arrangements, in consultation with relevant organisations (MW-TRA2).
- 28.10.3 A detailed signage strategy would be developed during the detailed design stage. It would include clear signing from the A303 directing traffic to use the Longbarrow junction for access to the Stonehenge Visitor Centre. This would be developed in consultation with the English Heritage Trust.

Key Issue

- 28.10.4 **Water Quality: EHT seeks assurance from HE that the road scheme will not interfere with the running of the Visitor Centre and that the hydrology would not be affected.**

Highways England response

- 28.10.5 Highways England, as the Scheme promoter, is responsible for ensuring that groundwater resources including the supply and quality of water are protected during the construction and operation of the Scheme. As set out in ES Chapter 11, Road Drainage and the Water Environment [APP-049], Section 11.9, the assessment shows no significant changes to hydrology, private water supply, surface water quality or groundwater quality (water supply) during either the construction or operational phases of the Scheme. Highways England has been and will continue to work with Wessex Water and other statutory utility providers as required.

28.11 Traffic and Transport

Key Issue

- 28.11.1 EHT remains opposed to any link between the byways (AMES Byway 11 and AMES Byway 12).
- 28.11.2 EHT asks the Examining Authority (ExA) to consider that restricting vehicular access on BOATs 11 and 12 would be a DCO provision relating to matters ancillary to the development or, alternatively, within the scope of the scheme itself and a justified provision for the Secretary of State to include in the DCO.

Highways England response

- 28.11.3 As illustrated on Sheets 6 and 7 of the Rights of Way and Access Plans [APP-009] and as identified in Schedule 3 of the draft development consent order [REP2-003] reference J, the Scheme does not promote a motorised link between the byways (AMES Byway11 and AMES Byway12).
- 28.11.4 Changing the status of the existing BOATs is beyond the scope of the Scheme and is a matter for Wiltshire Council to consider as the local highway authority.

29 Robin Parsons (REP2-175)

29.1 Alternatives

Key Issue

29.1.1 Alternative Proposal

If an additional bridge crossing were to be built on or opposite Route 35 at the western end of the project; the old A303, west of the road junction to Berwick St James, could then be restricted to only agricultural access, Scotland Lodge access and a footpath. Therefore, giving more achievable control of the old A303, and a far less cost to the local community and future policing. This would also provide more options to beautify the old A303.

29.1.2 **ROUTE 07 (Restricted byway and private means of access road) to GREEN BRIDGE ONE will no longer be necessary. As will ROUTE 02 not be required which would be a cost saving. More chance of GREEN BRIDGE ONE achieving its objectives in its correct location.**

29.1.3 **Footpath users and restricted by way users will have less distance added to their journey and agricultural access would be more direct.**

29.1.4 **I acknowledge that there are increased costs in building the additional bridge but that the cost savings are also there to be had by not having to build ROUTE 02 and 07 and by reducing the amount of land needing to be purchased. There is also then the ability to reduce the size of the structure of GREEN BRIDGE ONE if it is 'only' a Green Bridge. I am sure with these savings the additional bridge could be cost neutral and would lead to a better future proof design. Highways England should be examined to ascertain if any alternatives to GREEN BRIDGE ONE have been considered.**

Highways England response

29.1.5 The reference to route numbers is taken from the evolving landowner Accommodation Works plans, which are currently under discussion between the relevant parties. Route 35 equates to Reference C on Sheet 2 of the Rights of Way and Access Plans [APP-009], whilst Routes 2 and 7 equate to Reference B on Sheets 1 - 3.

29.1.6 Green Bridge No.1 has to be where it is positioned because it is providing ecological connectivity with Parsonage Down SSSI for species of chalk grassland, it provides potential connectivity for bats, it is serving agricultural access in this location, as well as accommodating a new public right of way. Details can be found in section 8.8 in ES Chapter 8, Biodiversity [APP-046].

29.1.7 A crossing facility has been considered at the existing track/bridleway BSJA3A to be converted to Byway Open to All Traffic (Reference C as above). The option to leave the existing crossing in place is not acceptable

to Highways England on operational and safety grounds. Two alternatives were identified, an overbridge and an underpass. Both options would require significant earthworks to be constructed within the fields north and south of A303, and would require an ecological corridor to be created across the field between the A303 and Parsonage Down reserve, removing productive agricultural land.

- 29.1.8 An overbridge at the proposed location would not provide the same ecology benefits provided by Green Bridge No. 1 as the connection would be lost between the area to the south of A303 and 03-01 on Sheet 3 of the Land Plans [APP-005]. This plot is to be acquired for essential mitigation to create species-rich chalk grassland. A bridge would also create significant visual intrusion on the sky line and a negative impact on the setting of nearby Yarnbury Castle and would not meet wider policy tests and was therefore discounted.
- 29.1.9 A Private Means of Access would be required along Reference B (Route 2) on Sheets 1 – 3 of the Rights of Way and Access Plans if Green Bridge No. 1 was moved west.

29.2 Design

Key Issue

- 29.2.1 **I have attended meetings over the last three years with the Highways England Design team and they have made it clear that they do not wish to build an additional bridge at the western end of the project for an existing restricted Byway and agricultural crossing of the new A303. This has resulted in a design mess around GREEN BRIDGE ONE and Highways England should be examined on their decision making process in connection with this Green Bridge.**
- 29.2.2 **The proposed design leaves my remaining land surrounded by public access where there was none before. The massive increase in public access restricted or not will mean policing and monitoring nightmares for decades to come for all surrounding land owners and residents. This area will be under severe pressure during the Solstice's because the area immediately around Stonehenge will be shut down forcing even more pressure onto these new proposed Byways.**

Highways England response

- 29.2.3 The green bridges on the Scheme perform a number of functions, including: providing agricultural access, linking and maintaining public rights of way; and providing ecological connectivity. The locations of the green bridges strike a balance that meets the needs of these functions. Green Bridge No. 1 has to be where it is positioned because it would provide ecological connectivity with Parsonage Down SSSI for species of chalk grassland, provide potential connectivity for bats, serve agricultural access in this

location, as well as accommodating a new public right of way. Details can be found in section 8.8 in ES Chapter 8, Biodiversity [APP-046].

- 29.2.4 The management and enforcement of access across the WHS is a matter for Wiltshire Council (as the highways authority with responsibility for the public rights of way), as well as landowners, including the National Trust and English Heritage. Fences along public rights of way would be provided to prevent access onto private land, grazed grassland or the highway. Public access to bridleways would be controlled by equestrian gates which are too narrow for most vehicles to use. Public access to restricted byways would be controlled by Kent carriage gaps which are designed to prevent entry by vehicles.
- 29.2.5 The detail of the fencing and gating strategy for the PRowWs will follow at the detailed design stage if development consent for the Scheme is granted. At this stage it is envisaged that fences along public rights of way would be provided to prevent access onto private land, grazed grassland or the highway, or to provide a buffer zone to the retained cutting between Longbarrow junction and the western tunnel entrance.
- 29.2.6 Where necessary for adjacent land use, appropriate stock-proof netting would be added to strained wire or other fence by way of accommodation works, agreed between Highways England and the adjacent landowner. Indicative details are available in Series 3 of the Highway Construction Details, Manual of Contract Documents for Highway Works. Some of these details may be modified within the World Heritage Site.
- 29.2.7 More information on our proposals on these matters is set out in the PRowW clarifications note submitted at Deadline 2 [REP2-040].
- 29.2.8 The land parcel referred to is approximately 5km (3 miles) from Stonehenge and 4km (2½ miles) from the Stonehenge Visitor Centre. This area is thus unlikely to attract parking during Solstice and other events focussed on Stonehenge.

Key Issue

- 29.2.9 **The use of GREEN BRIDGE ONE in conjunction with a restricted Byway and agricultural access is a contradiction and reduces the effectiveness of its purpose. The proposed positioning of this green bridge is wrong and can be seen by the need for new hedge line plantings to and away from it. The green bridge should be on the same line as the existing fence line or land boundary.**

Highways England response

- 29.2.10 The ecological impact assessment, reported in ES Chapter 8, Biodiversity [APP-046], has concluded that the provision of greater ecological connectivity will result in a beneficial effect for biodiversity. This is in accordance with the recent project by Natural England 'Porton to the Plains'

which emphasises the importance of connectivity between existing sites of value for nature conservation and especially connectivity of areas of chalk grassland. The broad green bridges will enable a wide range of species to cross the Scheme by day and at night, including butterflies and other invertebrates of chalk grassland, birds and mammals, as well as allowing spread of plants by seed. Green Bridges Nos. 1 to 3 are envisaged to have bunds on both sides, which will provide shelter on the bridges to aid crossing by butterflies and bats, as well as providing some separation of the habitats from the public paths. The precise form of the landscaping on the green bridges will be confirmed as part of the Scheme's detailed design, if development consent is granted.

- 29.2.11 Requirement 8 of the draft development consent order [REP2-003] requires Highways England to obtain the Secretary of State's approval of a landscaping scheme, following consultation with the local planning authority, for each part of the Scheme before it is commenced.
- 29.2.12 Green Bridge No. 1 has to be where it is positioned because it would provide ecological connectivity with Parsonage Down SSSI for species of chalk grassland, provide potential connectivity for bats, serve agricultural access in this location, as well as accommodate a new public right of way. Details can be found in section 8.8 in ES Chapter 8, Biodiversity [APP-046].
- 29.2.13 The new hedge lines are part of the measures to ensure the effectiveness of the green bridges (e.g. the provision of habitat heterogeneity across the bridges that will provide a range of micro-climates to facilitate dispersal of fauna and flora) would be considered and reflected in both a scheme-wide Landscape and Ecology Management Plan (must be prepared as required in the OEMP [APP-187], MW-LAN1), as well as the detailed landscaping scheme required by the draft development consent order landscaping requirement. Furthermore, the false cuttings, embankments, fencing and landscape planting are likely to deter individual species from crossing the A303 at unsafe places or heights (ES Chapter 8 Biodiversity, paragraphs 8.9.2178.9.227-228, 8.9.232, 8.9.234) [APP-046]. The combination of these measures would provide suitable mitigation for the identified biodiversity receptors within this location, including bats.

29.3 Draft Development Consent Order

Key Issue

- 29.3.1 **At no time over the past three years during the 'consultation period' with myself as a land owner have any alternative designs ever been presented. The design team have simply presented their design piece-meal as a 'fait accompli' as we have gone along.**
- 29.3.2 **At my last meeting with Highways England I was presented with their latest updates of plans and was horrified to see the old A303 west of the Berwick St James road junction is to be left open to all traffic**

Highways England response

- 29.3.3 Discussions are ongoing with landowners and their representatives regarding individual landowner requirements. Any agreements on these, and how they will be managed, will be defined within Position Statements.
- 29.3.4 As detailed in Highways England's response to the Examining Authority's Written Question Tr.1.22 [REP2-036], landowner meetings have been held with Mr Parsons and will continue as the Scheme progresses to ensure that individual requirements are understood and met wherever possible.
- 29.3.5 The Scheme was the subject of extensive consultation both in relation to the selection of the preferred route and in terms of consultation and supplementary consultation on the proposals that are the subject of the application for development consent. In addition to the formal consultations, regular meetings and updates have taken place with stakeholders including Wiltshire Council and Winterbourne Stoke Parish Council, landowners, occupiers and asset owners. A Walking, Cycling and Horse-Riding Workshop was held for interested stakeholders on 24 July 2018. All views expressed have been considered in the development of the Scheme as explained in the Consultation Report [APP-026].

29.4 Traffic and Transport

Key Issue

- 29.4.1 **As the naive design currently stands allowing the old A303 immediately west of the road to Berwick St James, to become a Byway which would be open to all traffic, a restricted byway, and private means of access, it would mean this quickly becomes an area permanently fighting fly-tipping, travelling encampments and many other undesirable activities. This will have a considerably detrimental effect for local residents and a negative effect on land and property values in the immediate area, and both Winterbourne Stoke and Berwick St James.**

Highways England response

- 29.4.2 The management and enforcement of access on public rights of way is a matter for Wiltshire Council. Fences along public rights of way would be provided to prevent access onto private land, grazed grassland or the highway – details of which in respect of private land will be discussed with landowners pursuant to item MW-COM3 of the OEMP. Public access to restricted byways will be controlled by Kent carriage gaps which are designed to prevent entry by vehicles. This will be developed in consultation with Wiltshire Council, pursuant to item D-CH-14 of the OEMP. More information on our proposals on these matters is set out in the PRoW clarifications note submitted at Deadline 2 [REP2-040].

Key Issue

- 29.4.3 **It is of some considerable concern to me that so much time and money is being concentrated on the centre of this project around the Stones and the tunnels, but not enough time and consideration is being spent on the details of the outlying areas of the scheme.**
- 29.4.4 **Camping on the byways around Stonehenge has been an issue for many years and with English Heritage's desire to make the Stones even more commercial they will be keen to reduce the visual impact of these campers.**
- 29.4.5 **If the plan for the old disused part of the A303 west of Winterbourne Stoke is not thoroughly thought through, we will have successfully recreated the problem unnecessarily just further down the road.**
- 29.4.6 **For decades Winterbourne Stoke has been blighted by the A303, the bypass will come as a great relief but these bad proposals in the detail will leave it with a 'bad taste in its mouth' for decades to come.**

Highways England response

- 29.4.7 The Scheme was the subject of extensive consultation both in relation to the selection of the preferred route and in terms of consultation and supplementary consultation on the proposals that are the subject of the application for development consent.
- 29.4.8 The management and enforcement of access across the WHS is a matter for Wiltshire Council (as the highways authority with responsibility for the public rights of way), as well as landowners, including the National Trust and English Heritage. Fences along public rights of way would be provided to prevent access onto private land, grazed grassland or the highway. Public access to bridleways would be controlled by equestrian gates which are too narrow for most vehicles to use. Public access to restricted byways would be controlled by Kent carriage gaps which are designed to prevent entry by vehicles.

30 Royal Society for the Protection of Birds (REP-125)

30.1 Biodiversity, ecology and biodiversity

Key Issue

30.1.1 Environmental Statement Appendix 8.25 (ES app 8.25) Habitats Regulation Assessment: Statement to Inform Appropriate Assessment (AA), section 3.3, paragraph 3.3.3 describes the three impact pathways for which Likely Significant Effect could not be dismissed, and hence subject to AA, these are copied below:

28. Direct loss of a successful stone curlew breeding plot immediately south of Parsonage Down which will lie within the scheme boundary in the area for the Winterbourne Stoke bypass and will therefore be lost during construction. Although this plot is outside the SPA it is used by the same population of stone curlew that nest within the SPA and a net reduction in the number of successful stone curlew plots will result in a net reduction in breeding opportunities for the species, which could affect the ability of Salisbury Plain SPA to achieve its conservation objectives.
29. Construction activity/personnel disturbance of breeding stone curlew using the breeding plot at Parsonage Down prior to its removal.
30. The operation of the A303 may facilitate recreational disturbance of stone curlew at Normanton Down. The placement of the A303 in tunnel at this location will open up the area to recreational activity, potentially resulting in recreational users on the footpath through Normanton Down crossing the fence-line and disturbing the stone curlew plots.

Accordingly, RSPB concurs with this assessment.

Highways England response

30.1.2 Noted and agreed.

Key Issue

30.1.3 Section 5.3 of the ES app 8.25 describes the in-combination effects of recreational disturbance in relation to the potential adverse impact on stone-curlews nesting on the RSPB Normanton Down Reserve. The issue being that there is a reasonable expectation that the removal of the A303 as a barrier to foot traffic will result in increased usage of byways 11 & 12 adjacent to the reserve for both visitors to the Stonehenge monument and the local population. The consequence of

an increase being potential adverse impact on nesting stone-curlew on the reserve and consequently the Salisbury Plain SPA.

- 30.1.4 **Contrary to the statement that agreement has been reached with the RSPB (para. 5.3.6) that provision of an additional plot at the RSPB Winterbourne Downs Reserve 'would ensure no adverse effect on the integrity...of the SPA', RSPB has not agreed this and do not accept this as appropriate mitigation to adequately address the potential impacts. Our position is that provision for suitable replacement nesting habitat within the Stonehenge World Heritage Site should be made under legally binding agreement to be implemented should adverse impact be shown in the future.**
- 30.1.5 **Discussions regarding the provision of a stone-curlew plot at the RSPB Winterbourne Downs Reserve were conducted on the understanding that such provision would be by way of 'net gain', hence contributing to this as a stated objective of the scheme. This is, in fact, clearly reflected as stated in the Environmental Statement paragraph 8.9.30.**

Highways England response

- 30.1.6 As detailed within paragraph 5.3.3 of the Habitat Regulations Assessment: Statement to Inform Appropriate Assessment (SIAA) [APP-266], the boundaries of the RSPB reserve are currently fenced, with signs to discourage people from entering the reserve in periods when there is potential to disturb breeding pairs.
- 30.1.7 The SIAA concludes that there may not be any direct link between the number of people using the byways and the frequency of stone curlew disturbance events (a light, noise or visual cue that is of a magnitude to disrupt a bird's activities). It is likely that the most disturbing activities for stone curlew are associated with illegal trespassing and the majority of the existing and future users would remain on the PRow.
- 30.1.8 As set out in the SIAA, the provision of a stone curlew plot at Winterbourne Down RSPB Reserve is considered a measure which would improve the resilience of the stone curlew population.
- 30.1.9 Highways England has noted the comments made by RSPB and, whilst it stands behind the contents of the SIAA, will continue discussions with RSPB (and Natural England) with a view to reaching agreement on this issue before the end of the examination.

Key Issue

- 30.1.10 **Our position remains as follows; that an acceptable scheme for monitoring and mitigation in the event of adverse impact on breeding stone-curlews being demonstrated [via impact pathway 3] at the RSPB Normanton Downs Reserve, and hence the Salisbury Plain SPA must include:**

31. **Enhanced fencing of the RSPB Normanton Down Reserve to deter trespass onto the reserve.**
32. **A mechanism to quantify the number of people using the byways for comparison to the current state**
33. **Continued monitoring of stone-curlew nesting on the Reserve**
34. **An agreed threshold of impact derived through correlation of lack of nesting and volume of foot traffic on byways 11 & 12**
35. **An agreed legally binding agreement with a landowner within the Stonehenge World Heritage Site for the provision of a replacement nesting plot should adverse impact be demonstrated.**

Highways England response

- 30.1.11 As set out above, whilst Highways England stands behind the contents of the Habitat Regulation Assessment: Statement to Inform Appropriate Assessment (SIAA) [APP-266], it has noted the comments made by RSPB and will continue discussions with it (and Natural England) with a view to reaching agreement on this issue before the end of the examination.
- 30.1.12 Traffic forecasts presented in Section 5 of the Transport Assessment [APP-297] have been prepared in accordance with the DfT WebTAG guidance and include in Section 5.4 consideration of forecasting uncertainty.
- 30.1.13 In preparing national road traffic forecasts, the DfT have undertaken research into forecasting uncertainty. Guidance in force for traffic forecasting transport schemes does not reflect this research. The work undertaken by DfT indicates that in the longer term traffic forecasts could be both higher or lower than the range currently assessed.
- 30.1.14 In accordance with current guidance (WebTAG M4) we have taken a suitable approach to the range of conditions that might arise for the projected project period in accordance with Government guidance and policy, which must be taken into account in the examination and decision making in the Planning Act 2008 consenting process.

31 Travelodge Hotels Limited (REP2-144)

31.1 General and cross-topic

Key Issue

- 31.1.1 **No surveys or studies have taken place on the site and therefore it is difficult to conceive how the applicant has had any regard to the impact the proposed scheme will have on the enjoyment and use of Travelodge's site.**

Highways England response

- 31.1.2 The responses below explain, in summarised form, how Highways England has assessed the impacts of the Scheme on Travelodge Hotels Limited's land interest.

31.2 Air quality and emissions/Noise and Vibration Effects

Key Issue

- 31.2.1 **Travelodge are concerned about how the interaction between construction vehicles (HGV's etc) and its customers all of whom will share the same access point during the construction of the scheme. There is no consideration of public safety and management of what will be a pinch point with traffic backing up onto the Countess Roundabout.**

Highways England response

- 31.2.2 Details of the construction compounds are provided in ES Chapter 2 [APP-040], with the locations shown on the General Arrangement Drawings [APP-012] and indicative layouts shown in ES Figure 2.7 [APP-061].
- 31.2.3 ES Chapter 9, Noise and Vibration [APP-047], sets out the assessment of potential construction noise and vibration impacts, including from proposed construction compounds and associated activities. Table 9-14 details the predicted noise level at the Travelodge during the daytime. The impact on the Travelodge is summarised in paragraph 9.9.7. There are no routine night-time works which will take place in the vicinity of Countess roundabout and therefore the impact on the receptor (as a hotel) is classed as not significant.
- 31.2.4 Construction noise and vibration mitigation measures are set out in the Outline Environmental Management Plan (OEMP) [APP-187], (a revised version of which is submitted at Deadline 3) including, the requirement for the contractor to apply Best Practicable Means (BPM) to minimise noise and vibration (PW-NOI1, MN-NOI1), to develop specific proposals for localised screening and to produce a Construction Noise and Vibration Management Plan (PW-NOI3, MW-NOI3). The measures secured in the OEMP would contribute to minimising the effect on the Travelodge from construction noise

and vibration. The obligation to comply with the OEMP is a legal obligation, secured under paragraph 4 of schedule 2 in the draft development consent order [REP2-003].

- 31.2.5 In terms of air quality, the Travelodge was identified as a specific receptor located within 200m of the Countess Interchange satellite compound and therefore appropriate mitigation measures will be followed as detailed in the OEMP in MW-AIR1 and MW-AIR2.
- 31.2.6 The potential impacts associated with construction traffic, including air quality impacts, would be mitigated through the implementation of measures in the OEMP relating to the control of dust and fumes from the movement of construction traffic on roads. The OEMP is secured by requirement 4 of the draft development consent order [REP2-003].

Key Issue

- 31.2.7 **The comments above also apply to the proposed construction of the Countess Roundabout Flyover where there is likely to be significant noise generating activities. Again there are no proposals shown in the Environmental Statement or other documents forming part of the applicant's submission showing other airborne noise, dust and fumes will be mitigated during the construction period.**

Highways England response

- 31.2.8 As part of the EIA process, an Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) has been prepared that sets out general and topic-specific principles and requirements for the control, mitigation and monitoring of potential construction impacts, including stipulating the use of low noise and low vibration construction methods and dust management and suppression techniques for minimising impacts on receptors. This includes receptors in the vicinity of works for the Countess flyover but not limited to, Countess Farm and Travelodge (see PW-NOI1, PW-NOI3, PW-NOI4, PW-NOI5, MW-NOI1, MW-NOI3, MW-NOI4, MW-NOI5, and MW-NOI6, and PW-AIR1 and MW-AIR1 in the OEMP). Highways England's appointed contractor will be required to develop, in consultation with Wiltshire Council, and implement a detailed Construction Environmental Management Plan (CEMP) based on, and incorporating the relevant requirements of, the OEMP. The OEMP's control, mitigation and monitoring requirements (including in relation to the use/operation of construction compounds) have underpinned the assessments of effects for all environmental topics presented in the Environmental Statement. The OEMP will be secured under paragraph 4 of schedule 2 of the draft development consent order [REP2-003].

31.3 Design

Key Issue

- 31.3.1 Also the new A303 will be on an elevated section in this location on a free flowing section. The current arrangement is an at grade road which is controlled by the Countess Roundabout and traffic lights. There is a serious concern regarding operational noise from vehicles using the new elevated carriageway which will be on the same level as hotel bedroom windows. There are no proposals for noise barriers or other mitigating measures which may help to counter the increase in operational noise

Highways England response

- 31.3.2 At Countess Flyover, the scheme design includes provision for 1.8m absorptive noise barriers. The requirement to provide the noise barriers is set out in D-NOI2 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). Compliance with the OEMP is secured under paragraph 4 of schedule 2 of the draft development consent order [REP2-003].
- 31.3.3 With the noise barriers on the flyover in place, and other operational traffic noise mitigation measures, such as the use of a thin surfacing system which results in lower levels of noise generation than a standard hot rolled asphalt surface, the magnitude of the worst case increase in traffic noise levels at the Travelodge is classed as minor. This is confirmed in general terms in Chapter 9, paragraph 9.9.40 of the Environmental Statement [APP-047].

31.4 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

- 31.4.1 It is understood there is a requirement to divert a high voltage electricity line within land occupied by Travelodge together with a requirement to divert a water main. Both are required to provide services to the proposed tunnel.
- 31.4.2 In addition rights are required to provide a means of access to the proposed works compound situated to the north east of the site.
- 31.4.3 On the basis part of the site is required to provide a means of access to a works compound there is no justification for the excessive use of CPO powers to acquire a permanent right over that part of the site only required for temporary access. There are temporary possession powers within the draft DCO which are adequate for this requirement.

Highways England response

- 31.4.4 Travelodge Hotels Limited is the tenant or lessee of plot 09-14 as shown on the Land Plans [APP-005] and described in the Book of Reference [APP-025]. Plot 09-14 is shown in blue on the Land Plans denoting that the Applicant seeks the compulsory acquisition of rights over this plot. The purposes for which those rights could be acquired, if the DCO is made are set out in Schedule 4:
- "the installation, use, protection and maintenance of, and access to, statutory undertakers' apparatus (for the benefit of the relevant statutory undertaker and its undertaking; and for the benefit of the undertaker and the authorised development)".*
- 31.4.5 The permanent rights sought are required for statutory undertakers' apparatus, its installation, protection, maintenance and access to that apparatus. The rights are required for a high voltage electricity line and for a Wessex Water high capacity route to provide high capacity water supply to the fixed firefighting system within the tunnel, a domestic supply to the tunnel portal buildings and a temporary supply to the compound. The residing ownership of the new pipeline is yet to be determined.
- 31.4.6 The Applicant also seeks powers of temporary possession for the purposes of carrying out the authorised development in accordance with article 29 of the draft development consent order [REP2-003].
- 31.4.7 Temporary possession under article 29 would not constitute compulsory acquisition as the land is required to be returned to the owner and occupier at the end of the period of possession. It is through this temporary power that the Applicant would carry out the construction of the utilities works and obtain access.

Key Issue

- 31.4.8 **In addition it is not necessary for the applicant to acquire permanent rights for utility diversions. It is possible and reasonable to have temporary possession rights to install or divert any utilities necessary for the scheme and then for the relevant statutory utility to issue its own Deed of Grant to reflect any new or diverted apparatus belonging to them.**

Highways England response

- 31.4.9 Compulsory acquisition powers are required to ensure that the necessary permanent rights and protections for the utilities can be acquired in the event that it is not possible to agree a deed of grant with the landowner on a voluntary basis. The Applicant is seeking to negotiate the necessary rights on a voluntary basis and a summary of those negotiations was included in Annex B to the Statement of Reasons [APP-023], which has been produced as a standalone document Land Acquisition and Temporary Possession Negotiations Schedule [AS-011], updated at Deadline 2 [REP2-041] and which will be further updated for deadline 3.

Key Issue

- 31.4.10 **From the Land Plans it is understood the Applicant is intending to occupy plot 09-14 as a means of access to the satellite compound beyond. This area of the site is currently used by Travelodge and its customers for parking including overnight parking for patrons using the hotel. In addition it is an area used as dedicated HGV parking to avoid congestion elsewhere on the site. The loss of this car parking area without replacement will be detrimental to the use and enjoyment of the site.**

Highways England response

- 31.4.11 Highways England requires this land temporarily for access to the satellite site compound proposed to the north east, and for the acquisition of permanent rights in respect of utilities. No permanent loss of parking facilities is anticipated and disruption would be minimised so far as is practicable in accordance with the measures in the OEMP, in particular MW-COM1 and MW-COM3. Once temporary possession has ceased article 29 of the draft development consent order [REP2-003] requires Highways England to restore the land to the reasonable satisfaction of the landowner. Highways England will continue negotiations with Travelodge Hotels Limited, with a view to agreeing temporary use of the site, and the permanent acquisition of rights, on a voluntary basis.

Key Issue

- 31.4.12 **It is understood there are proposals to divert utilities through the site. No discussions have taken place with Travelodge to help inform the most appropriate location of any underground apparatus having regard to how Travelodge and their tenant's use the site. The applicant should be aware of the presence of underground fuel tanks on the site and should also demonstrate how they are considering the potential impact the installation of underground utilities will have on trade together with concerns regarding access for public, staff members and deliveries which need to be maintained at all times.**

Highways England response

- 31.4.13 The extent of these works will be finalised in detailed design in liaison with the statutory undertakers and Travelodge. SEN are currently investigating the capacity of their network in the area to see if the amount of works in this area can be reduced. Highways England will continue to negotiate with the landowner in respect of the rights required, and liaise with the landowner and occupiers in respect of the details of these works, taking account of the communication and notification processes set out in the draft development consent order [REP2-003], and the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).

Key Issue

- 31.4.14 **To date there has been limited discussions held between the applicant and Travelodge's agent save for one meeting.**

Highways England response

- 31.4.15 Meeting requests and discussions were sought by the Applicant throughout the land referencing process during 2018, however none took place until Simon Mole was appointed as land agent for Travelodge and a late response to statutory consultation was accepted (29/08/2019).
- 31.4.16 Negotiations will continue throughout the examination, with further meetings due to take place in June. A recent draft of the Position Statement was provided to Travelodge's land agent, responding to key concerns (30/04/2019). Highways England will continue to seek to obtain the rights required through negotiation. A summary of those negotiations was included in Annex B to the Statement of Reasons [APP-023], which has been produced as a standalone document Land Acquisition and Temporary Possession Negotiations Schedule[AS-011], updated at deadline 2 [REP2-041] and which will be further updated for deadline 3.

Key Issue

- 31.4.17 **It is understood the Applicant is not intending to prepare and submit a Statement of Common Ground with Travelodge. We are aware the applicant has prepared a draft Position Statement but this is not being submitted as part of the examination. In addition having reviewed previous drafts it is clear the Position Statement is inaccurate in positions and contains misleading statements.**

Highways England response

- 31.4.18 Highways England will continue to work with the Travelodge on the agreements within the Position Statement to advance the negotiations process.
- 31.4.19 It is intended that a Position Statement, once complete, will become a record of commitments agreed between Highways England and a landowner. Position Statements will not form part of the DCO application documentation, but will be private documents between the relevant parties.

Key Issue

- 31.4.20 **We are aware the applicant has appointed the District Valuer to engage with landowners in advance of the draft DCO. However the District Valuer has not engaged any meaningful discussions or negotiations with Travelodge and their advisors in an attempt to acquire land by agreement. No terms have been issued nor any indication of instructions to proceed with negotiations. Therefore Travelodge believe the Applicant has failed in their duty to negotiate in advance of using**

CPO powers and is in direct conflict with Government Circular advice 06/04.

Highways England response

- 31.4.21 Highways England has engaged with all affected landowners and occupiers with a view to acquiring their land interest by agreement, initially by writing to them to inform them of Highways England's willingness to negotiate to acquire land by agreement for the purposes of the Scheme, and to invite dialogue on this point. A summary of those negotiations was included in Annex B to the Statement of Reasons [APP-023], which has been produced as a standalone document Land Acquisition and Temporary Possession Negotiations Schedule [AS-011], updated at Deadline 2 [REP2-041] and which will be further updated for Deadline 3.
- 31.4.22 Further communication from the Valuations office will be taking place during examination, to all those that did not engage initially and the Applicant will continue negotiate directly with Travelodge with a view to obtaining the rights required by agreement.

31.5 Traffic and Transport

Key Issue

- 31.5.1 **The existing A303 will need to be closed during the construction of the new flyover over the Countess Roundabout. It is not clear how long this section of the A303 will be closed for, what the diversion plans, whether access will be retained for local businesses are and how frequently closures will occur. The site is open 365 days a year and access is required at all times for the public, staff members and deliveries to all tenants on the site.**

Highways England response

- 31.5.2 Appropriate traffic management measures would be put in place to ensure that traffic flows on the existing A303 and other local roads are maintained, whilst allowing safe working at the interface between the existing road network and the Scheme.
- 31.5.3 Appendix 9.1, Technical Note 022 of 7.4 Transport Assessment [APP-297] (Paragraph 2.3) outlines the assumptions for traffic management for Phase 1 of the construction programme when the Countess flyover would be constructed. It is planned that the A303 and A345 would remain open for traffic, other than short (e.g. overnight) periods.
- 31.5.4 Details with regards to diversions routes will be confirmed through a Traffic Management Plan (TMP), which will be developed with reference to the Traffic Management Act 2004 and New Roads and Street Works Act 1991 and will include the requirements for a TMP set out in the Outline

Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) measure MW-TRA2-TRA11.

- 31.5.5 A site access plan will also be developed, as discussed in [APP-187], measure MW-TRA4. A Traffic Control Officer will be appointed to manage the TMP as set out in Table 2.1 in the same document. The contractor will also take reasonable steps to ensure that stakeholders are engaged via a range of means, as outlined in measure MW-G31 and in paragraph (f) of MW-TRA2 of the same document. Measure MW-TRA9 provides for the need to maintain access routes of a suitable standard.

Key Issue

- 31.5.6 **As mentioned in Section 1 above the site enjoys direct access from the eastbound carriageway of the A303 together with roundabout access to the westbound carriageway.**

Highways England response

- 31.5.7 See response above.

Key Issue

- 31.5.8 **It is not clear from the Land Plans, Works Plans and General Arrangement Drawings as to how the site will be accessed from the new road. Clearly the existing access directly from the A303 will be lost as it will be on an elevated section which concerns Travelodge as this will have a detrimental impact on passing trade and numbers of customers using the site. Under the new arrangements it is likely many motorists will bypass the site without realising whereas the current arrangements take motorists directly pass the site via a slip off the A303 having already slowed down at the Countess Roundabout and traffic lights.**

Highways England response

- 31.5.9 The Rights of Way and Access Plans [APP-009], sheet 9, show that the existing service area, where Travelodge is located, will maintain its existing private means of access off the A303 Eastbound on-slip and its existing exit on to the A345 northern approach to Countess junction, which is not shown as being stopped up. Details of signage provision on the A303 and A345 will be established during detailed design, to ensure that drivers are made aware of the service area.

Key Issue

- 31.5.10 **Physical impacts and disruption during construction Travelodge are concerned about the inappropriate use of its private access road from the eastbound carriageway by A303 construction traffic seeking to access the satellite compound situated to the north east of the site.**

Highways England response

- 31.5.11 As much construction traffic movement as possible will be contained within the operational construction site boundaries. Precise details on the movement of construction traffic and the transport of materials have yet to be determined but Highways England's appointed contractor will be required to comply with requirements set by the DCO regarding construction traffic management, which provide that no part of the authorised development is to commence until a Traffic Management Plan (TMP) has been submitted to and approved in writing by the Secretary of State, following consultation with the local highway authority (see draft development consent order Schedule 2, Requirement 9 [REP2-003]). The TMP will include the requirements for a TMP set out in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) as presented in the Environmental Statement Appendix 2.2 [APP-187], (a revised version of which is submitted at Deadline 3) measure MW-TRA2, with includes reference to procedures for informing local communities of all traffic management schemes in advance of the works. The contractor will also take reasonable steps to ensure that stakeholders such as Travelodge are engaged via a range of means, as outlined in measure MW-G31 of the same document and in paragraph (f) of MW-TRA2.
- 31.5.12 A Traffic Control Officer will be appointed to manage the TMP, including the access routes which form part of them, as set out in Table 2.1 in the OEMP.
- 31.5.13 A site access plan and site travel plan will also be developed, as discussed in OEMP measure MW-TRA4 and TRA5, the latter of which indicates that it is anticipated that access for construction traffic will be via special, trunk and main roads.

32 P J Rowland & Sons (Farmers) Limited and Mr C A Rowland (REP2-123 and REP2-178)

32.1 General

Key Issue

- 32.1.1 Of specific concerns to me at the Watergate Farm is the intended operating hours of the site which I understand is to be operational throughout the construction of the scheme and may well be used for material storage as well as the management of the scheme by the appointed contractor.

Highways England response

- 32.1.2 With regard to the Main Works, core working hours (for all works except tunnelling and earthworks) are set out in MW-G12 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) and are 07:00-19:00 Monday to Friday and 07:00-13:00 Saturday.
- 32.1.3 However, the above Main Works core working hours are reduced to site specific working hours of 07:30-18:00 Monday to Friday and 07:30-13:00 Saturday (all year round) for all works within Chainage 3520 to Chainage 4180 and Chainage 11300 to Chainage 12400 i.e. Winterbourne Stoke and Amesbury, as set out in MW-G13 of the OEMP. These working hours have been agreed with Wiltshire Council.
- 32.1.4 Therefore, works at the Countess satellite compound will be limited to the site specific working hours of 07:30-18:00 Monday to Friday and 07:30-13:00 Saturday.
- 32.1.5 The OEMP is secured by Paragraph 4 of Schedule 2 of the draft development consent order [REP2-003].

32.2 Alternatives

Key Issue

- 32.2.1 The site chosen has to be not only fit for the scheme but also fit in and be operated within the environmental constraints imposed by the locality of the River Avon. Highways England do not appear to have considered alternative sites and at present there are no details about exactly what it is the appointed Contractor would wish to install at the compound however, this should not at this stage be outside the regulation of the Development Consent Order and having determined the area for the compound Highways England must have a clear idea as to how they envisage the appointed contractor would operate the compound.

Highways England response

- 32.2.2 The east compound has been positioned to best serve the construction of the Countess flyover. Its location is influenced by a range of factors, considering: proximity to the works, ease of access, local topography, proximity to properties and ecological restrictions associated with the River Avon valley. There is no location in this area where the compound can be sited more conveniently to serve the efficient construction of the eastern end of the Scheme.
- 32.2.3 The potential impacts of the compounds and the activities associated with them will be controlled by measures to limit or avoid dust, noise, spillage and disruption by construction traffic, as set out in the Outline Environmental Management Plan (OEMP), ES Appendix 2.2 [APP-187], which is secured by paragraph 4 of Schedule 2 of the draft development consent order [REP2-003]. The OEMP also includes measures specifically relating to the protection of watercourses and to the River Avon itself. On completion, the construction compounds, and all other temporary facilities, will be removed and the land reinstated, as required by article 29(4) of the draft development consent order, and through the process set out in item MW-COM4 of the OEMP. Once appointed the Scheme's contractor will determine the final layout and associated activities of the construction compounds but will be constricted by any commitments made by Highways England in the draft development consent order, including the mitigation secured through the OEMP.

32.3 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

- 32.3.1 I do however, have concerns about the block 11-09 which appears on the land owner DCO plan TR010025-2.2-026 as Highways England have not provided any evidence or the reasoning as to why about 4 metres of the field that is tenanted that is adjacent to the existing private track needs to be permanently acquired. The present private track extends to about 16.5 metres which does not include any land proposed to be compulsory required from either the Landlords of Ratfyn Farm or Beacon Hill Land. There is therefore sufficient width for the required upgrading to what will be known as the Allington Track to take place without the need to permanently acquire valuable highly productive land. At Annex B a plan showing this is attached from Google Maps including a width measurement between the existing boundaries. Highways England should be examined as to why they require additional land for the purpose of providing a link between Amesbury Road and Allington Track.

Highways England response

- 32.3.2 The acquisition is related to the widening of the highway verges. These powers are sought in the event of an agreement not being possible with the landowner. Highways England will continue to engage and seek agreement, but Highways England is of the firm view that there is a compelling case in the public interest that this land needs to be secured for the Scheme through the use of compulsory acquisition powers.

Key Issue

- 32.3.3 **The existing hedge should be retained as a natural boundary and should be gapped up by Highways England to provide environmental benefit. No justification has been given for the area proposed to be acquired, although the need for the area at the east and west of the proposed Allington link is understood, but not without cost as an access directly to Allington Track is required which has been explained to Highways England on more than one occasion.**

Highways England response

- 32.3.4 The Order land beyond the bounds of the existing private track is required for the construction of the new unclassified road along its alignment. The rights sought over plot 11-10, adjacent to the existing private track, are required in connection with the installation of statutory undertaker's apparatus and not in connection with the maintenance of hedgerows. This is confirmed in Annex A of the Statement of Reasons [APP-023], Table 2.
- 32.3.5 The Applicant does not propose to remove the existing hedgerow.
- 32.3.6 The replacement private means of access are shown on sheet 11 of the Rights of Way and Access Plans [APP-009] at references 38 and 39. Article 10 of the draft development consent order [REP2-003] requires Highways England to make the replacement means of access available, or provide a temporary means of access pending completion of the replacement means of access, before stopping up the existing access.
- 32.3.7 Plans setting out agreed accommodation works are being redrafted following recent discussions regarding this issue.

32.4 Flood risk, groundwater protection, geology and land contamination

Key Issue

- 32.4.1 **Watergate Farm is situated directly to the east of the River Avon and extends to about 165 acres. In order to enhance my freehold property, I have invested large sums of money into the farm by creating coarse fishing lakes which are regularly stocked and have also let out the fishing rights on the River Avon. A very large proportion of the income generated at Watergate Farm is entirely dependent upon the quality of the water within the River Avon which would appear to be at risk of**

being permanently affected by the scheme proposed including the tunnelling and the proposed use of a temporary compound immediately adjacent to the River Avon on land not in my ownership which is east of the Countess Roundabout.

Highways England response

- 32.4.2 As set out in ES Chapter 11, Road Drainage and the Water Environment [APP-049], the assessment shows no significant changes to hydrology, surface water quality or groundwater quality during either the construction or operational phases of the Scheme. During the assessment, there was extensive engagement with the Environment Agency and Wiltshire Council. The extent of agreement with these organisations is recorded in the Statements of Common Ground. Monitoring of boreholes to inform detailed design is on-going. During construction, the contractor will be required to comply with the general and topic-specific principles and requirements for the control, mitigation and monitoring of potential construction impacts, including in relation to the protection of private water supplies, hydrology, land drainage, and sewage disposal from construction compounds set out in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). The OEMP is presented in the ES Appendix 2.2 [APP-187] and is secured through Requirement 4 of Schedule 2 of the draft development consent order [REP2-003]. During operation, the magnitude of impacts from the Scheme's Road Drainage Strategy have been assessed as a moderately beneficial residual effect for water quality in the River Avon as a result of improved treatment and prevention of pollution from road runoff, compared with the current situation. The Environment Agency agree that this benefit is likely to occur. This is recorded in the initial Environment Agency Statement of Common Ground [8.2 Statement of Common Ground - The Environment Agency, issued at Deadline 2] as an “agreed” issue:
- 32.4.3 “It is agreed that through the drainage strategy submitted with the application, the Scheme once constructed has the potential to provide significant betterment in terms of water quality and spillage control when compared to the existing situation. New measures as described in the Road Drainage Strategy, ES Appendix 11.3 [APP-281] (compliance with which is secured pursuant to schedule 2, paragraph 10 of the draft development consent order [REP2-003]), will include systems to isolate any spillages and treatment basins to improve the quality of the runoff so there will be no significant adverse effects on either groundwater or the Rivers Till and Avon. The existing road has minimal pollution control and in places none at all. The Road Drainage Strategy was developed in consultation with Wiltshire Council and the Environment Agency and compliance with it is secured pursuant to schedule 2, paragraph 10 of the draft development consent order [REP2-003].

Key Issue

- 32.4.4 **It is for others with more detailed experience in hydrology issues to contest the methodology and interpretation of the results published by Highways England but those compiling those reports are not those whose livelihoods are entirely dependent on the health of the river and what I have concerns about are the lack of analysis provided by Highways England as to the reasons for wanting to locate the contractor's compound adjacent to the River Avon.**

Highways England response

- 32.4.5 The eastern compound has been positioned to best serve the construction of the Countess flyover. Its location is influenced by a range of factors, considering: proximity to the works, ease of access, local topography, proximity to properties and ecological restrictions associated with the River Avon valley. There is no location in this area where the compound can be sited more conveniently to serve the efficient construction of the eastern end of the Scheme. Further details of the compound can be found in the Case for the Scheme [APP-294].

Key Issue

- 32.4.6 **Moving it or proposing an alternative site away from the River would in my opinion be a far better environmental choice than opting for its present location. I cannot find any references in the application put forward by Highways England as to their reasons for choosing this particular site but the fact that it was used previously when the road was constructed including the new bridge across the Avon is irrelevant.**

Highways England response

- 32.4.7 The eastern compound has been positioned to best serve the construction of the Countess flyover. Its location is influenced by a range of factors, considering: proximity to the works, ease of access, local topography, proximity to properties and ecological restrictions associated with the River Avon valley. There is no location in this area where the compound can be sited more conveniently to serve the efficient construction of the eastern end of the Scheme. Further details of the compound can be found in the Case for the Scheme [APP-294].
- 32.4.8 The potential impacts of the compounds and the activities associated with them will be controlled by mitigation measures to limit or avoid dust, noise, spillage and disruption by construction traffic, as set out in the Outline Environmental Management Plan (OEMP) , ES Appendix 2.2 [APP-187], which is secured by Requirement 4 of Schedule 2 of the draft development consent order [REP2-003]. On completion, the construction compounds, and

all other temporary facilities, will be removed and the land reinstated, as required by article 29(4) of the draft development consent order [REP2-003].

Key Issue

- 32.4.9 **The matter of a potable water supply to the contractor's compound whilst in occupation and for the longer term needs post-construction has also not been addressed adequately but it is believed that Wessex Water will have to install either a new main that may pass through Watergate Farm or run a supply from an existing main and as the establishment of the contractor's compound would probably be one of the first items to be undertaken during the scheme and despite Highways England being asked for the details as to where this will be and when construction of this pipe could be required, there simply has been no response as Wessex Water have yet to fully respond to Highways England and Highways England should be examined about this.**

Highways England response

- 32.4.10 The water supply for the eastern tunnel portal would enter the site through land parcel 09-12 which will have been assessed to determine whether it is suitable for a pipe. Wessex Water have indicated that the water supply demands of the tunnel firefighting system determine that the supply would need to come from the existing Wessex Water main that runs along the western side of the River Avon. This water supply would also provide the potable water to the tunnel control buildings and may also supply the temporary compound.
- 32.4.11 The exact route of the pipeline will be known once Wessex Water and the main works contractor have carried out their detailed designs.

Key Issue

- 32.4.12 **With the compound at the Countess Roundabout proposed where it is and for the period of time it is likely to be occupied it is inevitable that there will be spillage or leakage of potential contaminants on to the ground surface which will leach through to the water course further contaminating the river which already suffers from increasing levels of pollutants including phosphates, a direct consequence of human activity in the area not assisted by the discharge of treated sewage to the river by Wessex Water at Ratfyn Farm. I cannot see where the applicant has made for provision for any major incident or contamination incident which could bring the compound to a complete shut-down which is why this compound I believe is potentially in the incorrect position which is an issue I believe the examining authority should be investigating further as to what safe guards are in place to protect the River Avon.**

Highways England response

- 32.4.13 The ecological impact assessment is reported in ES Chapter 8, Biodiversity [APP-046]. With the mitigation embedded in the Scheme's design, including the twin-deck design of the viaduct spanning the river at a sufficient height to avoid shading impacts, there will be no likely significant adverse effects on ecology of the River Till SSSI. Protection during construction will be afforded by measures contained in the Outline Environmental Management Plan (OEMP) to, for example, control dust (PW-AIR1 and MW-AIR1), contain spillages (PW-WAT1, MW-WAT4, MW-WAT5, MW-WAT7, and MW-WAT15) and protect vegetation within the SSSI from direct impact (D-BIO1). The Scheme is required to be carried out in accordance with the requirements of the OEMP [APP-187] pursuant to paragraph 4 of Schedule 2 of the draft development consent order [REP2-003]. Full details of the assessment in relation to the River Till SSSI are set out in ES Section 8.9.8 – 8.9.19 and, in the context of the whole River Avon SAC, which includes the River Till SSSI, in ES Appendix 8.25, Habitats Regulations Assessment (HRA): Statement to Inform Appropriate Assessment [APP-266], Section A.3.

Key Issue

- 32.4.14 **As a result of the scheme generally Highways England appear to be confident that existing water levels within the River Avon will be unaffected by the tunnelling exercise due to the fact that the tunnelling is taking place below the level of the aquifers however, without all the monitoring details available not only at Blick Mead and at other sites along the proposed route because Highways England have not yet undertaken all of the testing required Highways England should be asked to qualify their statement that the water table will be unaffected.**

Highways England response

- 32.4.15 Groundwater modelling has demonstrated that water levels in the River Avon will be unaffected by tunneling through the aquifer. The Scheme groundwater model draws on the extensive data set of the Environment Agency's Wessex Basin model and has been developed in consultation with the Environment Agency and Wiltshire Council. The outcome of the full groundwater assessment is reported in ES Chapter 11, Road Drainage and the Water Environment [APP-049], Section 11.9, which concludes that there would be no significant adverse effects on groundwater as a result of the Scheme. Ongoing ground investigations and monitoring results are being undertaken and evaluated to inform the detailed design process, in consultation with the Environment Agency and Wiltshire Council.

32.5 Noise and Vibration Effects

Key Issue

- 32.5.1 **Lastly, I have concerns, as the tenant of Ratfyn Farm which includes a clause to reside in Ratfyn Farmhouse, about the inevitable increased noise level from the improved A303 as a result of greater traffic flow over a more constant period and at a higher elevation over the Countess Roundabout.**
- 32.5.2 **The proposals will increase the noise emanating from traffic travelling in a westerly direction as the snarl up at the Countess Roundabout will not exist and therefore, this with a more constant flow of traffic, noise will travel directly towards Ratfyn Farmhouse which is a Grade II listed building, and at present although discussions have been held about the actions that Highways England could take to reduce noise pollution, nothing definitive has been forthcoming.**

Highways England response

- 32.5.3 The predicted likely impact of noise from the operation of the scheme as reported in Chapter 9 of the ES Noise and Vibration [APP-047] results in a negligible increase in traffic noise levels (<1 dB increase in LA10,18h in the short term) at Ratfyn Farm. This is illustrated in Figure 9.4 of the ES [APP-167]. The operational traffic noise predictions include changes in traffic conditions on the A303 due to the Scheme, the impact of the flyover at Countess roundabout and also the mitigation measures incorporated into the Scheme, such as the noise barriers on the Countess flyover and the use of a thin surfacing system which results in lower levels of noise generation than a standard hot rolled asphalt surface. On this basis, a significant operational traffic noise effect is not anticipated in this area.

Key Issue

- 32.5.4 **I would like to see a direction imposed on the applicant that the road surface be of the highest noise reducing composition available.**

Highways England response

- 32.5.5 A thin surfacing system (which generates less noise than a standard hot rolled asphalt surface) will be used on the new A303 dual carriageway and slip roads. This is detailed in the Outline Environmental Management Plan (OEMP), presented in Appendix 2.1 of the ES (OEMP) [APP-187]), secured under Requirement 4 of Schedule 2 within the draft development consent order [REP2-003]. In accordance with the standard UK assessment methodology, such surfaces typically provide a 3 dB reduction in traffic noise at speeds of 75km/hr or more.

Key Issue

- 32.5.6 **In addition, despite the expert's opinion that planting of vegetation and trees have no effect, that trees are planted and having planted my own Willows I can assure the examining authority that they do work as an effective means of mitigating noise pollution. Once again, it will not be the specialists who have to live with the increasing noise and light pollution during and post construction. There will also be environmental benefits of planting vegetation and trees.**

Highways England response

- 32.5.7 As a worst case approach, the operational traffic noise assessment reported in Chapter 9, Noise and Vibration of the Environmental Statement (ES) [APP-047] does not include any potential benefit from vegetation. This is in accordance with the UK standard traffic noise prediction methodology.
- 32.5.8 To aid in the integration of the Scheme into the landscape and to provide visual screening, tree planting is being undertaken within Countess roundabout and between the flyover and the slip-roads where space permits, and to the east of Countess Services, as indicated on the Environmental Masterplan [APP-059] which would be provided as part of the landscaping mitigation to be implemented pursuant to paragraph 8 of Schedule 2 to the draft development consent order [REP2-003]. Ultimately, however, the flyover, slip roads and drainage measures will be situated within the existing highway boundary and as such the extent of this area is fixed and does not afford space for additional tree planting or screening beyond that which has been included within the application.

Key Issue

- 32.5.9 **Noise levels emanating from the compound being within 400 metres from my home at Ratfyn Farmhouse is also a concern with the real probability of light intrusion over the construction period of six years. The increased noise levels will also affect the exercise of sporting rights across Watergate Farm and may lead to the abandonment of the ability to sell days for game shooting. At Appendix A is attached a plan showing the proximity of the River Avon to Ratfyn Farm including Ratfyn Farmhouse and at Appendix B there is a plan showing the proximity of the contractor's compound edged in red on the plan to Ratfyn Farmhouse edged green.**

Highways England response

- 32.5.10 Ratfyn Farm is included in the construction noise assessment (receptor C2) as reported in Chapter 9 of the Environmental Statement (ES) [APP-047]. Construction noise levels have been predicted over the duration of the works (see Table 9.14 of the ES [APP-047], the predictions include the operation of the satellite compound at Countess roundabout. Criteria for the onset of

potentially significant construction noise effects are set in accordance with the relevant British Standard (BS 5228:2009 + A1:2014 'Code of Practice for noise and vibration control on construction and open sites'). Based on the anticipated construction works in this area, a significant construction noise effect is not anticipated at Ratfyn Farm.

- 32.5.11 Regarding lighting during construction, the contractor will design, position and direct temporary lighting to prevent unnecessary disturbance as secured in item MW-G29 of the OEMP [APP-187] which is secured by paragraph 4 of Schedule 2 of the draft development consent order [REP2-003].
- 32.5.12 Any negative effects on business as a result of the Scheme will be assessed independently by the Valuation Office. If you think the Scheme has affected your business in this way, please inform Highways England and they can advise or assess accordingly.

32.6 Socio-economic effects

Key Issue

- 32.6.1 **Part of my diversified income at Watergate Farm extends to income from horse liveries with the ability offered to clients to exercise their horses at Watergate Farm however, I am concerned that the constant noise from the contractor's site whilst in use will seriously impact the viability of this operation and Highways England are already on notice that any losses attributable to the scheme as a result of the location of the compound being the detrimental factor will be expected to be compensated at full rates. Highways England should be examined about what noise reducing strategies are intended to be imposed on the contractors to limit noise pollution from the proposed contractor's compound.**

Highways England response

- 32.6.2 Details of the construction compounds are provided in ES Chapter 2 [APP-040], with the locations shown on the General Arrangement Drawings [APP-012] and indicative layouts shown in ES Figure 2.7 [APP-061].
- 32.6.3 Potential construction impacts, including those from the use of the Countess satellite compound, will be minimised as far as reasonably practicable through the implementation of the Outline Environmental Management Plan (OEMP) [APP-187], compliance with which is secured by paragraph 4 of Schedule 2 of the draft development consent order [REP2-003].
- 32.6.4 THE OEMP includes measures to minimise a range of potential construction impacts including noise. These include a requirement to use 'Best Practicable Means' to minimise noise from the works, the use of less intrusive reversing alarms, acoustic enclosures, and screening of equipment (MW-NOI1).

- 32.6.5 Any negative effects on business as a result of the Scheme will be assessed independently by the Valuation Office. If you think the Scheme has affected your business in this way, please inform Highways England and they can advise or assess accordingly.

Key Issue

- 32.6.6 **Changes which result in either a lowering or raising of the water levels within the River Avon will have serious consequences on my coarse fishing enterprises and for which compensation would be expected.**

Highways England response

- 32.6.7 The ES (section 11.9) [APP-049] concludes that there would be no significant effect upon river levels within the River Avon. The assessment of effects included any potential effects on water levels and flows from construction works at Countess junction and the tunnel construction. Groundwater modelling predicts that groundwater level changes do not extend to the River Avon.
- 32.6.8 Any negative effects on business as a result of the Scheme will be assessed independently by the Valuation Office and through the statutory compensation regime.

32.7 Traffic and Transport

Key Issue

- 32.7.1 **If the DCO is approved as the Application has proposed the business of PJ Rowland & Sons (Farmers) Limited will be in full support but any alterations that could be considered that affect either Amesbury 2/Bulford 12 and Amesbury Road or the proposals for the link to Allington Track and the proposals of the existing Allington Track will have consequential effects on my business.**

Highways England response

- 32.7.2 Potential construction impacts will be minimised as far as reasonably practicable through the implementation of the Outline Environmental Management Plan (OEMP) [previously APP-187 (updated version submitted at Deadline 3)]. Avoidance of permanent impacts has been incorporated into the design, and accommodations provided where possible. Any negative effects on business, giving rise to a claim under the statutory compensation code, as a result of the Scheme will be assessed independently by the Valuation Office.
- 32.7.3 Accommodation work discussions are in progress with affected landowners and occupiers, and Highways England will continue to engage with landowners in order to seek to reduce the impacts on businesses.

Key Issue

- 32.7.4 **The proposals for By-Way Amesbury 2/Bulford 12 only work for my tenancy of the land to the east and west of the By-Way if the Bulford 12 is also shut and the MOD grant a right of access in perpetuity over that part of Bulford 12 as shown on land owner DCO submission plan TR010025-2.2-026. If this right of access is not achieved Highways England will have to provide a suitable access from Amesbury Road to this field as the current access will be shut. There are however, severe potential constraints in constructing the access due to specifically the turning circles of agricultural machinery that will operate and in particular the Combine Harvester and its Header given the width of the Amesbury Road at approximately 6 metres.**

Highways England response

- 32.7.5 AMES2 and BULF12 are being closed to improve safety along the A303. This is needed because the current arrangement places slow and fast-moving vehicles in potentially dangerous conflict with each other.
- 32.7.6 The DCO application includes provision for a private means of access for the benefit of the triangle of land on the north side of the A303 (at the eastern end of the Scheme), currently bisected by byway BULF12 and its continuation byway AMES2, both of which are proposed to be stopped up in furtherance of the Scheme. The proposed new private means of access is shown on the Rights of Way and Access Plans as reference 28 on Sheet 11 [APP-009] (see inset 2 on Sheet 11). The private means of access would follow the line of existing byway BULF12, such that access would be taken from the south side of the crossroad junction of Amesbury Road and the B3028 Double Hedges (at the top of the triangle of land). As noted above, accommodation work discussions are in progress and Highways England will continue to engage with the landowner in order to seek to reduce the impacts on businesses..

Key Issue

- 32.7.7 **Due consideration would also need to be given to the existing topography in trying to achieve a suitable access as it is proposed that Amesbury Road becomes a one-way road using both existing carriageways. If Amesbury 2 and Bulford 12 are not closed it will inevitably become an area full of undesirable and anti-social activities which the Local Authority will not wish to put suitable resources to adequately police and stop the undesirable and anti-social activities.**

Highways England response

- 32.7.8 As is noted above, a private means of access to the land is provided along the line of part of the existing byway BULF12, from the south of the crossroad junction of Amesbury Road and the B3028 Double Hedges. As

also noted above, accommodation work discussions are in progress and Highways England will continue to engage with the landowner in order to seek to reduce the impacts on businesses.

Key Issue

- 32.7.9 **Another scenario that concerns me is that if the proposals for the new Allington Link is not achieved and the existing right hand turn off the A303 to Allington Track is permanently closed, if travelling east, to farm the Ratfyn farmland south of the A303 and Arundel Farm it will need to be operated by equipment that will need to be taken to the Park House junction on the A303 before immediately returning in a southerly direction before exiting into Allington Track by turning left off the A303. This would involve a ten mile round trip! This I hope therefore explains why I am in approval of this part of the DCO Application that closes Bridleway Amesbury 2 and Bulford 12.**

Highways England response

- 32.7.10 Highways England welcomes the support for its proposals for the Allington Track and the Allington Link. The OEMP, ref-COM1 [APP-187], requires the main works contractor to advise landowners of the intended commencement of construction works in areas of the site adjacent to agricultural holdings and to liaise with landowners as appropriate, regarding the provision of accommodation works and access routes to be used by both construction traffic and, where relevant, agricultural machinery.

Key Issue

- 32.7.11 **I approve of the Allington Track being closed at its junction at the A303 but also believe that it should be closed from its proposed junction with the new Allington Track as otherwise, that area will become used for undesirable and anti-social activities and I would encourage that the surface between these points be removed and filled with suitable material of which there will be plenty from the construction of the tunnel that would allow a belt of trees to be established helping the environmental situation in the area and would be provide positive environmental result.**

Highways England response

- 32.7.12 The Scheme proposes to close the existing Allington Track up to its intersection with the proposed Allington Track link. This stopped-up section is shown on Sheet 11 of the Rights of Way and Access Plans [APP-009].
- 32.7.13 The Applicant anticipates that the section of the Allington Track which is proposed to be stopped up will be fenced from the new highway and that the existing metalled surface will be punctured, soiled over and seeded, reflecting the change of status from public right of way. However, the

Southern Gas Network and Wessex Water mains apparatus located within this area, will affect the final outcome of the surface treatment, as access and working areas would need to be maintained to the satisfaction of those statutory undertakers and further to discussion with the relevant landowners.

Key Issue

- 32.7.14 **My main remaining concern is with the access I require to run my business efficiently which will involve the use of Equinox Drive within Solstice Park and the new link to Allington Track. At Annex C I attach an extract from the proposed accommodation works plan and have coloured in the route that Highways England are proposing I use to access the land adjacent to Allington Track however, there is no realistic way that this could be used by the largest pieces of agricultural machinery or articulated lorries that may have either grain or straw/hay loaded directly on to them as there is insufficient allowance for vehicles to turn. Coloured in orange is a route that has been discussed with Highways England but not yet approved which will provide the access I require as the ability to turn left off Equinox Drive is not compromised by the constraints imposed by the suggested route shown on the plans.**

Highways England response

- 32.7.15 In respect of the new Allington Track link, the Scheme makes adequate provision for its use by agricultural vehicles. Highways England is in discussions with the landowner in connection with the provision of accesses to the agricultural land referred to in the question.

Key Issue

- 32.7.16 **At present Equinox Drive is not subject to parking restrictions and therefore, is consistently used by lorries as an overnight lorry park. Even if the Allington Link is not approved Equinox Drive will need to be subject to parking restrictions and enforcement by the requisite authority as Equinox Drive will need to be used for constant movement of agricultural machinery and equipment including Combine Harvesters, grain lorries, hay and straw lorries and vehicles using or containing sewage cake.**

Highways England response

- 32.7.17 Parking restrictions on the local road network are a matter for the local highway authority, Wiltshire Council, who will become the highway authority for the part of Equinox Drive affected by the Scheme. Highways England is in discussions with Wiltshire Council in connection with matters that relate to the maintenance of highways for which it will become the highway authority, which includes control of parking to prevent obstruction.

33 Mr P M Sandell (REP2-179)

33.1 Agriculture

Key Issue

- 33.1.1 My concerns with the applicant's proposals, are that although I currently have two points of access to enter and leave my land north of the A303 directly to the existing A303, there is no provision for any means of access to a metalled highway. Annex C headed Route of Access to Stockport Farm, Amesbury shows with red dots adjacent to the existing A303 the two access points mentioned above.
- 33.1.2 Discussions with Highways England identified at an early stage that access to the Countess Road, Amesbury is required and the purposes for which the access is required have been clearly explained. Potential routes to achieve this access have also been identified and submitted to Highways England but currently to no avail as the land owner at Countess Farm appears unwilling to cooperate or enter into negotiations so that a solution can be found which will enable Highways England to satisfy their statutory obligation to provide access. The examining authority should examine the reasons as to why there has been no provision for access as this point was raised at the initial meeting with Highways England in 2016.
- 33.1.3 The indications from Highways England are that the land is held inalienably however, no such proof has been made available as requested despite it being requested on more than one occasion. Countess Farm was purchased freehold by the National Trust and if the land is held inalienably Highways England have sufficient powers available to compulsory acquire the land needed to provide the access for Park Farm but appear extremely reluctant to use these powers to be able to secure the access that they are statutory obligated to provide.
- 33.1.4 This access is vital to my business as without the access my agricultural equipment including my tracked Combine Harvester cannot access my land at Stockport Farm, Amesbury or permit the contract farming arrangements at Ampport to be undertaken by West Amesbury Farms and therefore, without being provided access there will be a serious negative impact on my business which does not appear to have been considered by Highways England to date. Annex D includes a plan that illustrates the distance between Park Farm, West Amesbury in the west to Fox Farm, Ampport in the east to highlight why it is vital to have an access to the Countess Road.

Highways England response

- 33.1.5 Highways England and the National Trust have discussed and agreed in principle the provision of combine harvester access over National Trust

owned land, outside of the Order limits. The route of this access has been discussed to be via bridleway AMES9a, rather than via the access point at Countess Farm. Further discussions with National Trust, Mrs Sandell and Wiltshire Council (in its capacity as highway authority of AMES9a), will take place to explore the feasibility of this alternative access.

- 33.1.6 The main access benefitting Park Farm and West Amesbury Farm is proposed within the Order limits and will not cross Countess Farm or use the existing access off Countess Road. Farm access arrangements for large vehicle movements have been and will continue to be discussed with affected landowners and occupiers of Park Farm, West Amesbury Farm, National Trust and Countess Farm. Suitable alternative access arrangements to accommodate large vehicle movements will continue to be discussed with those involved, with a view to reaching an agreed solution. If this is unachievable then appropriate compensation will be paid.
- 33.1.7 We understand from the National Trust and their legal advisors that all land within their freehold which is being affected by the scheme is held inalienably.

33.2 Flood risk, groundwater protection, geology and land contamination

Key Issue

- 33.2.1 **There will obviously need to be a water supply to the tunnel as it is assumed that the design incorporates a sprinkler system in the event of a fire and that Wessex Water will need to provide the mains supply. I have not been advised as yet if such a supply will involve further disruption to my farming business or if as is preferable, the supply will be located in land either currently in the ownership of Highways England or, which will be subject to compulsory acquisition. The Examining Authority should direct that the water supply to the tunnel wherever possible is located in land that will be under the permanent control of Highways England to reduce the impact on my farming business. The Examining Authority should examine Highways England to ask them to provide the details of the supply of water to the tunnel as well as any other services that will affect existing land owners to ensure the disruption to agricultural businesses are minimised.**

Highways England response

- 33.2.2 Wessex water have indicated that the water supply demands of the tunnel firefighting system determine that the supply will need to come from the Wessex Water main that runs along the western side of the River Avon. The water main within Countess Road would not be able to supply the demands of the tunnel firefighting system.

33.3 Traffic and Transport

Key Issue

- 33.3.1 I also have objections to the proposal for the future of Stonehenge Road and its point of intended closure including the future use and rights of what will be the de-trunked A303. The proposed point of closure of stopping Stonehenge Road to the north of the entrance to West Amesbury Farm would result in the section of Stonehenge Road between its junction with the Woodford Valley Road remaining open and becoming a dead end available to be used by members of the public. This would appear to encourage undesirable activities to take place to the south of numbers 1 and 2 Park Farm Cottages and will potentially interrupt the access to these cottages as well as to West Amesbury Farm. The suggestion has been made to Highways England that if the Stonehenge Road was closed at its junction with the Woodford Valley Road this would overcome my objection. If the point of closure is at the junction at the Woodford Valley Road Stonehenge Road between that point and the intended closure point beyond West Amesbury Farm should become un- adopted and I have offered to assume responsibility for its maintenance. That way I and West Amesbury Farms can control the motorised traffic that needs to access 1 and 2 Park Farm Cottages, West Amesbury Farm and also the Custodian Cottages to the north of the A303 which will require private means of access being maintained beyond the closure point of Stonehenge Road. Without this suggested alternative being accepted and as it presently stands there is no doubt that extra costly security precautions at both 1 and 2 Park Farm Cottages and West Amesbury Farm would be needed to be undertaken to prevent regular thefts and other acts of public incursion. This is an issue which should be clearly examined as no satisfactory answer has been provided by Highways England as to why the suggestion of ensuring that part of Stonehenge Road becomes unadopted has not been answered.
- 33.3.2 The proposals unless altered would also have a serious detrimental effect on the freehold values of both 1 and 2 Park Farm Cottages and the freehold value of Park Farm itself. A plan at Annex E provides a plan outlined in yellow indicating where the Stonehenge Road should be closed at its junction with Woodford Valley and also gives a visual concept of the area of the road involved which is 475 metres from the junction of the Woodford Valley Road to where the intended closure point is at West Amesbury Farm. The Examining Authority should be examined as to why they have not offered any reasons as to why the junction of the Woodford Valley Road should not be the point of closure for Stonehenge Road.

Highways England response

- 33.3.3 The section of Stonehenge Road from its junction with the A303 in a generally south-easterly direction to its junction with footpath AMES13 would be converted to a restricted byway. Private means of access rights would be provided for Stonehenge Cottages and adjacent landowners. The extent of the converted Stonehenge Road is shown on the Rights of Way and Access Plans [APP-009] hatched as 'new right of way and new private means of access and is also labelled on those Plans as part of the new restricted byway, reference J. The proposed extension of the restricted byway to the junction of Wishford Road and Stonehenge Road would restrict access to a number of properties in West Amesbury. These properties currently have access along a lane running south then south-west from Stonehenge Road, commencing approximately 270 metres north-west of the junction, opposite Park Farm.
- 33.3.4 While the details of the new public rights of way, including fencing, remain to be determined as part of the detailed design, the Applicant envisages that the public right of way will be fenced to prevent access onto private land. The road is envisaged to be blocked by a Kent carriage gate and would be a restricted byway after the gate. Keys could be provided to people entitled to vehicular access. As a restricted byway it would not be maintained by the council to the same standard as a public road.
- 33.3.5 While the Applicant will continue to discuss the offer to maintain part of this restricted byway at the expense of the landowner, the Applicant's initial views are that in the long term it would be preferable for the maintenance of the restricted byway to fall to the highway authority, who is equipped to carry out this function.

34 Mrs Kathleen Edna Crook (REP2-156)

34.1 Traffic and Transport

Key Issue

34.1.1 Treatment of the Stopped Up Allington Track and Future Ownership

The Scheme proposes to stop up a section of the existing Allington Track immediately adjacent to the current junction of the unclassified road with the A303. Despite numerous enquiries over an extended period the Applicant has been unable to confirm whether the existing metalled surface is to be removed.

34.1.2 Mrs Crook respectfully suggests in the strongest possible terms that this should be done, and the area returned to a natural state. Not to do so or indeed any lesser treatment such as perforating the existing surface and then covering over would be failing in a duty of care, effectively discarding in open countryside an area of brownfield built environment once it has become surplus to requirement. Furthermore, leaving the current surface to degrade once routine maintenance ceases would risk leaching and contamination in the future.

34.1.3 Other decommissioned metalled surfaces within the Scheme are to be broken out and removed. The Allington Track should not be dealt with any less sensitively if the Scheme requires this section to be stopped up. It is worth noting that the adjoining landowners intend to plant trees over this area and leaving the metalled surface, albeit perforated and buried, would compromise this aspiration and the associated environmental and landscape benefits.

Highways England response

34.1.4 The Applicant anticipates that the section of the Allington Track which is proposed to be stopped up will be fenced from the new highway and that the existing metalled surface will be punctured, soiled over and seeded, reflecting the change of status from public right of way. However, the Southern Gas Network and Wessex Water mains apparatus located within this area, will affect the final outcome of the surface treatment, as would any risks associated with land contamination, as access and working areas would need to be maintained to the satisfaction of those statutory undertakers and further to discussion with the relevant landowners.

Key Issue

34.1.5 Treatment of the Stopped Up Allington Track and Future Ownership

Both landowners adjoining the proposed section to be stopped up are Tier One landowners who will be subject to impositions under the Scheme. It is their wish and respectfully suggested as the most

appropriate course of action that the freehold of the stopped-up section, that will by that very action become surplus to highway requirement, be transferred to the adjoining landowners in equal proportions from the centre line of the existing carriageway.

Highways England response

- 34.1.6 In terms of land ownership and maintenance, the land in question, being currently public highway, is understood to be owned by the adjoining landowners (in respect of subsoil up to the half width of the highway) with Wiltshire Council having an interest in respect of adopted highway. For the purposes of the Scheme, the land is proposed to be subject to a power to acquire rights compulsorily (in relation to statutory undertakers' apparatus) and as such, would not be acquired outright by Highways England. As a consequence, the ownership position would not change, save that Wiltshire Council's interest in the adopted highway would cease when that highway was stopped up and the land would be subject to new rights acquired for the benefit of relevant statutory undertakers. Any works carried out by the Applicant relative to the changed status of the land would be carried out under powers of temporary possession, as provided for by article 29 of the draft development consent order [REP2-003].

35 Beacon Hill Land Limited (REP2-058)

35.1 General and cross-topic questions

Key Issue

- 35.1.1 **The lack of meaningful progress in respect of this matter lies squarely at the Applicant's door. No draft papers have been produced nor substantive discussions despite repeated requests from BHLL's representative. This lack of meaningful engagement has necessitated continued representations on this matter within the Examination process and thereby continues to result in higher costs to be borne by BHLL.**
- 35.1.2 **BHLL will continue to seek a legally binding agreement which may be submitted to the Examining Authority ensuring provision of the hedgerow and its future maintenance. Ideally this will be achieved before the Compulsory Acquisition Hearing thereby mitigating further costs or failing that by the end of the Examination thereby rendering compulsory acquisition unnecessary.**

Highways England response

- 35.1.3 A commitment to follow the agreement process will be detailed in the Position Statement with Beacon Hill. When possible, Highways England will seek to have an agreement with landowners over rights rather than exercise compulsory powers.

Key Issue

- 35.1.4 **It should also be noted that Historic England actively discourages pedestrian access to the environs of tumuli as this can increase incidents of unlawful access leading to surface erosion, disturbance and damage.**
- 35.1.5 **The tumulus to which the proposed footpath is intended to convey the public has an active badger sett – a statutorily protected species. Thereby creating an unnecessary conflict between humans and these creatures, likely to result in undesirable disturbance.**

Highways England response

- 35.1.6 The tumulus is on private land with access from AMES1 blocked by a fence, thus preventing damage by erosion. The existing route is a byway open to all traffic, used by vehicles and non-motorised users, so any disturbance to badgers will decrease if it becomes a footpath.

Key Issue

- 35.1.7 **If the new proposed footpath is intended to provide foot access to the adjacent tumulus then the proposed new highway diversion between Allington Track and the Amesbury Road achieves exactly this with a far greater concentration of tumuli available to interested parties. The diversion has wide verges and in common with the existing Allington Track is likely to have modest traffic flows, therefore providing excellent foot, cycle and vehicular access.**

Highways England response

- 35.1.8 Please see above.

Key Issue

- 35.1.9 **It is respectfully suggested that the money saved from no longer installing pedestrian access through the stopping up barriers on Byway Amesbury 1 could be more usefully deployed on interpretation boards/display material for the group of tumuli adjacent to the new link, possibly within the passing bay, thereby achieving a better outcome from the Scheme, for the public at large and specifically those of limited mobility.**

Highways England response

- 35.1.10 Highways England is giving consideration to the suggestion of providing an interpretation board at this location, but its provision would not obviate the need to re-provide a footpath along the line of AMES1 as shown on sheet 11 of the Rights of Way and Access Plans [APP-009], reference P.

35.2 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

- 35.2.1 **Applicants must also be able to demonstrate that all reasonable alternatives to compulsory acquisition including modifications to the Scheme have been explored, and that the proposed interference with the rights of those with an interest in the land is for a legitimate purpose and that it is necessary and proportionate.**

Highways England response

- 35.2.2 A detailed explanation of the justification for selecting the land required for the Scheme and of the alternatives explored in making that selection are set out within the Statement of Reasons [APP-023].

Key Issue

- 35.2.3 **BHLL therefore asserts that the proposed compulsory acquisition is neither in accordance with statute nor guidance and objects accordingly. The stated objective of the Scheme is to upgrade the A303**

past Stonehenge between Amesbury and Berwick Down to a dual two-lane carriageway. The proposed compulsory acquisition detailed above is located approximately 2.35 kilometres east of the new A303 flyover at Countess Roundabout the 'effective' eastern Scheme boundary. Consequently, the proposed compulsory acquisition is in no way necessary to achieve the Applicant's stated objective.

Highways England response

- 35.2.4 The works at the Allington Track and removing the junctions from it and Amesbury Road onto the A303 will prevent slow moving traffic joining the A303 before it reaches the newly constructed flyover, maintaining speeds for all traffic users. This is also an area highlighted as being unsafe under its current layout.

Key Issue

- 35.2.5 **The Applicant's aspirations to downgrade the byway to footpath status and create a new adopted highway to divert the existing Allington Track can be achieved by reasonable alternatives as proposed by BHLL. It is not felt that any compulsory powers are required to downgrade the existing byway to footpath status as this should be a matter solely between the Applicant and the Local Authority. This element is essentially a variation to established public rights of way and in no way warrants the compulsory acquisition of freehold.**

Highways England response

- 35.2.6 The power to acquire land permanently in this area would give Highways England the ability to extinguish existing rights over AMES1 to enable this byway to be changed in status from a byway open to all traffic to a public footpath. The power of acquisition sought would enable Highways England to effect this change in the status of AMES1 and would also accommodate a scenario in which the existing landowner did not wish to retain the land once its status had been changed by the Scheme. However, if the landowner accepts the land in its changed state, Highways England could agree not to implement its compulsory acquisition powers over the land, allowing it to be retained by the existing landowner, subject to it having been dedicated as a public footpath. Until such agreement is concluded, however, Highways England must continue to seek the necessary compulsory acquisition powers to ensure the delivery of the Scheme.

Key Issue

- 35.2.7 **The Applicant has made mention of existing Statutory Undertakers' apparatus beneath the existing byway. Despite repeated requests no specific details of such apparatus have been provided. If such apparatus do indeed exist it is extremely doubtful whether any additional grant of rights would be required, as statutory provisions**

exist. If however a grant of rights is required to Statutory Undertakers in respect of existing apparatus then BHLL would be willing to assist voluntarily without the imposition of compulsory acquisition.

Highways England response

- 35.2.8 The utilities within this stretch of byway are a Southern Gas Network main and a Wessex Water main. The Applicant would prefer to obtain the rights required for the benefit of utility undertakers by agreement where possible. However, pending reaching that agreement, to safeguard the delivery of the Scheme, the Applicant seeks authorisation for the compulsory acquisition of the necessary rights over land. Highways England will continue to discuss this issue with Beacon Hill Land Limited with a view to obtaining the necessary rights by agreement.

Key Issue

- 35.2.9 **A highway is a legal right over land, as such it does not require freehold ownership of that land. The majority of the freehold upon which there is highway, maintainable at public expense, is not owned by the highway authority.**

Highways England response

- 35.2.10 A highway is a unique type of legal right over land, enjoyable by the public at large rather than to the private benefit of any particular parcel of land. As such the Applicant seeks full powers of acquisition to ensure that new highways can be properly dedicated without being burdened by private rights inconsistent with their public use. In particular, the full compulsory acquisition power is necessary here as part of the existing AMES1 would be stopped up, before being replaced by the new footpath. At the point of stopping up, in the absence of title information to the contrary, the presumption is that the ownership of land comprised in the highway would revert to the adjoining frontagers up to the centreline. The compulsory acquisition power is required to ensure that new footpath can be delivered. Nonetheless, as noted elsewhere in the Applicant's response to Beacon Hill Land Limited, the Applicant would prefer to achieve its objectives through a voluntary arrangement.

Key Issue

- 35.2.11 **In respect of the diversion of The Allington Track via a new adopted highway, BHLL proposes to grant the Applicant a licence to temporarily occupy such of its land as identified in the DCO for the purposes of constructing the diversion works. BHLL would then dedicate as highway, such of its land as is necessary upon which the diversion works have been carried out.**

Highways England response

35.2.12 Highways England can confirm that this approach will be suitable to construct the new highway as long as the suitable rights and space are agreed for construction and maintenance. Highways England will continue to negotiate with Beacon Hill Land Limited to progress this. Nonetheless, until such time as a voluntary agreement is concluded the Applicant will continue to seek the DCO land use powers necessary to deliver this element of the Scheme.

Key Issue

35.2.13 **The Applicant has confirmed that such arrangements, including dedication and adoption, represent a viable, workable and procedurally appropriate approach and has discussed this mechanism with Wiltshire Council (WC) which will, once the works have been completed, be the Local Highway Authority for the Allington Track Diversion, during a meeting held on 5 April 2019. Following the meeting WC confirmed that, as the inheriting highway authority, they would not be opposed to the dedication of the relevant land.**

Highways England response

35.2.14 Highways England confirms this is correct and the discussions with Wiltshire Council and Beacon Hill Land Limited will continue with the intention of achieving this outcome.

Key Issue

35.2.15 **The lack of meaningful progress in respect of this matter lies squarely at the Applicant's door. No draft papers have been produced nor substantive discussions held, despite repeated requests from BHLL's representative. Indeed, it was only via a third party that details of WC's favourable response were obtained. This lack of meaningful engagement has necessitated continued representations on this matter within the Examination process and thereby continues to result in higher costs to be borne by BHLL.**

Highways England response

35.2.16 The Applicant intends to progress and conclude a voluntary agreement with Beacon Hill Land Limited and, if necessary and appropriate, Wiltshire Council (as highway authority) prior to the close of the examination.

Key Issue

35.2.17 **BHLL will continue to seek a legally binding agreement which may be submitted to the Examining Authority ensuring provision of the Applicant's highway diversion. Ideally this will be achieved before the Compulsory Acquisition Hearing thereby mitigating further costs or failing that by the end of the Examination thereby rendering compulsory acquisition unnecessary.**

- 35.2.18 **In the event that no such Agreement is submitted it is respectfully suggested that the Examining Authority seek clarification regarding any lack of progress and consider the cost implications of the same.**

Highways England response

- 35.2.19 Highways England intends to achieve the agreed outcome as described by Beacon Hill Land Limited.

Key Issue

- 35.2.20 **Any suggestion by the Applicant that the compulsory purchase of permanent rights for the planting and future maintenance of a hedgerow is absurd. BHLL asserts that the Applicant's proposed hedgerow aspirations can be achieved by a reasonable alternative as proposed by BHLL, namely entering into a voluntary agreement. BHLL will continue to work towards such an agreement with the Applicant in respect of the proposed hedgerow.**

Highways England response

- 35.2.21 In respect of plots 11-10 and 11-25, the Applicant seeks the acquisition of rights for the purposes of the installation use, protection, maintenance and access to statutory undertakers' apparatus for the benefit of the statutory undertaker and its undertaking. The hedgerow is proposed to be retained, managed and potentially enhanced under the Applicants possession. Upon completion of the works the management would fall back to the landowner.

Key Issue

- 35.2.22 **Both landowners adjoining the proposed section to be stopped up are Tier One landowners who will be subject to impositions under the Scheme. It is their wish and respectfully suggested as the most appropriate course of action that the freehold of the stopped-up section, that will by that very action become surplus to highway requirement, be transferred to the adjoining landowners in equal proportions from the centre line of the existing carriageway.**

Highways England response

- 35.2.23 In terms of land ownership and maintenance, the land in question, being currently public highway, is understood to be owned by the adjoining landowners (in respect of subsoil up to the half width of the highway) with Wiltshire Council having an interest in respect of adopted highway. For the purposes of the Scheme, the land is proposed to be subject to a power to acquire rights compulsorily (in relation to statutory undertakers' apparatus) and as such, would not be acquired outright by Highways England. As a consequence, the ownership position would not change, save that Wiltshire Council's interest in the adopted highway would cease when that highway was stopped up and the land would be subject to new rights acquired for the

benefit of relevant statutory undertakers. Any works carried out by the Applicant relative to the changed status of the land would be carried out under powers of temporary possession, as provided for by article 29 of the draft development consent order [REP2-003].

35.3 Landscape and Visual

Key Issue

35.3.1 Treatment of the Stopped Up Allington Track and Future Ownership

The Scheme proposes to stop up a section of the existing Allington Track immediately adjacent to the current junction of the unclassified road with the A303. As illustrated in Appendix Two Ref.11-25. Despite numerous enquiries over an extended period the Applicant has been unable to confirm whether the existing metalled surface is to be removed.

35.3.2 BHLL respectfully suggests in the strongest possible terms that this should be done, and the area returned to a natural state. Not to do so or indeed any lesser treatment such as perforating the existing surface and then covering over would be failing in a duty of care, effectively discarding in open countryside an area of brownfield built environment once it has become surplus to requirement. Furthermore, leaving the current surface to degrade once routine maintenance ceases would risk leaching and contamination in the future.

Highways England response

35.3.3 The Applicant anticipates that the section of the Allington Track which is proposed to be stopped up will be fenced from the new highway and that the existing metalled surface will be punctured, soiled over and seeded, reflecting the change of status from public right of way. However, the Southern Gas Network and Wessex Water mains apparatus located within this area, will affect the final outcome of the surface treatment, as access and working areas would need to be maintained to the satisfaction of those statutory undertakers and further to discussion with the relevant landowners.

Key Issue

35.3.4 Other decommissioned metalled surfaces within the Scheme are to be broken out and removed. The Allington Track should not be dealt with any less sensitively if the Scheme requires this section to be stopped up. It is worth noting that the adjoining landowners intend to plant trees over this area and leaving the metalled surface, albeit perforated and buried, would compromise this aspiration and the associated environmental and landscape benefits.

Highways England response

- 35.3.5 The presence of Southern Gas Network and Wessex Water mains within this location will affect the final outcome of the surface treatment as access and a working area would need to be maintained and not affect the existing infrastructure.
- 35.3.6 The intended tree planting would need to be discussed with the present utility companies and Highways England due to the potential effect on the current infrastructure after the decommissioning and stopping up of the length of Allington Track had taken place.
- 35.3.7 In the absence of tree planting, the resultant landowners would be in no worse position than if the track were not to be stopped up and retained as a highway.

35.4 Traffic and Transport

Key Issue

35.4.1 Rights of Way

The proposed Scheme intends to stop up a section of the existing Byway Amesbury 1 and convert its status to a footpath as referred to above. BHLL objects in the strongest possible terms to the proposed new footpath along that section of the byway. There is no apparent, nor conceivable, reason to create such a right of way which would only serve to locate pedestrians in close proximity to a fast-moving section of the A303 trunk road which may be upgraded to expressway status in the future.

Highways England response

- 35.4.2 The proposed public footpath, labelled reference P on sheet 11 of the Rights of Way and Access Plans [APP-009] and described in Schedule 3 to the draft development consent order [REP2-003], would be of benefit to local people, by maintaining pedestrian access to view the scheduled monument at the existing junction of byway AMES1 and A303. The junction of AMES1 with the A303 would be closed to all users, protecting the adjoining monument (tumulus) from further degradation and improving safety on the existing A303 by reducing the potential for conflict arising from traffic from the BOAT joining the A303. As such, and in providing safer non-motorised user connections, the proposal contributes to the achievement of the Scheme's objectives by improving the operation of the A303 and providing a positive legacy for local communities.

Key Issue

- 35.4.3 **BHLL is dismayed that no specific reference was made in any consultation documentation to the creation of this footpath other than annotation on Plan 4 of 4 within the Supplementary Booklet. As a consequence, BHLL feels that insufficient opportunity was provided for**

appropriate consultation on the creation of this ill-conceived footpath and the proposal should be removed from the Scheme.

Highways England response

- 35.4.4 The Applicant considers that the material published for statutory consultation was sufficient to satisfy the purpose of gaining feedback on the scheme proposals and for that feedback to be taken into consideration as part of the continuing development of the scheme up to the time of submitting the DCO application. The designations of the Public Rights of Way [APP-009] proposals along the scheme were clarified as part of the supplementary consultation during July and August 2018.

36 The Amesbury Property Company Limited & ClassMaxi Limited (REP2-052, REP2-053, REP2-065 and REP2-066)

36.1 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

- 36.1.1 **The acquisition of the freehold ownership by a Highway Authority of the extent of the land identified in the Order would have the consequence that a Highway Authority (whether HE or the Local Highway Authority) would, at a later date, be able to carry out additional future upgrading works (for purposes unrelated to this DCO) to widen Allington Track and to change the status of AMES1 to a “full” highway and thus allow an increased level, and different nature, of traffic to use these routes.**

Highways England response

- 36.1.2 Any future changes to byway AMES1 would be required to go through the appropriate planning and Highways Act 1980 procedures, regardless of the freehold of the highway.
- 36.1.3 Highways England intends to reach a voluntary agreement with ClassMaxi – see response to issue 36.1.4.

Key Issue

- 36.1.4 **The compulsory acquisition of the land by way of the DCO would reduce or remove the ability of CM to obtain a fair financial consideration as part of such negotiations, and should development occur this would result in additional traffic using the Solstice Park Road Network, which although public roads, were privately funded by APC, as was the upgrading of the Solstice Park Junction on the A303 to an all directions junction.**

Highways England response

- 36.1.5 Highways England intends to reach a voluntary agreement with CM prior to the close of the examination, to avoid the exercise of compulsory acquisition powers. Discussions with APC/CM are continuing to achieve this. However, until such an agreement is concluded the Applicant must continue to seek the compulsory powers necessary to deliver the Scheme.
- 36.1.6 The Applicant does not accept that CM would not achieve fair financial consideration under the statutory compensation code should compulsory powers be exercised.

Key Issue

- 36.1.7 **CM proposes to grant HE a licence to temporarily occupy any, or all ,of its land identified in the DCO for the purposes of constructing the diversion works and shall also grant any rights to Statutory Undertakers across Plots 10.18, 11.04 and 11.05 that HE consider necessary.**

Highways England response

- 36.1.8 The Applicant will continue to work with APC/CM and the relevant utility undertakers to achieve this outcome.

Key Issue

- 36.1.9 **HE shall undertake to arrange direct with Wiltshire Council (WC) a release of APC's and CM's obligations under the S106 Agreement regarding the maintenance of public open space and wildflower meadows where this is specifically affected by the HE proposed project.**

Highways England response

- 36.1.10 The Applicant will be discussing this aspect of the S106 agreement with Wiltshire and APC/CM as the negotiations continue. The mitigation for the loss of this land has been included within the DCO as plots 10-17 and 11-33.

Key Issue

- 36.1.11 **HE has acknowledged that such arrangements, including dedication and adoption, represent a viable, workable and procedurally appropriate approach and has therefore discussed this mechanism with WC which will, once the works have been completed, be the Local Highway Authority for both the Allington Track Diversion and the AMES 1 Diversion, during a meeting on 5th April. Following the meeting WC confirmed that, as the inheriting highway authority, they would not be opposed to the dedication of the relevant land. HE therefore intend to pursue this approach subject to continuing to be comfortable that it will deliver what it needs to enable the Scheme.**

Highways England response

- 36.1.12 Highways England welcomes the proposal by APC/CM to engage with it on a voluntary basis and agrees, in principle subject to detailed negotiations, that the proposal is capable of achieving the objectives of the Scheme. In this regard it is important to recognise that taking forward the proposal will require the agreement of Wiltshire Council, in relation to the adoptable standards and the relevant undertakers, in terms of the rights and restrictions required for their apparatus. Until such an agreement is

concluded Highways England will continue to seek the compulsory powers necessary to deliver this element of the Scheme.

Key Issue

- 36.1.13 **CM therefore proposes to continue to work towards an agreement with HE, to ensure HE's objectives in respect of Allington Track and AMES1 can be achieved, and will, as soon as possible before the CAH, but in any event before the end of the Examination, submit to the Examining Authority a legal agreement or other binding arrangement which will secure HE's objectives without the need for compulsory acquisition, thus rendering the compulsory acquisition process unnecessary.**

Highways England response

- 36.1.14 Highways will continue to work with APC/CM with a view to achieving this outcome.

Key Issue

- 36.1.15 **CM has indicated that it would be content to receive a nominal sum plus reimbursement of its reasonable professional fees for these negotiations and such agreement as set out above.**

Highways England response

- 36.1.16 Noted, Highways England will discuss compensation and the payment of reasonable professional fees with CM.

Key Issue

- 36.1.17 **In the event that HE has not accepted CM's proposal by the time of the CAH, CM will wish the CAH to take place and to examine HE's reasons for not accepting the proposals.**

Highways England response

- 36.1.18 As noted above, Highways England broadly accept the principle of the proposal and will work the APC/CM, Wiltshire Council and the relevant undertakers to progress this.

Key Issue

- 36.1.19 **CM requests that the ExA does NOT confirm the Compulsory Purchase Order in respect of those plots identified in the annex to these representations as there is clearly an alternative mechanism available capable on being secured by a legal agreement (which CM will provide to the ExA as soon as possible before the CAH, such agreement to be agreed and finalised by the parties before the end of the Examination) which will ensure that HE's entire objectives in respect of that element of the DCO which affects CM land and which therefore renders the**

Compulsory Purchase of either the freehold or rights over CM land UNNECESSARY .

Highways England response

- 36.1.20 In line with the compulsory acquisition guidance, Highways England will continue to seek the compulsory acquisition powers sought within the DCO for the works associated with the Allington Track until all necessary private agreements have been concluded in order to ensure the deliverability of the Scheme.

36.2 Traffic and Transport

Key Issue

- 36.2.1 **CM has therefore put forward the following proposals to HE which it believes will adequately secure HE's current objectives in relation to the presently proposed A303 upgrade, and therefore render the CPO unnecessary.**
- 36.2.2 **Allington Track Diversion**
- 36.2.3 **It is proposed that the diversion shall comprise-**
- a. **a 5.5m metalled carriageway width with passing places as presently shown on the scheme plans;**
 - b. **1m verges, restricted to verge use only on either side;**
 - c. **this overall width (7.5m) to be dedicated to HE or Wiltshire Council (WC) as public highway;**

Highways England response

- 36.2.4 The freehold acquisition of the land required for the Allington Track diversion is sought in order to ensure the deliverability of the scheme in the event that an agreement with the relevant landowner is not possible. In this regard, Highways England is working with the landowner (APC/CM) and with Wiltshire Council to agree a mechanism to enable the dedication of the land as highway and its subsequent adoption by Wiltshire Council, as suggested by APC/CM.
- 36.2.5 This commitment will be expressed within the Position Statement, as a precursor to a legal agreement. The Applicant broadly agrees with CM's proposals, subject to detailed design and negotiations with APC/CM, Wiltshire Council and the relevant statutory undertakers.

Key Issue

- 36.2.6 **AMES1 Diversion**
- It is proposed that the diversion shall comprise**

- a. a maximum total width of (4.6 m) comprising a single track gravel surfaced carriageway inclusive of its verges;
 - b. this width to be dedicated to HE or (WC) as a public byway and for no other purpose;
 - c. standard highways post and rail wooden fences to define the overall width to be dedicated as a public byway;
 - d. any slopes to cuttings or embankments necessary at approx. 1:4 gradient not included by
- 36.2.7 CM in any dedication as a public byway but to remain wildflower meadow/ public open space.
- 36.2.8 All of these works may generally be within the overall extent of the areas of land identified in the Order and shall include any ancillary rights required for public utility apparatus.

Highways England response

- 36.2.9 The freehold acquisition of the land required for the AMES1 diversion is sought in order to ensure the deliverability of the scheme in the event that an agreement with the relevant landowner is not possible. In this regard, Highways England is working with the landowner and with Wiltshire Council to agree a mechanism to enable the dedication of the land, as suggested by APC/CM.
- 36.2.10 This proposed solution will be expressed within the Position Statement. The Applicant broadly agrees with the proposals, subject to detailed design and the outcome of negotiations with APC/CM, Wiltshire Council and the relevant statutory undertakers.

Key Issue

- 36.2.11 CM will then dedicate such of its land on which the diversion works have been carried out as is necessary as highway in accordance with the proposed specifications set out above. HE shall also undertake the necessary procedure to adopt the currently built section of Equinox Drive and this at no cost to CM.

Highways England response

- 36.2.12 The Applicant is broadly in agreement with the proposal subject to detailed design and the outcome of negotiations with APC/CM, Wiltshire Council and the relevant statutory undertakers.

37 Morrison & King Limited (REP2-105)

37.1 General and cross-topic

Key Issue

- 37.1.1 The hours of operation also remain a mystery as despite having been referenced to the working hours undertakings provided within the Outline Environmental Management Plan without knowing which aspects of the Scheme the compound/stockpiles are associated with it is not possible to ascertain the likely hours of operation. See 4.2.2 below.

Highways England response

- 37.1.2 Details related to the compound will be available at the detailed design stage, once a contractor has been appointed. This includes the details of stockpiles. It is however anticipated that the stockpiles at the eastern compound will be associated with the works to the east of the scheme, including the eastern portal and countless flyover.

Hours:

- 37.1.3 The eastern compound falls within chainage 11300 – 12400 and as such is within a location identified for site specific working hours (refer to item MW-G13 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). These are as follows:
- 07:30 – 18:00 Monday to Friday
 - 07:30 – 13:00 Saturday
- 37.1.4 A period of up to one hour before and up to one hour after normal working hours will be used for start-up and close down of activities. This will include, but not be limited to, deliveries, movement to place of work, unloading, maintenance and general preparation works.
- 37.1.5 It may be necessary for the Contactor to deposit earthwork materials from excavations during the summer time (defined as British Summer Time, i.e. late March to late October) working hours defined within the OEMP (item MW-G12). In such instances, the hours of operation would be 07:00 – 22:00 Monday to Saturday with occasional working on Sundays and Bank Holidays.

37.2 Agriculture

Key Issue

- 37.2.1 In common with all farming businesses, MKL's existing soils are an immensely valuable resource. The appropriate, diligent and timely management of this resource is key to its business endeavours.

Significant concerns exist generally regarding the areas to be occupied during the construction phase of the Scheme and specifically in respect of the temporary compound to be located within its freehold. MKL seeks binding assurances in respect of the following:

- 37.2.2 **Pre-commencement soil survey; to include topsoil type, site variance and subsoil structure.**

Highways England response

- 37.2.3 Detailed field surveys and analysis of soil physical characteristics (including include topsoil type, site variance and subsoil structure) have already been undertaken and these have informed the preparation of Figure 13.1 Agricultural Land Classification Plan [APP-179]. Further surveys were also carried out in 2018 to cover additional areas of land that were proposed to be affected.
- 37.2.4 Protection of geology and soil resources during construction, including in relation to the removal, handling, and storage, as well as reinstatement, will be delivered through measures contained in the Outline Environmental Management Plan (OEMP) [APP-187], (a revised version of which is being submitted at Deadline 3 of the examination). The primary mechanism for this protection will be the Soils Management Strategy (SMS) (MW-GEO3), which the main works contractor will be required to produce, and which will identify the nature and types of soil that will be affected and the methods that will be employed for stripping soil and the restoration of agricultural land.
- 37.2.5 Any excavated soil, including topsoil, will be managed in accordance with a Soils Handling Strategy and Soils Resource Plan, which will refer to the relevant British Standards, notably BS3882 Specification for topsoil, and will include provision for the sustainable handling, storage and use of topsoil and other soil resources. A requirement for the development of these documents by Highways England's appointed contractor, ahead of construction, has been incorporated into the Outline Environmental Management Plan (OEMP), as set out in Appendix 2.2 of the ES [APP-187] (being updated for Deadline 3 of the examination), see mitigation measure MW-GE07. Compliance with the OEMP is secured under requirement 4 of Schedule 2 to the draft development consent order [REP2-003]. Where there is an archaeological constraint a 'no dig' solution for the building of the compound would see topsoil retained in situ with appropriate protection for the soil being provided.

Key Issue

- 37.2.6 **Adherence to an agreed and detailed Soil Management Plan devised in accordance with best industry practice; to include methods of working, extent of topsoil removal, site specific topsoil storage methods, weed control, reinstatement methods, aftercare and post-scheme monitoring.**

Highways England response

- 37.2.7 The Soils Handling Strategy and Soils Resource Plan will make reference to the relevant British Standards, notably BS3882:2015 – Specification for topsoil. It will include provision for the sustainable handling, storage and use of topsoil and other soil resources; site specific topsoil storage methods; reinstatement methods, aftercare and post scheme monitoring. Weed control of soil stores is also an important element of the plan. A requirement for the development of these documents has been incorporated in the Outline Environmental Management Plan, as set out in Appendix 2.2 of the ES [APP-187] (a revised version of which is submitted at Deadline 3).
- 37.2.8 Further detail of this process is under discussion with the National Farmers Union.

Key Issue

- 37.2.9 **No soil to be exported from nor imported to the temporary storage compound site**

Highways England response

- 37.2.10 Stripping of top-soil at the eastern temporary construction compound will be by exception only for specific activities, for example services connections or areas of archaeological significance. Exclusion areas to protect particular archaeological features, and a 'no dig' solution for the building of the compound would see topsoil retained in situ.
- 37.2.11 Further detail of this process is under discussion with the National Farmers Union.

Key Issue

- 37.2.12 **Protection measures for subsoil structure; to include the laying of a geotextile membrane with stone above across all trafficked areas.**

Highways England response

- 37.2.13 Appropriate protection of soil resources will be ensured via MW-GEO3. The Soil Management Plan, incorporating a Soil Management Strategy and Soil Resource Plan will be produced prior to works commencing and will set out the requirements of soil handling, storage and treatment. A requirement for the development of these documents by Highways England's appointed contractor, ahead of construction, has been incorporated into the Outline Environmental Management Plan (OEMP) [APP-187], (a revised version of which is submitted at Deadline 3) as set out in Appendix 2.2 of the ES [APP-187], see mitigation measure MW-GE07. Compliance with the OEMP is secured under requirement 4 of Schedule 2 of the draft development

consent order [REP2-003]. Further detail of this process is under discussion with the National Farmers Union.

Key Issue

- 37.2.14 **Area Ref.09-22 identified in Appendix Two is currently permanent pasture and utilised by the livery enterprise for grazing. The Scheme proposals for this area to be planted with trees will see this grazing lost permanently to the livery business and prior to planting access will be prevented as the area will be severed by the proposed site compound.**

Highways England response

- 37.2.15 Highways England would be obliged to compensate Morrison & King Limited for loss or damage arising from the temporary possession of land under article 29 of the draft development consent order [REP2-003].

Key Issue

- 37.2.16 **Security at livery yards is extremely important, as they are frequently the target for low level rural crime. Potential clients looking for livery are highly sensitive to any perceived 'security threats' where they may be considering stabling their horse. It is hard to imagine that a large and active adjoining site compound would not have an adverse impact upon the perception of yard security whether any actual crime were to arise or not.**

Highways England response

- 37.2.17 The appointed Contractor will be required to adequately secure the works to guard against theft and vandalism. The measures adopted will take into consideration the environmental constraints and sensitivities of the site. This is secured through the Outline Environmental Management Plan, ES Appendix 2.2 [APP-187], (a revised version of which is submitted at Deadline 3) where references to the need for such measures are set out at items PW-G5 and PW-CH1 in Table 3.2a in respect of the preliminary works, and at items MW-G8, MW-G27 and MW-CH1 of Table 3.2b in respect of the main works. Compliance with the Outline Environmental Management Plan is secured by paragraph 4 of Schedule 2 of the draft development consent order [REP2-003].
- 37.2.18 Any claims relating to loss of business due to the construction of the project should be submitted to Highways England and will be assessed independently by the valuations office.

Key Issue

- 37.2.19 **It is understood that within the DCO process the imposition of a new combine access route to Park Farm across Countess Farm is proposed. Despite repeated enquiries,**
- 37.2.20 **the Applicant has been unable to provide assurances in respect of this. Clearly such a right of way can raise concerns when the exact detail has not been made available. MKL would like further details and to see any such right restricted to a limited number of combine harvester and single escort vehicle movements during the summer months for the sole benefit of the current freeholder/leaseholders of Park Farm.**

Highways England response

- 37.2.21 A route has been included in the DCO application which has been based on the information supplied by Morrison and King.
- 37.2.22 The Applicant is continuing to discuss the matter with the affected landowners and the National Trust.

37.3 Design

Key Issue

- 37.3.1 **The illustrative layout referred to above shows a new water main being installed across the site; a site that is known to have archaeological interest. When questioned over this water main the Applicant explained that this was to be a water supply to the tunnel/main compound and it was therefore suggested that a better route might be found; one that did not require a crossing of the River Avon nor an area of known archaeological interest. It was subsequently revealed that this supply was for the proposed site compound on MKL's freehold and not the tunnel/main compound whatsoever, contrary to the detail within the illustrative layout. Surely as simpler and less disruptive supply could be taken from the main within Countess Road for that purpose?**

Highways England response

- 37.3.2 The water supply for the Eastern tunnel portal (and initially the Countess compound) will come through land plot 09-21 further to discussions with Wessex Water. Wessex Water have indicated that the water supply demands of the tunnel firefighting system determine that the supply will need to come from the Wessex Water main that runs along the western side of the River Avon. As such, no crossing of the Avon is required. If areas of archaeological interest are to be crossed, they will be suitably protected by the measures set out in the Outline Environmental Management Plan, ES Appendix 2.2 [APP-187] (a revised version of which is submitted at Deadline 3) and the Detailed Archaeological Mitigation Strategy (DAMS) (a draft of which was submitted at Deadline 2 [REP2-038]). The water main within

Countess Road would not be able to supply the demands of the tunnel firefighting system.

37.4 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

- 37.4.1 **The extent of the Applicant's proposed compulsory acquisition is shown on the plan attached as Appendix Two. The Applicant is seeking to compulsorily acquire the freehold of one area for tree planting purposes (Ref. 09-22). MKL has repeatedly offered to enter into a legally binding management agreement to provide for such tree planting and future maintenance as the Applicant might require. It is understood that the provisions of S.253 The Highways Act 1980 provides for such circumstances.**
- 37.4.2 **Legislation and government guidance is clear that a Development Consent Order may only authorise compulsory acquisition if the Secretary of State is satisfied that the land is required for the Development to which the consent relates, or is required to facilitate or is incidental to the Development; and that there is a compelling case in the public interest for the compulsory acquisition.**
- 37.4.3 **Applicants must also be able to demonstrate that all reasonable alternatives to compulsory acquisition including modifications to the Scheme have been explored, and that the proposed interference with the rights of those with an interest in the land is for a legitimate purpose and that it is necessary and proportionate.**
- 37.4.4 **MKL therefore asserts that the proposed compulsory acquisition of area Ref.09-22 is neither in accordance with statute nor guidance and objects accordingly. The Applicant's proposed tree planting can be achieved by a reasonable alternative as proposed by MKL, namely entering into a binding legal agreement under s.253 The Highways Act 1980. MKL will continue to work towards such an agreement with the Applicant in respect of the proposed tree planting.**
- 37.4.5 **The lack of meaningful progress in respect of this matter lies squarely at the Applicant's door. No draft papers have been produced nor substantive discussions despite repeated requests from MKL's representative. This lack of meaningful engagement has necessitated continued representations on this matter within the Examination process and thereby continues to result in higher costs to be borne by MKL.**
- 37.4.6 **MKL will continue to seek a legally binding agreement which may be submitted to the Examining Authority ensuring provision of the Applicant's proposed tree planting and future maintenance. Ideally this will be achieved before the Compulsory Acquisition Hearing thereby**

mitigating further costs or failing that by the end of the Examination thereby rendering compulsory acquisition unnecessary.

- 37.4.7 **If no such Agreement is submitted, it is respectfully suggested that the Examining Authority seek clarification regarding any lack of progress and consider the cost implications of the same.**

Highways England response

- 37.4.8 Highways England welcomes Morrison & King Limited's proposal to enter into an agreement under section 253 of the Highways Act 1980 in respect of plot 09-22.
- 37.4.9 Highways England has sought to negotiate with the landowner throughout the Position Statement process (three meetings) in which a representative from the valuations office has been present and made contact independently. At the time of the submission of the application, the status of such negotiations was set out in Annex B of the Statement of Reasons [APP-023]. Updates on the status of negotiations were subsequently provided by Highways England following the acceptance of the application [AS-011] and again at Deadline 2 [REP2-041] and a further update will be submitted for Deadline 3.
- 37.4.10 Plot 09-22 is required for mitigation that is essential to the Scheme for visual screening purposes. As such, while Highways England will seek to conclude a section 253 agreement with Morrison & King Limited, it will continue to seek the authorisation of compulsory acquisition powers in order to secure the delivery of the Scheme.

Key Issue

- 37.4.11 **One of the new boundaries is shown as being an otter fence. It is no doubt as a consequence of the Applicant's environmental impact assessment and resulting mitigation measures to enable the Scheme to be considered that such an otter fence is**
- 37.4.12 **proposed. It is therefore inherently unjust that all future maintenance of this fence, or indeed any new boundary fences adjacent to the highway, arising as a result of compulsory powers should be foisted upon the landowner. It is respectfully suggested that the Examining Authority seek future maintenance obligations for boundary fences adjacent to the highway resulting from compulsory powers fall to the Applicant.**

Highways England response

- 37.4.13 Details of fencing remains to be determined as part of the Scheme's detailed design. If otter proof fencing is required at this location it would be for the purpose of preventing otters from gaining access to the existing A303 and as such would be maintained by Highways England.

37.5 Draft Development Consent Order

Key Issue

- 37.5.1 It has hopefully been made clear that the current level of detail regarding the proposed site compound is woefully inadequate to enable reasoned judgements and representations to be made. The most worrying of all being that when repeated enquires have been made of the Applicant regarding further necessary detailed information the stock reply has been that such information ‘will be determined by the appointed contractor’ and ‘produced prior to works commencing’.
- 37.5.2 There appears to be no impediment to any future contractors’ tender process by the inclusion of agreed specifications for these important details. It is therefore respectfully suggested that the Examining Authority seek clarification from the Applicant regarding this lack of detail and consider the cost implications of the same.

Highways England response

- 37.5.3 Construction compounds are temporary construction facilities. Details of the construction compounds are provided in Chapter 2 [APP-040], with the locations shown on the General Arrangement Drawings [APP-012] and indicative layouts shown in ES Figure 2.7 [APP-061]. The potential impacts of the compounds and the activities associated with them will be controlled by measures to limit or avoid dust, noise, spillage and disruption by construction traffic, as set out in the Outline Environmental Management Plan, (OEMP) ES Appendix 2.2 [APP-187], (a revised version of which is submitted at Deadline 3) which is secured by paragraph 4 of Schedule 2 of the draft development consent order [REP2-003]. On completion, the construction compounds, and all other temporary facilities, will be removed and the land reinstated, as required by article 29(4) of the draft development consent order [REP2-003], and in liaison with landowners as per items MW-COM4 and COM5 of the OEMP.

37.6 Flood risk, groundwater protection, geology and land contamination

Key Issue

- 37.6.1 The Scheme proposes extensive road drainage provisions upon MKL’s freehold and its tenanted agricultural demise. Concerns remain regarding these proposals as detailed in 6.3 Environmental Statement Appendices Appendix 11.3 Road Drainage Strategy. Despite stating within paragraph 5.2.3 ‘All ponds would outfall to the existing highway ditches’ Figure 5.2 illustrates a proposed new ditch in close proximity to MKL’s grain handling facility at Countess Farm. MKL has considerable concerns that this will increase the water table in the immediate environs of any new ditch(es).

- 37.6.2 **The current grain handling facility has a reception pit and elevator sump that are prone to water ingress and resultant flooding. This is managed by draining to an external sump from which a submersible pump is operated. That sump would be in very close proximity to the new proposed ditch(es) and any increase in water table could see the current pumping arrangement overrun and the grain handling facility rendered unserviceable.**
- 37.6.3 **If the grain handling facility does remain serviceable, provision for MKL to continue to pump to the existing ditch or replacement ponds/ditches must be safeguarded and the Examining Authority are respectfully requested to seek assurances from the Applicant in this regard.**

Highways England response

- 37.6.4 No likely significant adverse effects are identified for the water environment or for flood risk, including in relation to Countess Farm, as set out in the Environmental Statement, Chapter 11, Road Drainage and the Water Environment [APP-049], Section 11.9. All groundwater effects from the construction works at Countess Roundabout were found to be non-significant for the construction phase and the operational phase. All ponds would outfall to the existing highway ditches which ultimately discharge the runoff to the River Avon. The ponds would be designed to ensure no ingress from flood waters in the 1 in 100 year plus climate change event from the adjacent River Avon catchment. As such, there should be no cause for drainage concerns, in relation to the grain storage facility at Countess Farm, arising in consequence of the Scheme. To provide the assurance sought Highways England will continue to monitor the groundwater levels throughout the construction of the Scheme.

37.7 Health and Wellbeing

Key Issue

- 37.7.1 **The location of the site compound immediately adjacent to the stable yard will undoubtedly lead to significantly increased levels of noise, dust and light intrusion. The Applicant has referenced the relevant topic chapters of the Environmental Statement, including Chapter 5, Air Quality (APP-043), Chapter 7 (APP-045), Landscape and Visual, Chapter 9 APP 047), Noise and Vibration, and Chapter 13 (APP-051), People and Communities (document reference 6.1). These assessments have concluded that there would be a range of adverse impacts during construction, presumably the entire period that the site compound is located adjacent to the stable yard.**
- 37.7.2 **The most noteworthy omission in respect of these assessments is that they have been conducted from a human perspective and it is a widely accepted fact that horses are considerably more sensitive to noise, dust and artificial light than humans.**

Highways England response

- 37.7.3 Details of the construction compounds are provided in ES Chapter 2 [APP-040], with the locations shown on the General Arrangement Drawings [APP-012] and indicative layouts shown in ES Figure 2.7 [APP-061]. This illustrates that the compound area itself is over 100m south of the boundary with the livery. Activities at the Countess satellite compound are primarily associated with vehicle movements and delivery of materials. The main construction compound at Longbarrow junction is where the main construction activities (for example supporting operation of the TBM and processing of waste materials) will be located. Provisions in the OEMP (MW-G28) set out measures in relation to compounds including a requirement for site hoarding. The OEMP is secured by Paragraph 4 of Schedule 2 to the draft development consent order [REP2-003].
- 37.7.4 The effect of noise on the health and wellbeing of animals housed or grazing close to the Scheme has not been specifically addressed in the noise assessment as the assessment was carried out in accordance with DMRB Volume 11, Section 3, Part 7, which does not reference livestock as a potentially sensitive receptor. Furthermore, livestock are not protected species and the relevant land is not a protected habitat. However, the design, mitigation and enhancement measures detailed in section 9.8 of the ES Chapter 9 Noise and Vibration [APP-047] would minimise noise levels as far as practicable for livestock as well as other sensitive receptors close to the Scheme. Mitigation measures are secured through the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). These measures include a requirement to use 'Best Practicable Means' to minimise noise from the works, the use of less intrusive reversing alarms, acoustic enclosures, and screening of equipment (MW-NOI1). There would be liaison between the contractor and land owners/tenants to avoid particularly sensitive issues arising (secured through MW-COM1 of the OEMP [APP-187] (a revised version of which is submitted at Deadline 3)).
- 37.7.5 With regard to dust there are no experimental data on maximum safe dust levels for livestock and good agricultural practice simply dictates that livestock are not housed in dusty conditions; and, livestock kept outside are usually able to move away from dusty conditions. Likewise, the legislation (The Welfare of Farmed Animals (England) Regulations 2007, HMSO, 1st October 2007) only refers to dust once and only with regard to housed livestock and buildings; the livestock welfare codes (Code of Recommendations for the Welfare of Livestock, DEFRA) make no additional reference.
- 37.7.6 In practical terms dust emissions would be managed across the whole construction area and these measures are considered to be protective for livestock, designated ecosystems and public exposure. Dust mitigation measures, based on standard best practice, are secured through MW-AIR1

of the OEMP [APP-187] (a revised version of which is submitted at Deadline 3).

- 37.7.7 Regarding lighting, the contractor will design, position and direct temporary lighting to prevent unnecessary disturbance as secured in item MW-G29 of the OEMP [APP-187] (a revised version of which is submitted at Deadline 3).

Key Issue

- 37.7.8 **Attached as Appendix Five is an extract from the Applicant's submission 6.3**
- 37.7.9 **Environmental Statement Appendices Appendix 2.2 Outline Environmental Management Plan detailing working hours.**
- 37.7.10 **To date MKL has been not been given any definitive explanation as to what the proposed site compound will be used for. It is reasonable to assume that the proposed compound will require earthworks and therefore could be subject to Summer working hours of 07:00 – 22:00 Monday to Saturday with occasional working on Sundays and Bank Holidays.**
- 37.7.11 **The Applicant has confirmed that some of the proposed compound area 'will be for use as topsoil or chalk stockpile only which will act as a shield for other construction site activity. Indicative plans show construction yard zoning are included in the Environmental Statement (6.2 Environmental Statement Figure 2.7 A-E - Illustrative construction layout including compounds and haul routes)'**
- 37.7.12 **The mention of chalk stockpiles and haul routes has given rise to further concerns that the proposed site compound may be utilised for tunnelling spoil and this would further extend the working hours as detailed within Appendix Five 'Tunnelling and directly associated activities (such as removal of excavated material.....) may need to be carried out on a 24 hours 7 days/week basis'**
- 37.7.13 **Whether the working hours are 0700 to 2200 (with an additional hour either side permissible) 6 days/week or 24 hours 7 days/week is probably academic because neither is in any way compatible with an equine leisure use immediately adjacent.**

Highways England response

- 37.7.14 The eastern compound falls within chainage 11300 – 12400 and as such is within a location identified for site specific working hours (refer to item MW-G13 of the OEMP [APP-187] (a revised version of which is submitted at Deadline 3)). These are as follows:
- 07:30 – 18:00 Monday to Friday
 - 07:30 – 13:00 Saturday

- 37.7.15 A period of up to one hour before and up to one hour after normal working hours will be used for start-up and close down of activities. This will include, but not be limited to, deliveries, movement to place of work, unloading, maintenance and general preparation works
- 37.7.16 At the eastern compound, it may be necessary for the Contactor to deposit earthwork materials from excavations during the summer time (defined as British Summer Time, i.e. late March to late October) working hours defined within the OEMP (item MW-G12). In such instances, the hours of operation would be 07:00 – 22:00 Monday to Saturday with occasional working on Sundays and Bank Holidays.
- 37.7.17 The potential impacts of the compound and the activities associated with it will be controlled by measures to limit or avoid dust, noise, spillage and disruption by construction traffic, as set out in the Outline Environmental Management Plan, ES Appendix 2.2 [APP-187] (a revised version of which is submitted at Deadline 3), which is secured by paragraph 4 of Schedule 2 of the draft development consent order [REP2-003].

It is not anticipated that the compound would be utilised for tunnelling spoil, as this is being transported to the spoil treatment plant located at the main compound to the west of Longbarrow junction. As such, it is not anticipated that the compound would be operational on a 24hr basis.

37.8 Traffic and Transport

Key Issue

- 37.8.1 **The level of detail provided by the Applicant relating to the proposed site compound on MKL's freehold has been woefully inadequate. Virtually the full extent of this is contained within the illustrative layout attached within Appendix Three. The self-same document raises more questions than it answers.**
- 37.8.2 **If there are to be extensive offices as shown where is the parking provision or are all workers expected to arrive by public transport?**

Highways England response

- 37.8.3 Details related to the compound will be available at the detailed design stage, once a contractor has been appointed. At this stage the plans shown within Figure 2.7 [APP-012] are indicative only. Should offices be required at the compound, then it is anticipated that the Contractor would allow for the appropriate level of car parking to accommodate the relevant number of staff regularly working.

Key Issue

- 37.8.4 **MKL objects in the strongest possible terms to the proposed status of the existing A303 as a restricted byway. MKL does not believe that evidence exists recording levels of demand for non-motorised**

vehicular use along the proposed route thereby requiring the restricted byway status proposed. Indeed, it is respectfully suggested that the Examining Authority seek evidence of such demand from the Applicant before considering the restricted byway status sought under the DCO.

- 37.8.5 **With the benefit of many years ‘on the ground’ local knowledge MKL foresees this proposed route and status attracting anti-social and inappropriate behaviour/activities within and adjacent to the UNESCO World Heritage Site. This proposed route should be designated as a bridleway with adequate security barriers/gates installed, excepting seasonal agricultural users.**

Highways England response

- 37.8.6 The proposed restricted byway route along the old A303 will be of significant benefit to local people, encouraging walking and cycling, and adding to the amenity of the area. It will connect these users, as well as equestrians and carriage drivers, to the new public rights of way proposed within the WHS, providing convenient safe access and the opportunity for the WHS to be explored and enjoyed, thus fulfilling one of the objectives of the Scheme.
- 37.8.7 Except for occasional farm and utility vehicles gaining access to adjacent farmland and services, no motor vehicles would be permitted on the former A303 through the WHS, which would become a restricted byway, controlled by appropriate measures, such as Kent Carriage Gaps, at each access point. A key objective of the Scheme is the removal of the sights and sounds of traffic from within the WHS. Opening the downgraded A303 within the WHS to MPVs would be contrary to this objective.

Key Issue

- 37.8.8 **In common with a number of local farmers, MKL wishes to stress that it will be essential to maintain unfettered agricultural access, subject to adequate security provision, along the length of the decommissioned A303 and the Stonehenge Road from Amesbury within the section running from Longbarrow Roundabout as far as the retained section of the Stonehenge Road.**
- 37.8.9 **8.4. MKL uses Stonehenge Road to move stock on foot between Countess Farm and Vineys Farm therefore it is essential that agricultural user access is maintained from King Barrow to Stonehenge Road.**

Highways England response

- 37.8.10 The draft development consent order [REP2-003] includes a power to acquire private rights over land that could be compulsorily acquired, for the benefit of land belonging to others (article 22). This general power would be used to ensure that neighbouring land benefitted from legal rights of

vehicular access over the corresponding parts of the restricted byway that would be created along the line of the existing A303 (to be stopped up).

37.9 Waste and Materials Management

Key Issue

- 37.9.1 **This illustrative layout has been prepared to the same scale as the main compound within the same Appendix and this merely serves to underscore the**
- 37.9.2 **vast scale of the stockpiles shown within the proposed site compound, estimated to cover in excess of nine acres. No explanation as to what these stockpiles will consist of has been forthcoming despite repeated enquiries of the Applicant. It seems almost inconceivable that an engineering project is proposing nine acres to be compulsory acquired for stockpiling and yet the detail of what is to be stockpiled is not available.**

Highways England response

- 37.9.3 Details related to the compound will be available at the detailed design stage, once a contractor has been appointed - this includes the details of stockpiles. It is however anticipated that the stockpiles at the eastern compound will be associated with the works to the east of the scheme, including temporary storage for stripped topsoil, subsoils and other materials excavated during the construction of the eastern portal and countless flyover.

38 Lincoln College (REP2-103)

38.1 Agriculture

Key Issue

- 38.1.1 **Highways England wished to delete a byway which provided the College's only legal access to a parcel of land, but had not provided concrete details of how the College's legal access would be reinstated.**
- 38.1.2 **The point above has moved no further forward. We are assured that it should be possible to agree a right of way across land owned by the MoD to reinstate a legal access to the parcel of land or, failing that, secure consent for a new access from an adjoining public highway. However, Highways England has made no progress with either of these options**

Highways England response

- 38.1.3 The DCO application includes provision for a private means of access for the benefit of the triangle of land on the north side of the A303 (at the eastern end of the Scheme), currently bisected by byway BULF12 and byway AMES2, both of which are proposed to be stopped up in furtherance of the Scheme. The proposed new private means of access is shown on the Rights of Way and Access Plans as reference 28 on Sheet 11 [APP-009] (see inset 2 on Sheet 11). The private means of access would follow the line of existing byway BULF 12, such that access would be taken from the south side of the crossroad junction of Amesbury Road and the B3028 Double Hedges (at the top of the triangle of land).

Key Issue

- 38.1.4 **A new public highway was proposed to join Equinox Drive to Allington Track, with associated open space. This would make it necessary to reinstate an access to a parcel of the College's land which would be removed, and to fence the proposed open space to preserve the existing security of the College's land. Neither of these issues had been addressed by Highways England.**
- 38.1.5 **Highways England has taken on our concerns in connection with Point 3, but considerably more design work will be needed to finalise these proposals to address our client's concerns.**

Highways England response

- 38.1.6 Part of the stopped-up section of AMES1 has been identified as replacement land to be exchanged for open space that is required for the Scheme. The replacement land is identified on sheet 7 of the Special Category Land Plans [APP-006] as plots 10-17 and 11-33. These plots will be laid out as open space.

- 38.1.7 Fencing will be provided between the open space and the adjacent land holdings. Highways England is discussing this issue with the affected landowner, with the aim of reaching agreement on the approach to be taken. Accommodation Works Plans for this area are currently being redrafted following recent discussions.

38.2 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

- 38.2.1 **Highways England wished to take an electrical cable across our client's land and possibly extend an electrical substation, but was unable to confirm the exact details of this scheme.**
- 38.2.2 **Highways England has now provided firmer assurances of which electrical substation of two possible options they intend to use, and has provided a firmer assurance that this should not need to be extended onto the College's land. However, none of these assurances have been made in a form which is final and binding on Highways England**

Highways England response

- 38.2.3 Since the DCO application was submitted, Scottish and Southern Energy plc (SSE) has identified that only the southern Ratfyn substation would be required for the A303 works. Therefore, it is possible that works will not be required in plots: 09-30, 09-31, 09-36, 09-37, 09-38 and 09-40 (as shown on Sheet 9 of the Land Plans [APP-005]) which are required for these purposes although Lincoln College does not have an interest in all of these plots. SSE has also indicated that all necessary works at the southern Ratfyn substation may potentially be carried out within the current substation footprint. This may reduce the need for permanent land acquisition at plots 09-43 and 10-01. However, until the scope of the required works is confirmed by SSE it is necessary and appropriate for Highways England to continue to seek compulsory powers to safeguard the delivery of the Scheme.

38.3 Draft Development Consent Order

Key Issue

- 38.3.1 **Our client's original position was that no DCO should be granted until Highways England has provided clear and final details of the land it wishes to take, the rights it wishes to acquire and the accommodation work it proposes. That remains the case. We feel Highways England is some way from providing this and regret that our client is not prepared to lift its objections until Highways England does so.**

Highways England response

- 38.3.2 The detail, development and implementation of the design of the Scheme and its mitigation measures will be secured by requirements within the DCO, which will be binding on Highways England and any of its contractors in the construction, operation and maintenance of the scheme. Highways England will separately ensure compliance with relevant requirements via contractual obligations on main and sub-contractors, as described in paragraphs 2.3.61 and 2.3.62 of the Environmental Statement (ES) [APP-040].
- 38.3.3 The need for the land and the purposes for which compulsory acquisition powers are sought is set out in section 5.3 of the Applicant's Statement of Reasons [APP-023]. As noted in paragraph 5.3.4:
- " The Applicant considers that the Land included in the DCO is the minimum land-take required to construct, operate, maintain and mitigate the Scheme and is therefore necessary to achieve the objectives of the Scheme. The Applicant has sought to achieve a balance between minimising land take and securing sufficient land to ensure delivery of the Scheme, noting that the detailed design of the Scheme has yet to be developed. In that context, the limits of the Land have been drawn as tightly as possible so as to avoid unnecessary land take. In the event that less land proves to be required in a particular area following the detailed design stage, the Applicant would only seek to acquire that part of the Land that is required and, in all events, will seek to minimise effects on landowners."
- 38.3.4 To achieve this goal the Applicant requires a degree of flexibility in its exercise of compulsory acquisition powers, for example, to acquire rights or impose restrictive covenants over land it would be authorised to compulsorily acquire outright if, following detailed design, the acquisition of rights or imposition of restrictive covenants would suffice.
- 38.3.5 Accommodation Work Plans are currently being redrafted following recent discussions with the landowner and tenant, with the aim to resolve issues of access and fencing.

39 Mr P J Sawkill (REP2-180)

39.1 Agriculture

Key Issue

- 39.1.1 The Applicant in their DCO Application have failed to resolve issues raised in the Consultation Response submitted on 23rd April, a further copy of which is attached at Annex A, re-stated in the Supplementary Consultation dated 14th August 2018, a copy of which is attached at Annex B. I would therefore ask that the Examining Authority investigate in depth why Highways England have not been able to secure the access that is currently available to me to the A303 as after construction I will need to be able to get access to the Countess Road, the only available route which is through Countess Farm.
- 39.1.2 I have proved and it is accepted that my Combine Harvester is unable to maneuver through Amesbury as previously suggested which determines that access through Countess Farm to the Countess Road is a necessity. If I do not get access to the Countess Road this will have severe untold consequences on my business as I would not be able to farm in hand land at Stockport Farm, Amesbury or undertake the contract farming arrangements at Fox Farm, Amport. A plan showing the respective locations of the areas farmed appears at Annex C.
- 39.1.3 The Examining Authority should examine the reasons as to why Highways England and the National Trust who own the land at Countess Farm do not appear to have had any meaningful discussions or involve the land owner of Park Farm, West Amesbury whose cooperation will be required to achieve the access to the Countess Road incorporating a route across Park Farm and also examine why as tenant of West Amesbury Farm I too have not been involved in trying to resolve this issue.

Highways England response

- 39.1.4 The main access benefitting Park Farm and West Amesbury Farm is proposed within the Order limits and will not cross Countess Farm or use the existing access off Countess Road. Farm access arrangements for large vehicle movements have been and will continue to be discussed with affected landowners and occupiers of Park Farm, West Amesbury Farm, National Trust and Countess Farm.
- 39.1.5 The large vehicular movements access from Park farm and West Amesbury Farm across the de-trunked A303 is incorporated within the accommodation provided to plot 08-21 across the eastern tunnel portal. This can be seen on sheet 8 of the Rights of Way and Access Plans [APP-009], reference 27.

The discussions continuing with the National Trust are regarding an extension of this access northwards within their land holding.

- 39.1.6 The National Trust's legal advisors have confirmed to the Applicant that all land within the National Trust's freehold which is being affected by the scheme is held inalienably.
- 39.1.7 Regular meetings and updates have, and continue to take place with Mr Sawkill. These meetings will continue as the Scheme progresses.

Key Issue

- 39.1.8 **Highways England although asked on numerous occasions have not been able to provide any documentary evidence concerning the issue of the land at Countess Farm being potentially inalienable. I believe the Examining Authority should examine this aspect as Countess Farm was purchased on the open market by the National Trust and seek to see the documentary evidence confirming the status of the land at Countess Farm.**
- 39.1.9 **Highways England appear unwilling to use the powers available to them to compulsory acquire land at Countess Farm to achieve getting a route out of Park Farm to Countess Farm and potential routes are indicated on the plan at Annex D.**
- 39.1.10 **The reasons for their failure to do so should also be examined.**

Highways England response

- 39.1.11 The National Trust's legal advisors have confirmed to the Applicant that all land within the National Trust's freehold which is being affected by the scheme is held inalienably.

Key Issue

- 39.1.12 **The applicant's proposals for the closure of Stonehenge Road at the location shown on the DCO plans also requires examination as the point of closure is by the main entrance to West Amesbury Farm.**
- 39.1.13 **With Stonehenge Road at that point still being a public highway but with no final destination I believe that this area of Stonehenge Road will be used extensively for improper use including fly tipping, parking and camping together with other anti-social uses. This will also substantially increase the risk of the potential illegal activities occurring at West Amesbury Farm. At the same time the risk of potential incidences surrounding livestock which are housed at West Amesbury Farm and Park Farm being potentially in conflict with members of the public is increased and if the intended closure point of Stonehenge Road was moved to the Woodford Valley Junction this also diminishes the risk of farm livestock being subject to theft.**

- 39.1.14 **Being resident at No. 1 Park Farm Cottages with a young family, without moving the closure point down to the Woodford Valley Road and with the very likelihood of increase of the use of Stonehenge Road for undesirable activities, this increases the risk to my family which is unacceptable.**
- 39.1.15 **A suggestion has been made to Highways England that the point of closure of Stonehenge Road should be at the junction of the Woodford Valley Road which is shown on the attached plan at Annex E. The intended use of the declassified section of Stonehenge Road would not be altered and the owner of Park Farm has offered to assume maintenance for this area, as the principal affected land owner and user. Between the owner of Park Farm Cottages and myself as tenant of West Amesbury Farm we would then have the ability to "control" and maintain that area to our standards rather than have to rely on Wiltshire Council and their diminishing funds. Highways England should examine the applicant as to why no alternative to the proposed closure point of Stonehenge Road has been considered or put forward as a viable alternative.**
- 39.1.16 **The Examining Authority should examine further why at the application stage, the Applicant has been unable to provide details as to how utility services such as electricity and water which will inevitably be needed at the eastern portal and along the length of the tunnel will be delivered to site and if my occupation of West Amesbury Farm will be disrupted by either a new water main or electricity supply or a combination of both?**

Highways England response

- 39.1.17 The section of Stonehenge Road from its junction with the A303 in a generally south-easterly direction to its junction with footpath AMES 13 would be converted to a restricted byway. Private means of access rights would be provided for Stonehenge Cottages and adjacent landowners. The extent of the converted Stonehenge Road is shown on the Rights of Way and Access Plans [APP-009] hatched as 'new right of way and new private means of access and is also labelled on those Plans as part of the new restricted byway, reference J. The proposed extension of the restricted byway to the junction of Wishford Road and Stonehenge Road would restrict access to a number of properties in West Amesbury. These properties currently have access along a lane running south then south-west from Stonehenge Road, commencing approximately 270 metres north-west of the junction, opposite Park Farm.
- 39.1.18 While the details of the new public rights of way, including fencing remain to be determined as part of the detailed design, the Applicant envisages that the public right of way will be fenced to prevent access onto private land. The road would be blocked by a Kent carriage gate and would be a

restricted byway after the gate. Keys could be provided to people entitled to vehicular access.

- 39.1.19 While the Applicant will continue to discuss the offer to maintain part of this restricted byway at the expense of the landowner, the Applicant's initial views are that in the long term it would be preferable for the maintenance of the restricted byway to fall to the highway authority, who is equipped to carry out this function.
- 39.1.20 The Applicant has commissioned feasibility reports for the water and electricity supplies required for the scheme. These indicate that: the water supply would be taken from the existing main running immediately to the west of the River Avon, through the proposed Countess Site Compound (or use Plot 9-12) and running generally alongside the northern edge of the existing A303 crossing the proposed A303 to the proposed tunnel building on the south side; and the electricity supply would be taken from the existing Ratfyn substation, and would run southwards along the existing access meeting the existing A303, at which point it would also run generally alongside the northern edge of the existing A303, again crossing to the south to meet proposed tunnel building. Both supply routes would be subject to detailed design by each provider and would be constructed wholly within the Order limits. As such, occupation of West Amesbury Farm is not expected to be disrupted by the construction of either a new water main or new electricity supply.

40 M&R Hosier and Rachel Hosier (REP2-104 and REP2-168)

40.1 Agriculture

Key Issue

40.1.1 Land take

40.1.2 The scheme takes land from our holding over and above that required for the new road infrastructure, when the area could remain within our ownership being farmed under prescriptive management to deliver the same biodiversity benefits. Having transformed arable land around the barrows into the Normanton Down Nature Reserve with management agreements with RSPB, we have experience to do this.

40.1.3 Overall a total of 16.82 hectares (41.56 acres) of land (not including subsoil) owned by M&R Hosier has been identified for compulsory acquisition by the applicant. The land required forms part of the western tunnel portal together with a cutting running from the tunnel portal to the Longbarrow Roundabout. In addition, land is required for the creation of a green bridge for a new bridleway over the new carriageway and various ecological requirements.

40.1.4 All of the plots listed above are identified on the Land Plans as being required for Permanent Acquisition of Land which references in Article 19(1) of the Draft DCO as giving the undertaker the ability to acquire compulsorily so much of the Order land as is required for the authorised development, or to facilitate, or as is incidental to it.

40.1.5 Save for the land required for the road carriageway and 'hard' infrastructure M&R Hosier are of the view there is no justification for the excessive use of CPO powers to acquire for the purposes of setting out land for ecological mitigation.

40.1.6 It is not considered there is a compelling case to acquire these areas as M&R Hosier is a competent and willing farmer with a track record of managing similar areas of conservation and ecological importance across their farm. M&R Hosier would enter into an agreement with the Applicant to manage these areas on an ongoing basis. However due to the ongoing confusion as to who will be responsible for the management of these areas it is not possible to progress with the agreeing of accommodation works around these areas such as appropriate fencing, gate widths/positions etc.

Highways England response

40.1.7 The land identified for permanent acquisition around the tunnel has been reduced to the minimum required in order to construct, operate and maintain the tunnel. It does, however, include a Limit of Deviation, within which the

tunnel will be located following detailed design. Highways England will only acquire that land that is identified as required for permanent acquisition once the final detailed design is confirmed. With reference to the Environmental Masterplan [APP-059], some land has been identified for essential mitigation around the tunnel to enable the portals to be set below ground levels or replicate ground levels as far as practicable and integrate the approach to the portals for landscape and visual integration, in combination with areas of new species rich chalk grassland for nature conservation and biodiversity.

- 40.1.8 The approach to integrating the new road into the existing landscape is set out in the Design and Access Statement [APP-295]. As secured by paragraph 8 of Schedule 2 to the draft development consent order [REP-003], the appointed contractor will be required to develop a landscaping scheme which is based on the landscaping approach set out in the DCO. This approach includes the provision of bunds and false cuttings, with sympathetic regrading of earthworks to match the existing natural rolling landform, along with planting of trees, where appropriate to the landscape character, hedgerow, shrub and extensive chalk grassland areas. The approach is described in the Environmental Statement (ES) Chapter 7, Landscape and Visual [APP-045] section 7.8, Design, Mitigation and Enhancement Measures and is shown indicatively on the Environmental Masterplan in Appendix 2.1 of the ES [APP-059]. Responsibility for subsequent land management is a matter which Highways England is willing to discuss with relevant landowners with a view to reaching agreements that would avoid the need to exercise powers of compulsory acquisition. However, until such agreements are concluded it remains necessary for Highways England to seek the full powers of acquisition necessary to secure the delivery of mitigation essential to the delivery of the Scheme.

Key Issue

- 40.1.9 **Pig Enterprise**
 Currently an outdoor pig breeding unit rotates within the area proposed for the western portal and the deep cutting. The enterprise adds natural fertility to this area of the farm and forms part of the crop rotation.
- 40.1.10 **The reduction of land within the area may not seem large, but in conjunction with awkward positioning of Green Bridge 4 and the addition of the new A360 bridleway. These will be biosecurity and welfare issues on the unit, which will affect its performance. Issues of trespass, dog attacks and spread of diseases as well.**
- 40.1.11 **With no guarantee that our water supply will not be compromised and with no proposals for an alternative water supply, the risk of animal welfare issues to the herd means that we would no longer be able to continue to operate the pig unit.**
- 40.1.12 **Due to the risks of there being a compromised water supply together with the likely increase in pedestrians and dog walkers in proximity of**

livestock areas it is unlikely the existing pig enterprise can be maintained on the farm.

- 40.1.13 **Pig enterprise was introduced into this 89ha block of farm to improve soil fertility naturally providing benefits to the business in terms of enhanced yield, grain quality with reduced need for inputs. The 750 sow unit rotate around approx. 29 ha of the block over a 6 year cycle, to provide optimum health status.**
- 40.1.14 **The loss of the pig enterprise will lead to a reduction of income and soil productivity and crop yields.**

Highways England response

- 40.1.15 Potential construction impacts will be minimised as far as reasonably practicable through the implementation of a Construction Environmental Management Plan (CEMP) based on the Outline Environmental Management Plan (OEMP) [APP-187], a revised version of which is being submitted at Deadline 3 of the examination. If the pig enterprise is demonstrably adversely affected by the scheme, compensation may be claimed.
- 40.1.16 However, as set out in ES Chapter 11, Road Drainage and the Water Environment [APP-049], the assessment shows no significant changes to hydrology, surface water quality or groundwater quality during either the construction or operational phases of the Scheme. During the assessment, there was extensive engagement with the Environment Agency and Wiltshire Council. The extent of agreement with these organisations will be set out in the Statements of Common Ground. Monitoring of boreholes to inform detailed design is on-going. During construction, the contractor will be required to comply with the general and topic-specific principles and requirements for the control, mitigation and monitoring of potential construction impacts, including in relation to the protection of private water supplies, hydrology, land drainage, and sewage disposal from construction compounds set out in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). The OEMP is presented in the ES Appendix 2.2 [APP-187], is being updated at Deadline 3 of the examination, and is secured through Paragraph 4 of Schedule 2 of the draft development consent order [REP2-003]. During operation, the magnitude of impacts from the Scheme's Road Drainage Strategy have been assessed as a moderately beneficial residual effect for water quality in the River Avon as a result of improved treatment and prevention of pollution from road runoff, compared with the current situation. The Environment Agency agree that this benefit is likely, which will be recorded in the Statement of Common Ground being developed with the Environment Agency, to be submitted to the Examination in due course. New measures as described in the Road Drainage Strategy, ES Appendix 11.3 [APP-281] (compliance with which is secured pursuant to schedule 2,

paragraph 10 of the draft development consent order [REP2-003]), will include systems to isolate any spillages and treatment basins to improve the quality of the runoff so there will be no significant adverse effects on either groundwater or the Rivers Till and Avon. The existing road has minimal pollution control and in places none at all. The Road Drainage Strategy was developed in consultation with Wiltshire Council and the Environment Agency and compliance with it is secured pursuant to schedule 2, paragraph 10 of the draft development consent order [REP2-003].

- 40.1.17 It is anticipated that where necessary to address the potential for trespass and related issues), fencing would be provided both during the construction period (as required by the OEMP) and subsequently.

Key Issue

- 40.1.18 **Soil and Protection of Soils**

- 40.1.19 **There is a significant risk that soils will be damaged during the construction period. Mitigation needs to be set out clearly by the Highways Agency and agreed with the landowners to show how the valuable and productive soil will be protected during the construction period.**

Highways England response

- 40.1.20 Mitigation to limit or avoid impacts on geology and soils receptors has been inherent within the design and development of the scheme and has been informed by comprehensive baseline studies, including ground investigations. Protection of geology and soil resources during construction, including in relation to the removal, handling, and storage, as well as reinstatement, will be delivered through measures contained in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3).
- 40.1.21 The primary mechanism for this protection will be the Soils Management Strategy (SMS) (MW-GEO3), which the main works contractor will be required to produce, and which will identify the nature and types of soil that will be affected and the methods that will be employed for stripping soil and the restoration of agricultural land. In producing the SMS, the contractor shall follow the guidance in Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (2009) when handling agricultural soils. Further, as part of the SMS, the contractor will be required to develop a Soils Handling Strategy, with reference with reference to BS3882: 2015 Specification for Topsoil and the Construction Code of Practice for the Sustainable Use of Soils on Construction Site, and a Soil Resource Plan (MW-GEO7). Compliance with the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) is secured through paragraph 4 of schedule 2 of the draft development consent order [REP2-003].

- 40.1.22 Further information on the can be found in ES Chapter 10, Geology and Soils [APP-048], which reports that there will be no significant effects in relation to geology and soils, section 10.9.

Key Issue

40.1.23 Soil and Protection of Soils

- 40.1.24 **There has not been any formal identification of the differing land grades. This needs to take place to ensure that a minimum of the best and most versatile agricultural land is taken for the scheme, and to guide how these areas can be protected. The land grade plans that appear to be used by the applicant for the purpose of identifying land quality should only be used as a guide and further investigations should be carried out on the ground by a professional.**

Highways England response

- 40.1.25 Detailed field surveys and analysis of soil physical characteristics (topsoil and subsoil) have been undertaken and these have informed the preparation of Figure 13.1 Agricultural Land Classification Plan [APP-179]. Further surveys were carried out in 2018 to cover additional areas of land that would be affected.
- 40.1.26 The surveys provide the basis of the agricultural land classification and will inform the preparation of the Soils Management Strategy, which the main works contractor will be required to produce, and which would identify the nature and types of soil that would be affected, and make provision for the restoration of agricultural land (item MW-GEO3 of the OEMP). Compliance with the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) is secured through paragraph 4 of schedule 2 to the draft development consent order [REP2-003].

Key Issue

40.1.27 Soil and Protection of Soils

Bringing soils back to agricultural use after the construction of a major infrastructure project is very difficult. Therefore the way soils are stripped and stored is very important, as is the method of de-compaction of tracked areas. Soils will take many years to recover from this sort of treatment and it can take a very long time before combinable crops are able to be grown to the same yield and quality as before.

Highways England response

- 40.1.28 Protection of geology and soil resources during construction, including in relation to the removal, handling, and storage, as well as reinstatement, will be delivered through measures contained in the Outline Environmental

Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). The primary mechanism for this protection would be the Soils Management Strategy (SMS) (MW-GEO3), which the main works contractor would be required to produce, and which, as explained above, would identify the nature and types of soil that will be affected and the methods that will be employed for stripping and storing soil (with topsoil and subsoil being stored separately (where present)) and the restoration of agricultural land. Compliance with the OEMP is secured through paragraph 4 of schedule 2 of the draft development consent order [REP2-003].

- 40.1.29 It is acknowledged that agricultural land restoration takes time but it is necessary to strip and store soils temporarily to enable the construction of the scheme. Provided the restoration is undertaken following good practice and soils are monitored during the aftercare period and remediated as required, the agricultural land should be restored to a satisfactory condition. Where financial loss is incurred the District Valuer will be involved and will assess any claim for compensation in line with Statute.

Key Issue

40.1.30 **Soil and Protection of Soils**

40.1.31 **Highways England (and their appointed contractor) should be required to:**

- **Fund an aftercare period to ensure full soil restoration, structure and fertility**
- **Take soil samples to record the base line of agricultural soils disturbed**
- **Survey and Sample soils after construction and reinstatement and continue to do so annually until the soil is back in a condition capable of providing a similar yield to that provided before construction**
- **Improve the condition of the soil structure through the application of organic content and muck through mole ploughing and field drainage as appropriate**

Highways England response

- 40.1.32 The detail, development and implementation of the design of the Scheme and its mitigation measures will be secured by requirements within the DCO, which will be binding on Highways England and any of its contractors in the construction, operation and maintenance of the scheme. Highways England will separately ensure compliance with relevant requirements via contractual obligations on main and sub-contractors, as described in paragraphs 2.3.61 and 2.3.62 of the Environmental Statement (ES) [APP-040].

- 40.1.33 The Soils Management Strategy, which the main works contractor will be required to produce, will identify the nature and types of soil that will be affected and the methods that will be employed for stripping and storing soil (with topsoil and subsoil being stored separately (where present)) and the restoration of agricultural land.
- 40.1.34 In terms of the specific points:
- Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) MW-COM4 requires that the main works contractor shall undertake inspections of restored agricultural land with the landowner/tenant and Highways England's soils experts (and valuer, if required) to assess the progress of the restoration. Should there be any concerns these will be assessed by all parties and appropriate remedial actions or compensation agreed within the parameters of the compensation code and/or any previous agreements made at the time of acceptance of the initial restoration works and handover to the landowner/tenant;
 - Detailed field surveys and analysis of soil physical characteristics (topsoil and subsoil) have already been undertaken and these have informed the preparation of Figure 13.1 Agricultural Land Classification Plan [APP-179]. OEMP MWG7 requires the preparation of the Soils Management Strategy (SMS) and MW-GEO3 requires the SMS to include a record of the nature and types of soil that will be affected; the field surveys and analysis data will inform the production of these documents;
 - As set out above, OEMP MW-COM4 requires that the main works contractor shall undertake inspections of restored agricultural land with the landowner/tenant and Highways England's soils experts (and valuer, if required) to assess the progress of the restoration; this will necessarily require sampling soils;
 - Soil structure takes time to repair and appropriate remediation actions will be deployed as required under the review processes described above. Whilst it is not possible to specify the particular actions and measures that will be required (such as the application of organic matter and muck through to mole ploughing and field drainage) at this stage, as set out in MW-COM4 and MW-COM5 the restoration process is intended to proceed in full consultation with the landowner/tenant.
- 40.1.35 A revised version of the OEMP is being submitted at Deadline 3 of this Examination. Compliance with the OEMP is secured through paragraph 4 of schedule 2 of the draft development consent order [REP2-003].

Key Issue

- 40.1.36 **Within Environmental Statement Appendices Appendix 2.2 Outline Environmental Management Plan at Page 24 there are references to Natural England applying for badger sett closure licences and blocking**

up existing setts to prevent badgers from using them. There is a concern that badgers will be displaced across the wider farm and may interact with cattle causing a risk of TB infection spreading across the herd which is currently TB free.

Highways England response

- 40.1.37 Surveys for badger were carried out to inform the environmental assessment and are reported in the Environmental Statement Appendices 8.16 A and B [APP-265] and [APP-257] (confidential). As stated in the Environmental Statement Chapter 8 Biodiversity [APP-046] paragraph 8.9.173, no main setts would be lost to the scheme. Some outlier and subsidiary setts would have to be closed, the number of which depends on the detailed design and the usage of setts at the time of construction. Closure of these setts would not cause displacement of badgers across the wider landscape, because each social group is based at a main sett which is continuously used, whilst uses of other setts (outlier and subsidiary) within the territory of the social group is on an intermittent basis. Therefore closure of a subsidiary sett will not lead to the re-location of the social group.
- 40.1.38 The Applicant notes that on the land farmed by M&R Hosier, there are several main setts already in existence on the farm, none of which would be closed due to the Scheme. The Applicant does not therefore consider that the closure of setts as anticipated for the Scheme will change the TB risk.

Key Issue

- 40.1.39 **M&R Hosier currently have direct access from the A303 for servicing the top extent of their farm. This is currently used by visiting vets, livestock husbandry and ecological monitoring for the Normanton Down RSPB Reserve. Current access is both for agricultural vehicles and standard motor vehicles.**
- 40.1.40 **It is not clear from the draft DCO how access will be maintained for M&R Hosier from the existing A303 which is understood will become a restricted byway and private means of access. There are plans identifying Kent Gates in various locations along the existing A303 but it is not clear how these will work in practice and how they will be maintained/controlled.**

Highways England response

- 40.1.41 Kent Carriage Gaps would be provided at access points to restricted byways, preventing entry by mechanically propelled vehicles. A field gate will be provided alongside the Kent Carriage Gap and this would be kept locked, with keys being provided to authorised users only, such as landowners who had been granted rights of vehicular access over the restricted byways in order to use the new private means of access benefitting their land. Specific

details will be subject to detailed design and discussions with Wiltshire Council.

40.2 Cultural Heritage

Key Issue

40.2.1 Western Portal and deep cutting

The placement of the western portal and the deep cutting within the WHS does not deliver a scheme fit for a WHS as initially proposed within consultation documents or in accordance with ICOMOS and UNESCO reports.

40.2.2 The road scheme should not be enhancing the setting of a single monument (Stonehenge). It should be about protecting and enhancing the OUV of the whole of the WHS. The site is enscripted under cultural heritage being Stonehenge, the monuments and the associated landscape that together show our cultural development as depicted by the funereal monuments within the landscape.

40.2.3 Connecting the landscape in one area and then putting in more lanes of tarmac deep within the archaeology in another area does not connect the landscape for understanding.

40.2.4 Standing on Green Bridge 4, it is most likely that you will be looking at the western portal and 4 lanes of traffic emerging into the WHS. This does not help understand our cultural beginnings or bring inspiration.

40.2.5 Excavating the area of the western portal and cutting and removing archaeology is not protecting and understanding the WHS. The artefacts are part of the OUV of the WHS and as such should remain in situ.

40.2.6 In addition, removal of cremations and burials (which through their placement within the landscape show our cultural heritage) is disrespecting the funeral monuments of our ancestors that shaped the WHS landscape. Placing the cremations and grave goods behind glass is not protecting the WHS. We do not remove burials from our modern graveyards and put them in museums, so why is this practice considered acceptable for our bronze age ancestors.

40.2.7 I question the time available to fully excavate the area of the western portal and the carriageways prior to road construction. This would be the only opportunity for investigating this area so full consideration would need to be given to the time to do this to research to WHS standards and not to general infrastructure criteria.

40.2.8 Methodology for excavations should be agreed with the Scientific Committee.

40.2.9 Although its members have no direct authority within the scheme, they are a collective of British archaeologists with the most experience within this prehistory period, so are therefore best placed to give appropriate advice.

Highways England response

- 40.2.10 The removal of the existing A303 surface road from the WHS landscape will result in extensive benefits for the World Heritage Site (WHS) including beneficial effects to many heritage assets within the WHS. The cultural heritage assessment for the Scheme can be found in the ES, Chapter 6 [APP-044]. Detailed consideration of the assessment of the scheme in the context of the OUV of the WHS can be found in ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195].
- 40.2.11 Table 3 in the HIA shows the effects that the Scheme would have on the WHS in relation to its Attributes of OUV, Integrity and Authenticity. The table also shows how the Scheme would benefit the WHS in comparison with the effects of the existing A303. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained.
- 40.2.12 The preferred route was carefully chosen to minimise effects on archaeology, and a comprehensive programme of archaeological evaluation surveys has informed the Scheme design to limit direct physical impacts as far as practicable, including limiting impacts on archaeological remains that contribute to the OUV of the WHS. The design has been carefully chosen in order to preserve archaeological remains along the 2 mile section of tunnel, improve the setting of many heritage assets and asset groups in the central part of the WHS including the Avenue, Stonehenge itself and the Winterbourne Stoke barrow group; remove the intrusive sight and sound of traffic from the existing A303 as far as possible within the WHS; and design a scheme that is minimally intrusive in both the western and eastern parts of the WHS, including in key views from assets groups that contribute to the OUV of the WHS. Examples of how the design has been developed to limit impacts on archaeology include, but are not limited to, the choice of a northern bypass of Winterbourne Stoke, the reduced footprint and land take for Rollestone Corner, and the design and placement of the western and eastern tunnel portals and portal approaches in areas that have been shown to have limited archaeological remains within their footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044]. Section 6.8, Table 6.9. The cultural heritage assessment, reported in ES Chapter 6, identifies the effects on known archaeological features whilst recognising the benefits that the tunnel will deliver for the WHS landscape as a whole.
- 40.2.13 The Scheme includes measures to facilitate the sharing and understanding of archaeological discoveries. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of the construction of the Scheme. The Outline Archaeological Mitigation Strategy (OAMS) [APP-220] also identifies areas to be protected in-situ. A Detailed Archaeology Mitigation Strategy (DAMS), submitted at Deadline 2 of this Examination, will include resourcing and arrangements for publishing results

and storing/displaying finds, and is being developed in consultation with Wiltshire Council Archaeology Service and the Heritage Monitoring Advisory Group prior to the end of the Examination. The DAMS is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. The Scientific Committee have been advising the Heritage Monitoring Advisory Group and inputting into this process. The project archive of reports and archaeological finds would be deposited in a local museum once the archaeological excavations have been analysed and published.

- 40.2.14 The publication of the archaeological results and the deposition of the archive would be appropriately funded.
- 40.2.15 The draft DAMS submitted at deadline 2 [REP2-038] has been prepared following review and comment by members of HMAG and WCAS, as informed by advice provided by the A303 Scientific Committee. The draft DAMS will be developed further in consultation with HMAG and WCAS during the examination period, to allow a final version of the DAMS to be submitted to the Examining Authority by the close of the Examination. It is intended that the DAMS will be a certified document, with its implementation secured by a DCO Requirement.

Key Issue

- 40.2.16 **Effects of tunnelling on archaeology**
- 40.2.17 **Plans show that a number of the burial mounds are directly above the tunnel alignment. As such they will be at risk from the construction vibrations.**
- 40.2.18 **Scheduled monument 10477 (G1) is within our holding and in the location of the western portal. Out of respect to the numerous burials found in previous archaeological surveys within this location, we did not feel it appropriate to allow further archaeological investigations within the area during the 2018 archaeological survey.**
- 40.2.19 **At the location of G1 and the proximity of the western portal, the tunnel boring machine will be nearing the surface of the ground. There will be unknown vibration and stress put onto the area of G1 which have the potential to damage the surrounding area and also its relationship within the soil strata.**
- 40.2.20 **The scheme was promoted to protect archaeology yet there will be at least two barrows that have the potential to be damaged within the construction of the tunnel (that was intended to protect archaeology of the WHS).**

Highways England response

- 40.2.21 The potential for impacts on archaeology is set out in the Environmental Statement (ES), Chapter 6, Cultural Heritage [APP-044] which includes consideration of the mitigation embedded within the bored tunnel design and

the assumptions taken into account, which lead to an avoidance of direct physical impacts on archaeology. An Outline Archaeological Mitigation Strategy (OAMS) (Appendix 6.11 of the ES [APP-220]) outlines the principles of archaeological mitigation and also identifies areas to be protected in situ, including the placement of ground movement monitoring stations above the line of the tunnel. A Detailed Archaeological Mitigation Strategy (DAMS) was submitted at Deadline 2 of this Examination [REP2-038] and is being developed in consultation with Wiltshire Council Archaeology Service and Heritage Monitoring Advisory Group and its implementation is secured by paragraph 5 of Schedule 2 to the draft development consent order [REP2-003].

40.3 Biodiversity, ecology and biodiversity

Key Issue

40.3.1 Normanton Down reserve

40.3.2 **The farm has had pairs of breeding Stone curlews since 1960's, which used the tightly managed grassland within our farming system. Now we have a number of plots managed specifically for the birds needs all, of which are bred on yearly.**

40.3.3 **During public consultations, the southern part of the WHS has been promoted for roaming and exploring the landscape and monuments. As three quarters of the land in the southern part of the WHS is privately owned, the roaming and exploring will only be possible via the network of byways within the area. This was not made clear within the consultations.**

40.3.4 **As such, the scheme has already put the area of Normanton Down Reserve under pressure from additional people visiting the area (to roam and explore). There is the potential for this extra recreational pressure to disturb the schedule 1 breeding stone curlew pairs that breed within the Reserve.**

40.3.5 **In addition, the second consultation document showed a map of the central part of the scheme with the map legend placed over the top of Normanton Down Reserve! The Reserve itself was only mention in a couple of statements referring to the adverse effects of the scheme on the Stone Curlew breeding population.**

40.3.6 **Currently the A303 provides a physical barrier between the two contrasting halves of the WHS with their very different characteristics. In my opinion, this works well and already delivers the great variety of WHS experiences that are available for all types of visitor to the area. The open access areas of the north of the site provide the country park experience for roaming and exploring. In contrast, the southern part of the site is tranquil, providing unique habitat for wildlife and ecology**

that is enjoyed by those visitors wishing a quieter more natural experience.

- 40.3.7 In my opinion, the mitigation proposed for the protection of the Normanton Down breeding stone curlews is inadequate. Highways England documents have even noted that the recreational pressures on Normanton Down are unknown. There is no certainty as to whether the byways 11 and 12 will be downgraded to pedestrian use only. Even if this happens, it will not prevent the pedestrian pressures on the Reserve which are the greatest threat to the breeding birds. The proposed mitigation plot at Winterbourne Downs RSPB
- 40.3.8 Reserve does not follow the mitigation criteria applied to Winterbourne Stoke and is not in proximity to Normanton Down for use by any displaced breeding pairs.

Normanton Down:

- 40.3.9 M&R Hosier are not satisfied that the proposed scheme meets the Habitats Regulations in relation to the SPA population of Stone Curlews that nest in Normanton Down Reserve. The potential that once the scheme is in operation that the increased pressures from people in the landscape will have the possibility of negative effects from recreational pressures on Normanton Down breeding Stone Curlews.
- 40.3.10 M&R Hosier has worked with Tracey Williams an experienced and dedicated conservation biologist with over 20 years' experience in nature conservation to jointly prepare a detailed report of the potential detrimental impact to Normanton Down and the population of Stone Curlews. A copy of this report is attached at Appendix 1.
- 40.3.11 In the Second consultation booklet dated Feb 2018 at page 25 the Normanton Down Reserve is obscured by the map legend, and there is little mention of Normanton Down Reserve within the booklet except page 56, Biodiversity Construction Stage which states "Temporary adverse effects of construction activities on Stone curlews" and Biodiversity Operational Stage "Local adverse effects on Stone curlew south of the A303 due to the increased public access across the WHS enabled by the proposed scheme". However there is no proposed solution or mention of possible mitigation works to offset these adverse effects.

Highways England response

- 40.3.12 It is not agreed that the materials suggest the whole of the WHS would be available for exploration, including within private land. The applicant considers that the consultation materials did not imply that private land would be accessible. Where Public Rights of Way designations were unclearly labelled in the consultation materials for Statutory Consultation, these were clarified as part of the supplementary consultation.

- 40.3.13 Once the tunnel is in place, a key objective of the Scheme is to enhance public access and connectivity to and through the WHS. To achieve this, the scheme is creating a number of new restricted byways, including along the route of the old A303, while maintaining the existing network. Beyond the creation of new byways, the scheme is not seeking to alter existing byway designations, nor is it seeking to provide access on to or through private land. For reference, the existing Public Right of Way network is illustrated on ES Figure 13.2 [APP-180] and the proposed new restricted byways on ES Figure 13.3 [APP-181].
- 40.3.14 The assessment and approach to mitigation for stone curlew is described in ES Chapter 8, Biodiversity [APP-046] and the assessment has concluded that no likely significant effects, including from recreational disturbance, would result on breeding birds, as set out in paragraph 8.9.35. The assessment and approach to mitigation and enhancement for stone curlew has been developed in consultation with the RSPB and Natural England.
- 40.3.15 In the draft Statement of Common Ground between Highways England and Natural England, submitted to the Examination at deadline 2, at Issue reference 3.11, Natural England agrees there would be no disturbance of any other identified stone curlew breeding plot in the vicinity of the Scheme. In the Statement of Common Ground between Highways England and RSPB, RSPB is satisfied that indirect disturbance impacts on breeding stone curlew can be avoided with the implementation of suitable working practices during the construction phase.
- 40.3.16 As set out in the Statement to Inform Appropriate Assessment (SIAA) [APP-266], provision of a stone curlew plot at Winterbourne Down RSPB Reserve is considered as precautionary mitigation which would improve the resilience of the stone curlew population.
- 40.3.17 The second consultation booklet reflected the stage of development of the Scheme at that time, but the design and the environmental assessment were progressed subsequently, leading to the Environmental Statement which was submitted with the application for the Scheme. Consultation with Natural England and RSPB on stone curlew has continued via the Statements of Common Ground [REP2-016 and REP2-017]. There has also been consultation with M&R Hosier regarding enhanced fencing around Normanton Down RSPB reserve and this matter is still under discussion.

Key Issue

- 40.3.18 **Great Bustards**
- 40.3.19 **Despite this species being named within the baseline report as of National**
- 40.3.20 **Importance/High Value, there is no mention within the OEMP of measures to mitigate the potential negative effects the scheme will have on the Great Bustard reintroduction project.**

40.3.21 **The effects of construction on the Great Bustards and the effects that the additional byways proposed in the western section of the scheme once it is in operation, do not seem to have been picked up.**

Highways England response

- 40.3.22 As described in the response to Written Questions EC.1.22, the potential of the proposed Scheme to affect great bustard populations was assessed in the Environmental Statement Chapter 8 Biodiversity [APP-046], paragraphs 8.9.141-8.9.144. No existing nest sites would be lost to the proposed Scheme. The potential for disturbance has been considered. Construction activity would be visible to great bustards at some locations, but measures such as the screening of construction compounds will provide mitigation and any disturbance is likely to result in a temporary adverse impact that would result in a neutral effect that is not significant [APP046].
- 40.3.23 Mitigation measures are included in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), an updated version of which is being submitted at Deadline 3 of this Examination and compliance with which is secured through paragraph 4 of schedule 2 of the draft development consent order [REP2-003]. In particular, measures to protect Schedule 1 species and stone curlew in PW-BIO5 and MW-BIO8 would also be applied in the unlikely event that great bustard (an Annex I species under the Birds Directive, that is considered to have similar legal protection to that of stone curlew) was found near the construction area.
- 40.3.24 Furthermore, the grassland habitat creation (as secured at ref. MW-BIO2 in the OEMP [APP-187]) has potential to offer increased feeding areas for great bustard. Provisions of the Scheme such as the green bridges and diverting approximately 3km of the proposed Scheme into tunnel will also help to reduce the possible severance effects of the existing A303, and is likely to encourage dispersal into the wider landscape.
- 40.3.25 No great bustard nesting sites or records of great bustard have been identified within the western section of the scheme (near Winterbourne Stoke) [APP-046 and APP-157]. During the operational phase should great bustards move into the area it is unlikely that there would be disturbance because the Public Rights of Way (PRoW) that would be created in the western section of the scheme would be close to the existing and new A303 and the PRoW would be fenced.
- 40.3.26 The proposed Scheme would therefore not be a threat to the success of the project to re-establish a breeding population of great bustards.

Key Issue

40.3.27 **Chalk grassland creation area adjacent to the deep cutting**

- 40.3.28 **Increased biodiversity is one of the criteria within all of the consultation documents.**
- 40.3.29 **Yet there are no statements as to what this biodiversity will be. From reading the reports it seems as if biodiversity within this central part of the scheme is centred on chalk grassland flora and invertebrates that can withstand a mowing regime put forward in the OLEMP report and human disturbance. I wonder if this will meet the expectations of the general public that have been reading the documents.**
- 40.3.30 **Having co-created Normanton Down Reserve with RSPB, I question the proposed management of this area including the suitability of the proposed grassland seed mix for it.**

Highways England response

- 40.3.31 As detailed within paragraph 8.9.237, the Scheme would result in approximately 186ha of semi-natural habitats in the soft estate and the area east of Parsonage Down, mainly chalk grassland. Over time, this would contribute to enhancing the natural environment locally by providing net gains for biodiversity, and by establishing coherent ecological networks that are more resilient to current and future pressures.
- 40.3.32 The principles of creation and management of this land are set out in the Outline Landscape and Ecology Management Plan ('OLEMP') [APP-267]. Under requirement 8 of the DCO, Highways England will be required to submit a detailed landscaping scheme, which is required to be on the basis of the mitigation measures set out in the ES, which includes the OLEMP.
- 40.3.33 The objectives of the habitat creations will be to create a mosaic of early-successional habitats ranging from bare ground to species-rich low nutrient swards. The selection of suitable floral species will be carried out during detailed design and the preparation of the detailed landscaping scheme, but will be informed by the Wiltshire Biodiversity Action Plan 2008 for Calcareous Grassland and Salisbury Plain SAC and SSSI citations and will include larval food plants suitable to encourage the dispersal of key invertebrate species.
- 40.3.34 As described in MW-BIO13 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) botanical monitoring will be carried out to inform appropriate management of the chalk grassland and other habitats within the Scheme. This will inform the management action of 'grazing, mowing, control of scrub, and specific habitat management to create or maintain conditions of characteristic species of chalk grassland and other habitats'.
- 40.3.35 Example management measures which will be confirmed within the Landscaping Scheme to be submitted under requirement 8 of the DCO would include where practicable, managing chalk grassland by appropriate grazing to maximise gains in biodiversity, providing, in the areas where chalk

grassland is to be managed by grazing, appropriate access for stock, fencing and stock watering facilities, as described in ES Chapter 8, Biodiversity [APP-046], paragraph 8.9.71. In addition, where areas of chalk grassland are not managed by grazing, mowing will be used to manage the grassland to achieve biodiversity and other objectives, with periodic control of scrub as necessary (paragraph 7.2.2 of the OLEMP [APP-267]).

Key Issue

40.3.36 Green Bridge 4

The bridge is a poor substitute for removing the whole of the A303 road from within the WHS which really would protect and enhance the OUV of the property.

40.3.37 I don't believe the current placement and size of the bridge fulfils the criteria within the consultation documents. The physical connectivity to the landscape with the monuments and its biodiversity benefits are only the 150m width of the bridge.

40.3.38 It does not allow physical connection to the monuments. It provides minimal visible connection to the monuments (a number being underground or topography inhibited) but it will provide a good vantage point of the western portal and the emerging carriageways!

40.3.39 Biodiversity benefits are limited to chalk grassland flora and invertebrates that can withstand the proposed mowing regime and new human disturbance within the area. No additional hedge planting is proposed to allow corridors for bats or a few brave mammals that are willing to expose themselves to the open.

40.3.40 M&R Hosier considers the current placement and size of the proposed Green Bridge 4 is completely inappropriate within the landscape and its ability to deliver enhanced connectivity within the WHS, inter-visibility of the monuments and increased beneficial ecological connectivity is questioned;

40.3.41 Under the Supplementary Consultation Booklet July 2018 page 17 under Cultural Heritage there is a comment referring to the increase to the beneficial effects on the setting of monuments within the WHS, due to enhanced connectivity within the WHS created by the wider bridge, in particular between the Winterbourne Stoke and Normanton Down and Diamond Barrow Groups – “there will be a slight increase to the beneficial effects due to the wider bridge giving improved connectivity and greater visual screening of the new road in this part of the WHS”.

40.3.42 It is unrealistic to expect enhanced connectivity between the proposed Green Bridge and Normanton Down Barrows as they are over a mile away across arable land and within private ownership with no connecting public rights of way. In addition, the entire Normanton

Down Reserve is in private ownership and so is not available for exploring.

- 40.3.43 **There is no explanation from the applicant as to why the Green Bridge is some 150 metres in width and how they intend to manage this structure including the landscaping areas around it which are awkward in size and shape.**

Highways England response

- 40.3.44 The Scheme has been developed to reduce the visual intrusion of new highway sections within the WHS and between monuments and monument groups (ES Chapter 6, Cultural Heritage, Section 6.8, paragraph 6.8.5). Additionally, important viewpoints for understanding the OUV of the WHS were discussed and agreed with HMAG (ES Chapter 6, Cultural Heritage, Appendix 6.1, paragraphs 5.3.38 – 5.3.40), as were the location and form of Green Bridge No. 4, which will replicate the existing topography.
- 40.3.45 The principles of the implementation and management of a range of habitats are set out in the Outline Landscape and Ecology Management Plan ('OLEMP') [APP-267]. Under requirement 8 of Schedule 2 of the draft development consent order [REP2-003], Highways England will be required to submit a detailed landscaping scheme, which is required to be on the basis of the mitigation measures set out in the ES, which includes the OLEMP.

Key Issue

- 40.3.46 **Soil and Protection of Soils**

- 40.3.47 **There is a broad mention of the control of weed species but no indication of how this will be implemented. Depending on the method used in clearing and stockpiling topsoil and subsoil this may inadvertently create stone curlew habitats (as happened during ground investigation surveys).**

Highways England response

- 40.3.48 Appropriate management measures would depend on the condition of the soil. The contractor is responsible for the protection of geology and soil resources during construction, including in relation to the removal, handling, and storage, as well as reinstatement, will be delivered through measures contained in the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). The primary mechanism for this protection will be the Soils Management Strategy (SMS) (MW-GEO3), which will identify the nature and types of soil that will be affected and the methods that will be employed for stripping and storing soil (with topsoil and subsoil being stored separately (where present)) and the restoration of agricultural land. Compliance with the OEMP is secured through paragraph 4 of schedule 2 of the draft development consent order

[REP2-003]. Stone curlew deterrent measures will be included in the CEMP (PW-BIO5 and MW-BIO8) as specified within the Outline Environmental Management Plan (OEMP) [APP-187].

40.4 Draft Development Consent Order

Key Issue

40.4.1 Poor consultation and engagement

40.4.2 **As a landowner and stakeholder within this scheme I have been surprised by the lack of engagement by Highways England and their consultants. Requests for information to avoid clashes with farm operations and surveys have provided scant information. Licence agreements were breached and often reports were lacking or poorly executed.**

Highways England response

40.4.3 Regular meetings and updates are taking place with the affected landowners, occupiers and asset owners. Highways England has met with those affected by its proposal to use powers of compulsory acquisition and temporary possession. Meetings have included discussion of issues raised in affected persons' Relevant Representations, such as the nature of necessary accommodation works, the acquisition of land through agreement, and arrangements relating to ongoing survey access requirements for the Scheme. Highways England will continue to engage with affected landowners as the Scheme is progressed, to ensure that adequate information is provided and that those individuals' requirements are met wherever reasonably practicable.

Key Issue

40.4.4 Poor consultation and engagement

40.4.5 **We were disappointed that during survey work the consultants did not take better care with our family farm. Damage was sustained to a scheduled monument and farm property as well as distress caused to livestock. Metal pins were left on site that damaged our machinery and bags of archaeological finds were left on site. Even the Stone curlews that nested within the archaeological area last summer were not allowed to be left alone, instead work within the area continued daily although it was monitored.**

40.4.6 **The timings of intrusive and non-intrusive surveys have not taken into account farming calendar and farming practices despite these being discussed on numerous occasions with the applicant and their consultants. M&R Hosier and their tenants were forced to move pigs early only for the applicant failing to carry out work on the area due to pig dung. In addition there was an inappropriate intention for using**

byway to provide access for surveys during winter months when the byways were M&R Hosier – Written Representation Date of Report – 1st May 2019 severely pot-holed and not suitable for vehicular traffic without causing significant damage.

- 40.4.7 **Inappropriate use of Section 172 of the Housing & Planning Act 2016 to preserve programme rather than meaningful attempts to negotiation access**
- 40.4.8 **A lack of preparation by consultants for first archaeological surveys in 2016 led to damage to scheduled monument SM10317 due to repeated tracked excavator refuelling, a pig death, animal welfare issues and unreported damage to farm property. The second round of archaeological surveys failed to take into account the Stone curlew breeding season. There was a failure to share details of any management plan should breeding attempt occur (which it did) then inexperience of ecology staff needing to draw in Stone Curlew team when the birds could not be located within the area. This should have all been put in place ahead of surveys.**
- 40.4.9 **M&R Hosier experienced various issues with bags of archaeological finds left on site. Poor reinstatement works after surveys with numerous metal pins left on site, some having caused damage to their machinery.**

Highways England response

- 40.4.10 Highways England's preferred method for gaining access to land is through agreement with the relevant landowners. Highways England provides each landowner the opportunity to enter into an agreement and negotiate terms of access. If agreement cannot be reached, Highways England has the ability to gain access to land through the exercise of its statutory powers. In the case of the A303 scheme, in order to prevent delay to programmed timescales, notices have been served under Section 172 of the Housing and Planning Act 2016 which confers power on Highways England to enter and survey or value land in connection with a proposal to acquire an interest in or a right over land. As such, Highways England considers that its use of the power in section 172 was necessary, timely and appropriate.
- 40.4.11 The farming calendar has been accounted for when preparing for all intrusive and non-intrusive surveys. In relation to moving the pig unit this was required to allow archaeology investigations of the West Portal and Tunnel approach. It is not correct that the archaeology work was not carried out due to pig dung, as trial trenching was carried out in the former pig unit. Unfortunately, it was not possible to carry out hand sieving of the topsoil due to human health reasons.
- 40.4.12 All archaeological work has conformed to Chartered Institute for Archaeologists' (CIfA) Standards and Guidance and has been undertaken in accordance with the relevant guidance, including DMRB Volume 11, Section

3 Part 2

(<http://www.standardsforhighways.co.uk/ha/standards/dmrb/vol11/section3/ha20807.pdf>), and with full consideration of the Research Framework for the Stonehenge, Avebury and Associated Sites WHS (2016)

(<http://www.stonehengeandaveburywhs.org/assets/Stonehenge-Update.pdf>).

The scope of the field work programme has been developed in consultation with Wiltshire Council Archaeology Service and the Heritage Monitoring Advisory Group. All archaeological surveys have been undertaken in the presence of an appropriately-qualified archaeologist. No work has been carried out during unsuitable conditions, during which time plant operations were stood down to avoid any risk to archaeology. When Stone Curlews were discovered on site during the second round of archaeology investigations, a 500m buffer was established around the Stone Curlew plot and work was suspended for a number of weeks, the Stone Curlews were monitored daily and work only continued once it was safe and suitable to do so. These works were carried out following consultation and in cooperation with RSPB.

- 40.4.13 The Applicant acknowledges that damage was caused to the property during the course of surveys and investigative work, and that a pig died. The Applicant is sincerely sorry for the damage suffered as a result of these investigations and endeavors to continue to work with the affected landowners in the future in order to avoid any further damage being caused.

Key Issue

- 40.4.14 **Poor consultation and engagement**

Numerous errors within the Development Consent Order documents found especially within ecology data.

Highways England response

- 40.4.15 Consultation was undertaken in accordance with the Statement of Community Consultation, which was subject to consultation with the Local Planning Authority and Planning Act 2008 statutory requirements. Information about the scheme proposals was available online, at public events and local deposit locations. Staff were on hand at exhibitions to talk through the proposals. The material published for statutory consultation was based on the information available at that time and was sufficient to satisfy the purpose of gaining feedback on the scheme proposals and for that feedback to be taken into consideration as part of the continuing development of the scheme up to the time of submitting the DCO application. In addition to the consultation booklet, the information provided included the Preliminary Environment Information Report (PEI Report) and its non-technical summary, as well as plans of the proposals. Further details of the approach, engagement and outcomes of the consultation is presented in the Consultation Report [APP-026].

- 40.4.16 In deciding to accept the application, the Planning Inspectorate will have had regard to the adequacy of the consultation undertaken by the Applicant, and to the nine adequacy of consultation responses received from local authorities, who confirmed that they considered the consultation had been carried out adequately, in accordance with the relevant statutory requirements.
- 40.4.17 The application for development consent will now be considered via an examination by a panel of examiners appointed from the Planning Inspectorate, during which the public will be able to make representations and participate in hearings (as appropriate). The examination process allows for information to be provided by all parties, through a series of hearings, written questions and representations. Following the examination, the panel of examiners charged with examining the application will make a recommendation to the Secretary of State based upon all the information and evidence available to them.
- 40.4.18 A full environmental impact assessment has been undertaken and the results reported in the Environmental Statement (ES) [APP-039 – 054] accompanying the DCO application. Legislation is in place which prescribes what the ES must include in order that the Examining Authority, the Secretary of State and interested parties can understand the likely significant effects of a development. Each topic assessment in the ES for the Scheme has been carried out in accordance with the relevant legislation and policy, as set out in the Legislative and Policy Framework section of each chapter, and, where relevant, in consultation with the relevant statutory and non-statutory environmental bodies, as summarised in the Consultation section of each topic chapter. The Applicant considers that sufficient environmental information in relation to the Scheme has been provided in order to allow people to understand its likely significant effects. In accepting the application for Examination, the Planning Inspectorate will have considered the adequacy of the ES.
- 40.4.19 The Applicant does not agree with the statement that there are "numerous errors within the Development Consent Order documents" however it is unable to address this comment any further as specific errors are not alleged.

Key Issue

- 40.4.20 **Although there have been several meetings between the Applicant and M&R Hosier the quality of these meetings together with the inability of the Applicant to issue timely and accurate meeting notes is concerning.**
- 40.4.21 **In addition M&R Hosier has requested copies of several documents referred to in these consultation meetings but to date these documents have not been provided by the Applicant. The result of this is M&R Hosier are unfairly inhibited in their ability to properly examine and**

consider the documentation which the Applicant is relying on to support their application for DCO.

Highways England response

- 40.4.22 Regular meetings and updates are taking place with the affected landowners, occupiers and asset owners. Highways England has met with those affected by its proposal to use powers of compulsory acquisition and temporary possession. Meetings have included discussion of issues raised in affected persons' Relevant Representations, such as the nature of necessary accommodation works, the acquisition of land through agreement, and arrangements relating to ongoing survey access requirements for the Scheme.
- 40.4.23 Additional information including reports that are publicly available have been provided on request.
- 40.4.24 This engagement will continue as the Scheme is progressed, to ensure that those individuals' requirements are met wherever reasonably practicable.

40.5 Flood risk, groundwater protection, geology and land contamination

Key Issue

40.5.1 Water supply

Our farm business and two cottages are supplied by two boreholes. There is no mains water supply and the nearest connection point is two miles from the centre of the farm and all up gradient.

- 40.5.2 **We have concerns that during the construction of the tunnel and deep cutting at the western portal and in the operational phase, our ground water aquifers will be compromised for both quality and quantity.**

- 40.5.3 **No base line data or characterisation of our boreholes has been carried out or tracer tests to confirm that there is no link between our boreholes and the placement of the tunnel within the water table. There seems to be no recognition that our water supply is at drinking water standard.**

- 40.5.4 **Although it cannot be proved that our water supply will not be compromised, we have not been made aware of any emergency plans to reinstate our water supply either in short or long term should it be compromised for quality or quantity.**

- 40.5.5 **For the security of our business, prior to the scheme commencing, we would request that Highways England, their contractor and subcontractor provide proof of public liability insurance that will cover them should our water supply be compromised.**

- 40.5.6 **M&R Hosier have serious concerns regarding the availability and quality of their groundwater supplies during construction and operation of the scheme. They are not satisfied the enough appropriate survey work has taken place to fully assess the impact on the groundwater supplies and the data shown in the Environmental Statement is incorrect and misleading.**
- 40.5.7 **The Applicant has not considered how existing water supplies may be compromised during construction such as a pollution incident or a severing of groundwater on a temporary basis. There should be detailed investigations of connecting M&R Hosier (and other farmers) to a water mains which can be used in the event groundwater is compromised. There is no mitigation plan and the applicant seems to be convinced there will not be any issues and/or will be relying on their contractor to come up with such a plan. The detail of any mitigation plan needs to be put forward and considered as part of the examination process.**
- 40.5.8 **There has been a lack of monitoring of M&R Hosier's private water supply to ascertain adequate base line data for full assessment of any negative impact that may arise from the scheme.**
- 40.5.9 **M&R Hosier has appointed Charles Hedges of Sweetwater Resources Ltd to provide more details of the potential impact on groundwater supplies. A copy of this report is attached at Appendix 2.**

Highways England response

- 40.5.10 The two boreholes extract water from the Chalk aquifer. The effects of the Scheme on this aquifer (quality and quantity) and on the boreholes have been fully assessed. A full EIA has been undertaken, including a detailed assessment of the potential risks to controlled water, as set out in ES Chapter 11, Road Drainage and the Water Environment [APP-049]. During the assessment, there was extensive engagement with the Environment Agency and Wiltshire Council. The extent of agreement with these organisations will be set out in the Statements of Common Ground. Monitoring is ongoing. As part of the full EIA process, an Outline Environmental Management Plan (OEMP) [APP-187] has been prepared, and a revised version is being submitted at Deadline 3, that sets out general and topic-specific principles and requirements for the control, mitigation and monitoring of potential construction impacts, including in relation to the protection of private water supplies, hydrology, land drainage, and sewage disposal from construction compounds. These works will be carried out in accordance with the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). The OEMP will be secured through paragraph 4 of Schedule 2 of the draft development consent order [REP2-003].

- 40.5.11 The EIA shows no significant changes to hydrology, surface water quality, groundwater quality, land drainage or private water supplies during either the construction or operational phases of the scheme. During operation, there is likely to be a moderately beneficial residual effect for water quality in the River Avon as a result of improved treatment and prevention of pollution from road run-off, compared with the current situation, as summarised in ES Chapter 11, Road Drainage and the Water Environment [APP-049], Table 11.10. The Environment Agency agree that this significant benefit is likely, which will be recorded in the Statement of Common Ground being developed with the Environment Agency, to be submitted to the Examination in due course.
- 40.5.12 The Hosier's boreholes are included in the baseline assessment as part of the Groundwater Risk Assessment appendix [APP-282]. Paragraph 3.8.6 refers to the summary of the private water supplies located within the study area in addition to those licensed by the Environment Agency as presented in Table 3.3. The full results of the water features survey are provided in Annex 2. Locations of boreholes are also shown on Figure 3.11 [APP-282].
- 40.5.13 Further risk assessment of the effect of the Scheme on groundwater receptors is provided in Annex E of APP-282. Table E-3 assesses the effect on quality and quantity of the groundwater at licensed private drinking water abstractions including the two Hosier boreholes (table ref R7). The sensitivity of the borehole receptors is considered to be high which is in acknowledgement of the reliance on and quality of the abstracted water. No impact is anticipated. The predicted increase in groundwater level up hydraulic gradient and decrease in level down hydraulic gradient is not predicted to have a measurable impact on the operation of the abstraction even during drought periods. The effects of the tunnel as predicted in Annex 1 of the Groundwater Risk Assessment [APP-282] do not extend to these boreholes (Figure 4.6). With the use of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) there will be no measurable impact on the water quality at the two private water supply boreholes (Table E-3).
- 40.5.14 ES Appendix 11.4 [APP-282] Groundwater Risk Assessment outlines the results of installed monitoring boreholes. Table 7.1 of ES Appendix 11.4 [APP-282] also outlines the proposed programme for monitoring including during and post construction. Once a contractor is appointed they will also have an input and may change the monitoring regime. Highways England will ensure its own appointed contractors have all the information they need for their future ongoing management and maintenance of the scheme which will all be controlled under the terms of the Development Consent Order
- 40.5.15 Highways England, as the Scheme promoter, is responsible for ensuring that groundwater resources, including the supply and quality of groundwater, are protected during the construction and operation of the Scheme. Potential impacts on water supplies will be mitigated through the implementation of

measures included within the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) (at references PW-WAT1 and WAT2, and MW-WAT1, WAT2, WAT3, WAT4, WAT5, WAT6, WAT7, WAT9, WAT10, WAT14, and WAT15), which is secured through paragraph 4 of Schedule 2 to the draft development consent order [REP2-003]. In the OEMP to be submitted at Deadline 3 water supplies are referenced (MW-COM3 and MW-COM6) including requirements for the contractor to liaise with agricultural users and make alternative arrangements in the event of disruption.

- 40.5.16 The NFU Statement of Common Ground states under Matters Under Discussion that Highways England has been working with and will continue to work with Wessex Water and other statutory utility providers as required to ensure that water supplies are protected during the construction and operation of the Scheme [REP2-014].
- 40.5.17 As set out in the Environmental Statement, Chapter 11, Road Drainage and the Water Environment [APP-049], Section 11.9, the assessment shows no significant changes to hydrology, private water supply, surface water quality or groundwater quality (water supply) during either the construction or operational phases of the Scheme. Highways England has been working with, and will continue to work with, Wessex Water and other statutory utility providers as required to ensure that water supplies are protected during the construction and operation of the Scheme.
- 40.5.18 Work is ongoing to access the Hosier boreholes so that monitoring of water levels and water quality can be undertaken before construction commences. The boreholes will form part of the ongoing programme of monitoring.

40.6 Landscape and Visual

Key Issue

- 40.6.1 **Views from the existing A303 in the area of the western portal**
- 40.6.2 **As this area is part of our farm, we are able to assess on the ground and refer back to scheme plans. The ground levels in this area are not straight forward, with the existing A303 being built up from a blind hollow to a level currently seen.**
- 40.6.3 **In my opinion, the views from the downgraded A303 in this built up area would be looking directly into the western portal and onto a section of the carriageways emerging from it. Despite raising this point at meetings and asking for sectional diagrams or scheme representations that take the topography into account, I have not been provided with this information.**
- 40.6.4 **The range in current topography within the area would also mean that the deep cutting would be at different levels on either side of the road as I am told that due to WHS constraints to limit construction within the**

area, no additional landscaping would take place. As such, there is the potential for the cutting to also be seen from the opposite side of the carriageway, as well.

Highways England response

- 40.6.5 A sectional diagram of the retained cutting on the western approach to the tunnel has been provided as requested and is to be found in APP-059 section G-G1 indicating that vehicles and the road surface would be beneath the wider landscape and that the proposed slopes on the upper part of the retained cutting could be graded back into the existing landform.
- 40.6.6 There would be views of the retained cutting from close range, but from the wider landscape traffic and the retained cutting would not be visible.
- 40.6.7 With reference to the Cultural Heritage Setting Assessment [APP-218], image CH07 provides a viewpoint from the opposite side of the carriageway looking west and shows that the top of the chalk grassland slopes are integrated back into the existing landform. Image CH10 also within APP-218 illustrates a view in proximity to the downgraded A303 which also demonstrates how the slopes above the retained cutting would integrate back into the landform.
- 40.6.8 The constructed Scheme will improve the visitor experience by increasing landscape tranquillity and improving the visual connectivity of the many heritage features within the WHS. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole and the OUV of the WHS would be sustained. Further information can be found in the ES Chapter 6, Cultural Heritage [APP-044] and ES Appendix 6.1, Heritage Impact Assessment [APP-195].

Key Issue

- 40.6.9 **Clashed within scheme objectives**
- 40.6.10 **Clashes between objectives to deliver biodiversity habitats, but limiting this to plantings within the WHS that will not obscure sight lines between archaeological monument**

Highways England response

- 40.6.11 The Scheme as proposed has emerged from an exhaustive appraisal of options as the best solution to meet the objectives set for it. Further information on the appraisal process and route selection can be found in the Technical Appraisal Report and Scheme Assessment Report (<https://highwaysengland.citizenspace.com/cip/a303-stonehenge/>) as well as Chapter 3 of the Environmental Statement [APP-041]. The Case for the Scheme [APP-294] sets out the Scheme objectives and clearly demonstrates how the Scheme submitted for approval meets the objectives.

Key Issue

40.6.12 Clashed within scheme objectives

40.6.13 **Clashes between the objectives to deliver an upgraded road within the WHS and not damage the integrity of the WHS with surface carriageways.**

Highways England response

40.6.14 The Scheme as proposed has emerged from an exhaustive appraisal of options as the best solution to meet the objectives set for it. Further information on the appraisal process and route selection can be found in the Technical Appraisal Report and Scheme Assessment Report (<https://highwaysengland.citizenspace.com/cip/a303-stonehenge/>) as well as Chapter 3 of the Environmental Statement [APP-041]. The Case for the Scheme [APP-294] sets out the Scheme objectives and clearly demonstrates how the Scheme submitted for approval meets the objectives.

40.7 Traffic and Transport

Key Issue

Byways 11 and 12

- 40.7.1 **Byways 11 and 12 are in proximity to the road scheme. Both byways join the A303 and are open to all traffic.**
- 40.7.2 **There are growing antisocial behaviours as a result of vehicles on the byway which are increasing year on year. Fly-tipping, illegal camping and damage to farm fences are all issues which we have to contend with. Little seems to be done by authorities to address these concerns despite reporting incidents.**
- 40.7.3 **Increased vehicular use has caused damage to the byways. Four scheduled monuments on byway 12 and one monument on byway 11 are being damaged, but there seems to be a lack of willingness for the authorities to do anything about this, despite being within the WHS.**
- 40.7.4 **We are in support of the closure of the byways which would help reduce antisocial behaviours that have an impact upon our farm business and help to preserve the vulnerable scheduled monuments.**
- 40.7.5 **We are not in support of a link between the byways unless the link is along the existing A303 as is. The link proposed at the second consultation is inappropriate as it will damage a hitherto untouched part of the WHS. Is it unnecessary and impractical when there are already two links between the byways (NT permissive path and the current A303). In addition, the link would likely lead to an increase in recreational activity in the Normanton Down Reserve, with potentially damaging consequences for the Stone curlew breeding population.**

- 40.7.6 **M&R Hosier agree with the proposed downgrading of Byways 11 and 12 to pedestrian only but do not agree with the proposed link between Byways 11 and 12. The proposed link will add to the footfall and anti-social behaviours in proximity of the RSPB Reserve.**
- 40.7.7 **If the Byways are downgraded then there is no need for a link.**

Highways England response

- 40.7.8 We acknowledge and welcome the support for the identified closure.
- 40.7.9 In responding to the management and enforcement matters raised it is important first to set this in context. The management and enforcement of access across the WHS including byways 11 and 12 is a matter for Wiltshire Council (as the highways authority with responsibility for the public rights of way), as well as landowners, including the National Trust and English Heritage. Fences along public rights of way would be provided to prevent access onto private land, grazed grassland or the highway. Public access to bridleways would be controlled by equestrian gates which are too narrow for most vehicles to use. Public access to restricted byways would be controlled by Kent carriage gaps which are designed to prevent entry by vehicles, all embedding good design measures into the project.
- 40.7.10 Highways England wish to ensure that the Scheme is integrated within the existing byway network and, where the opportunity exists, create legacy benefits for non-motorised users in accordance with its Strategic Business Plan and Roads Investment Strategy, which are aligned with Government policy to encourage walking, cycling & horse-riding through national and local policies and plans. Changing the status of the existing BOATs is beyond the scope of the Scheme. The designation of byways AMES11 and AMES12 will not change as part of this Scheme. The DCO would not provide Highways England with the powers to undertake this work.
- 40.7.11 Taking into consideration feedback from the statutory consultation on the Scheme proposals, the previously proposed link to the south of the existing A303 between Byways 12 and 11 was removed from the Scheme proposals. This change to the Scheme proposals presented for statutory consultation was one of three changes put forward for the supplementary consultation summarised in Chapter 6 of the Consultation Report [APP-026].

Key Issue

- 40.7.12 **New byway along existing A360**
- 40.7.13 **Consultation documents promote roaming and exploring, however, the only roaming and exploring of the monuments within this area of the WHS is via byways with no physical connection, as the majority of the land is in private ownership.**

- 40.7.14 **I question the need for this bridleway as it is not within the WHS. It is on the boundary and the inter-visibility and views of the monuments are inferior to those along byways 11 and 12.**
- 40.7.15 **A new byway in this area has the potential for Diamonds Wood (on our farm) to become desecrated, as is the case with Winterbourne Stoke clump and Normanton Gorse (on our farm). These woods are a focus for antisocial behaviours, such as illegal camping and damaging trees for firewood. They are also used as latrines!**
- 40.7.16 **M&R Hosier do not agree with the new proposed byway along the downgraded A360 as it brings new pressures and antisocial behaviours associated with byways into an area of the farm which is currently undisturbed.**
- 40.7.17 **One of the principle selling points of the scheme is to provide a link between the two sides of the WHS which have previously been severed by the A303. However, it is being overlooked that the land on the south side of the A303 is in private ownership (M&R Hosier) and the connectivity of the WHS will lead to a significant increase in footfall, trespass, anti-social behaviour and straying dogs affecting livestock**

Highways England response

- 40.7.18 Once the tunnel is in place, a key objective of the scheme is to enhance public access and connectivity to and through the WHS. To achieve this, the scheme is creating a number of new restricted byways, including along the route of the old A303, while maintaining the existing network. Beyond the creation of new byways, the scheme is not seeking to alter existing byway designations, nor is it seeking to provide access on to or through private land. For reference, the existing Public Right of Way network is illustrated on ES Figure 13.2 [APP-180] and the proposed new restricted byways on ES Figure 13.3 [APP-181].
- 40.7.19 Bridleway reference V (Sheet 15 of the Rights of Way and Access Plans) extends the connection from the existing Longbarrow junction in the north (via Route IA on Sheets 5 and 15 of the Rights of Way and Access Plans) to the junction between the A360 and existing byway open to all traffic WFOR16 (commonly referred to as "Byway 12"). As this route runs parallel to the A360 and an existing field boundary it minimises the impact on agricultural land and retains the same level of directness to Bridleway Users as the road would have provided. Being situated on the east of the A360 gives the route good views over the world heritage site therefore making it more attractive to bridleway users. From the southern end of WFOR16, byway WFOR15 and public footpaths (WFOR8 and WFOR9) are accessible.
- 40.7.20 The management and enforcement of access across the WHS is a matter for Wiltshire Council (as the local highway authority with responsibility for the public rights of way in its administrative area), as well as landowners,

including the National Trust and English Heritage. The existing highway boundaries will remain as at present.

- 40.7.21 Fences along public rights of way would be provided to prevent access onto private land, grazed grassland or the highway. Public access to bridleways would be controlled by equestrian gates which are too narrow for most vehicles to use. Public access to restricted byways would be controlled by Kent carriage gaps which are designed to prevent entry by vehicles.

41 Steven Moore (T/A RJ Moore & Sons) (REP2-171)

41.1 Biodiversity, ecology and biodiversity

Key Issue

- 41.1.1 The proposal also includes a balance pond within a chalk landscape. Being situated on chalk this pond simply will not work as for the very vast majority of the time will be devoid of water as the water will drain through the chalk and dissipate. This again, is seen as a simply way of trying to achieve environmental mitigation but in practice it will not work and will not achieve the mitigation intended.

Highways England response

- 41.1.2 The details of the drainage system, including infiltration basins, are provided within the Environmental Statement in Appendix 11.3 Road Drainage Strategy [APP-281]. It is assumed that the infiltration basin being referred to in the Written Representation is DTA 1, as shown in Figure 2.2 of Appendix 11.3, which is located within the landscaped Parsonage Down area.
- 41.1.3 This infiltration basin would be grassed and designed with shallow slopes to integrate sympathetically into the landscape. They would include impermeable areas to capture a portion of the runoff, by preventing its drainage into and dissipation within the underlying chalk, to aid biodiversity enhancement and so achieve the intended mitigation.

41.2 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

- 41.2.1 Table 13.23 of ES Statement 13 dated October 2018 presents a figure of 6 hectares being the land required from the holding however, at a meeting held with Highways England in May 2018 David Bullock the Project Manager stated Highways England were looking to acquire the whole of the 55 hectares I own at Winterbourne Stoke. At subsequent meetings this has not been changed. Highways England need to be precise in determining what area they are looking to acquire permanently as the figure appearing in table 13.23 is misleading. It is perhaps a point that the Examining Authority should request further information from Highways England about.

Highways England response

- 41.2.2 There is an error in the Table 13.23 of the Environmental Statement. The area of land that is permanently required from Mr Moore is 56.1ha; this was erroneously reported as 6.0ha.

- 41.2.3 However, 56.1ha represents approximately 17% of the total area farmed by Mr Moore and this figure of 17% was correctly used in Table 13.23. As it is the percentage figure that is used in the assessment of impact there is no error in the conclusions drawn from the data.
- 41.2.4 As is explained in the Statement of Reasons [APP-023], at paragraph 5.3.4, Highways England considers that the land included in the DCO is the minimum land-take required to construct, operate, maintain and mitigate the Scheme and is therefore necessary to achieve the objectives of the Scheme. Highways England has sought to achieve a balance between minimising land take and securing sufficient land to ensure delivery of the Scheme, noting that the detailed design of the Scheme has yet to be developed. In that context, the limits of the land have been drawn as tightly as possible so as to avoid unnecessary land take. In the event that less land proves to be required in a particular area following the detailed design stage, Highways England would only seek to acquire that part of the land that is required and, in all events, will seek to minimise effects on landowners.

Key Issue

- 41.2.5 **Highways England have been asked on numerous occasions to provide the detailed reasoning as to why there is an essential need to acquire this area of highly fertile and productive agricultural land for the purposes of the scheme particularly as it is to be used for spreading the tunnel arisings and Highways England are not making an attempt to restore it to any agricultural use which could be returned to me. I believe that Highways England have seen this as an easy way to provide “environmental mitigation”, but they have not considered the social or economic effect on my business if the compulsory acquisition proceeds.**

Highways England response

- 41.2.6 The loss of agricultural land has been included as a criterion for assessing the options for management of tunnel arisings, as set out in the Environmental Statement, Appendix 12.1, Tunnel Arisings Management Strategy, [APP-285], both for off-site alternatives, Section 3, and for sites in the vicinity of the scheme, Section 4. The assessment takes into account the loss of best and most versatile (BMV) agricultural land, on the basis that whilst restoration to calcareous grassland is understood to be achievable, restoration to BMV status cannot be guaranteed.
- 41.2.7 Because restoration to BMV cannot be guaranteed, Highways England is proposing compulsory acquisition of the land east of Parsonage Down; the justification for this approach is that it seeks to accommodate a potential scenario in which the landowner does not wish to retain the land in its changed state, where restoration to BMV agricultural land is not possible, and the land is restored to calcareous grassland instead.

- 41.2.8 As stated in section 5.3.11 of the Statement of Reasons [APP-023],
- "The plots owned by the private landowner are proposed to be subject to powers of compulsory acquisition on the basis that part is required for the permanent construction of the Scheme, whilst the remainder, which is required for the deposition of excavated material, is proposed to be subject to powers of compulsory acquisition in order to provide for the potential situation in which the landowner did not want to retain the land in its changed condition, following deposition of the excavated material.
- The Applicant considers this approach to be prudent given that its ability to reinstate the land (which is not required for the permanent construction of the Scheme) to its current arable use following the deposition of excavated material is not yet confirmed.
- As such, powers of compulsory acquisition are proposed on a contingent basis, to provide for a situation in which the private landowner required the Applicant to purchase the land; however, should the private landowner elect to retain the land in its changed condition following deposition of the excavated material, the Applicant's powers of compulsory acquisition would not be implemented in respect of that land."
- 41.2.9 As set out in the response to Written Question SE.1.33 [REP2-035]. The Environmental Impact Assessment methodology follows the long-established guidance and practice set out in Volume 11 of the Design Manual for Roads and Bridges (DMRB), and reports the physical impacts of the scheme on individual farm holdings (e.g. land required, severance, impacts on farm buildings and other farm infrastructure, disruptive effects) and assesses the significance of effects based on a combination of the degree of physical impact and the sensitivity of the farm holding. The methodology for assessment (and significance criteria used) is set out in section 13.3 of Environmental Statement Chapter 13 [APP-051].
- 41.2.10 Specifically, the assessment of the temporary and permanent effects on farm holdings does not include the economic and social impacts of the scheme in terms of compensation, which is a matter that lies outside of the Environmental Statement.

Key Issue

- 41.2.11 **The information has not been forthcoming and as highlighted in confirming my status as an interest party APP-285 6.3 Environmental Statement Appendix 21 Tunnel Arisings Management Strategy does not offer any agricultural justification to support the compulsory acquisition of the entirety of this area for the purpose stated. I simply believe that Highways England are merely cooperating with English Nature to achieve an extension of the existing Parsonage Down SSSI by taking the opportunity of using Tunnel Arising Management Strategy and have not carried out the required agricultural justification**

assessments which have not been agreed with me or my Agent to justify the need for compulsory acquiring the 55 hectares.

Highways England response

- 41.2.12 There is no agreement in place with Natural England about creating an extension to Parsonage Down. It is inevitable that this project will generate considerable volumes of tunnel arisings that need to be managed. The tunnel arisings are not suitable for reuses as structural fill in highways embankments. Some of the tunnel arisings will be used for essential landscape mitigation to mitigate the visual impact of the scheme on the landscape. There will though, still be surplus tunnel arisings that will need to be accommodated. The project has undertaken a detailed examination of options for the tunnel arisings, including transporting it away from the site to for disposal, and it has been determined that the environmental (traffic, noise and air quality) impacts arising from the removal of 500,000m³ to off-site landfill/quarry locations would be unacceptable. Therefore, the option of local deposition was adopted and a detailed assessment of 9 possible deposition locations was carried out; and agricultural land classification (quality) formed part of the assessment criteria on which the decision was based. Further information can be found in ES Appendix 12.1 Tunnel Arisings Management Strategy [APP-285].
- 41.2.13 Proposals for the compulsory acquisition of the land east of Parsonage Down are justified on the basis that at present, whilst it is understood that the land could be restored to calcareous grassland following deposition of the tunnel arisings, it cannot be guaranteed that the land could be returned to its former agricultural classification. Accordingly, the compulsory acquisition powers are sought to accommodate a scenario in which Mr Moore no longer wished to retain the land in its changed state. Negotiations with Mr Moore are ongoing.

Key Issue

- 41.2.14 **If it is determined that 55 hectares is not required for permanent acquisition which is the basis upon which all our discussions with Highways England have been based, to date there has been no consideration of any alternative position that would require considerations of accommodation works that would be required to be able to facilitate the effective continuing farming operation and I would request that the Examining Authority direct that Highways England consider these at this stage rather than post the examination which appears to be an oversight in the process at this stage.**

Highways England response

- 41.2.15 The Applicant considers that the whole area is required for permanent acquisition, however, Mr Moore having the land returned to him in a chalk grassland condition post construction is an option, if he considers that it

could be used for his business. Engagement with Mr. Moore will continue as the Scheme is progressed, to ensure that Mr. Moore's requirements are met wherever reasonably practicable (and pursuant to items MW-COM1 to COM5 of the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), compliance with which is secured through Requirement 4 of the draft development consent order [REP2-003]. This will include discussions around accommodation work proposals, boundary treatment and access provisions.

Key Issue

- 41.2.16 **Table 13.16 within Chapter 13 of the ES is inaccurate for Manor Farm Stapleford as Agricultural Contracting is undertaken and I totally disagree with the sensitivity to change being stated as Medium. It is High if I am to lose 21% of the area I own. I would like to ask whoever prepared this table to clearly explain how they have arrived at their results as none of this has been discussed or agreed with the applicant and should therefore be examined.**

Highways England response

- 41.2.17 It is understood that part of the activities undertaken at Manor Farm, Stapleford includes agricultural contracting for others. Provided that highway access is maintained, this activity will not be materially affected by the proposed scheme; any loss of agricultural contracting income directly attributable to the scheme will be considered by the District Valuer. The agricultural contracting element is not more sensitive to change than the arable farming activities.
- 41.2.18 The sensitivity to change assesses the ability of a farm to make changes to operation in the face of change; farms that have a core physical link between land and buildings (such as dairy farms) are less able to make changes than arable farms where other land (subject to availability) can be sourced; the sensitivity of a holding to change is broadly generic with arable and grazing farms having a medium sensitivity; dairy and glasshouse horticulture holdings having a high sensitivity; non-commercial grazing uses having a low sensitivity to change.
- 41.2.19 The area of land that would be permanently removed from the holding is 56.1ha. The total area farmed is 337ha. The area permanently required represents 16.6 (17%) of the holding.
- 41.2.20 ES Table 13.8 sets out the Impact Magnitude Criteria for assessing impacts on holdings with the permanent removal of 10-20% of land being a medium impact as reported in the ES, which is significant.

Key Issue

- 41.2.21 **ExQ SE.1.3 has asked for clarification about the assessment methodology of the effects upon the different holdings and if they are**

agreed or disagreed. There has not been any in agreement or negotiation about either table and the disruptive effects are major and I would question the area required from the holding as a percentage as I believe it to be 21% as previously stated.

- 41.2.22 **Table 13.23 states land required from the holding to be 6Ha yet Table 13.22 states this to be 56ha . I would suggest that Highways England should be questioned about their real intentions for this site and the query about the actual area required determined.**

Highways England response

- 41.2.23 Alternative location within the limits of the scheme have been considered for placement of tunnel arisings, including the land to the south of Parsonage Down and the land to the east of Parsonage Down owned by Mr Moore, and the impacts of these have been assessed. This assessment takes into account the fact that a significant part of the land east of Parsonage Down would be required for essential landscape mitigation. The assessment concluded that the land east of Parsonage Down is the most suitable for placement of the remainder of the tunnel arisings. Further information can be found in Environmental Statement Appendix 12.1, Tunnel Arisings Management Strategy [APP-285].
- 41.2.24 There is an error, as previously stated in this response, in the Table 13.23 of the Environmental Statement. The area of land that is permanently required from Mr Moore is 56.1ha; this was erroneously reported as 6.0ha.
- 41.2.25 However, 56.1ha represents approximately 17% of the total area farmed and this figure of 17% was correctly used in Table 13.23. As it is the percentage figure that is used in the assessment of impact there is no error in the conclusions drawn from the data.

41.3 Socio-economic effects

Key Issue

- 41.3.1 **Within APP-285 6.3 Environmental Statement Appendix 21 Tunnel Arisings Management Strategy there is a comparative assessment of potential sites however, these appear to have completely ignored the impact that either of the two options considered suitable would have on the businesses that own the sites. I will repeat the impact on my business if the whole of the land at Winterbourne Stoke is permanently acquired is that I will lose 21% of the area that I own which in turn will have its own social and economic effects. I do not believe that whoever was responsible for the assessment has considered the business effect on English Nature if the land south of Parsonage Down was used for tunnel arisings management as it would have very little impact as opposed to the impact it will have on my business. The summary of impacts in the same document is deficient in regard to the content for**

the land south of Parsonage Down as opposed to the assessment given for the intended land to be acquired which indicates to me that the incorrect assessment has been undertaken and therefore, I would urge the Examining Authority to explore further the comparative arguments between the two that the applicant should be examined upon.

Highways England response

- 41.3.2 The comparative assessment, as set out in the Environmental Statement (ES), Appendix 12.1, Tunnel Arisings Management Strategy, [APP-285], both for off-site alternatives, Section 3, and sites in the vicinity of the Scheme, Section 4, includes an assessment of the loss of best and most versatile agricultural land, in accordance with planning policy. The National Networks Policy Statement (NNNPS) requires (at paragraph 5.168) applicants for development consent to "take into account the economic and other benefits of the best and most versatile agricultural land (defined as land in grades 1, 2 and subgrade 3a of the Agricultural Land Classification)", and advises that "Where significant development of agricultural land is demonstrated to be necessary, applicants should seek to use areas of poorer quality land in preference to that of a higher quality. The requirements in paragraph 5.168 of the NPSNN, and commentary on how those requirements have been complied with in relation to the Scheme, is set out in the Case for the Scheme and NPS Accordance document, Appendix A [APP-294].
- 41.3.3 Any loss of profit caused by the Scheme will be covered by measures under statutory financial compensation provisions. It is also the case that a significant part of the land that would in any event be affected by the deposition of tunnel arisings to the east of Parsonage Down will be affected in any event due to placement required for essential landscape mitigation. This landscape mitigation is required to integrate the new highway embankment into the existing landform.
- 41.3.4 The figures presented in Mr Moore's relevant representations [RR-2240] and [RR-2252] stating that 21% of the total arable area of the affected business (Manor Farm, Stapleford) would be required do not refer solely to the land required for deposition of the 500,000 m³ of tunnel arisings. The 21% figure (which is itself slightly inflated) includes arable land required for three elements of the Scheme: It is noted that there is a factual error in the table with regard to Mr Moore where the total area of land proposed to be permanently required is given as 6.0ha. The correct figure is 56.1ha and represents 17% of the total area farmed. The percentage of the holding required – which is used in the assessment of impact - is correctly reported as 17% in the ES.
- a. land required for the construction of the highway itself and for structural embankments - 15 ha

- b. land required to mitigate the visual impact of the carriageway and embankment slope (essential landscape mitigation, using 400,000 m³ of tunnel arisings) – 12.9 ha
- c. land required for the further deposition of the tunnel arisings (using the remaining 500,000 m³ of tunnel arisings) – 28.2 ha.

42 J.M Stratton & Co (REP2-140)

42.1 Traffic and Transport

Key Issue

- 42.1.1 **The proposals seek to create a new restricted byway to connect byway SLAN3 to byway BSJA3A. The proposed route of this link runs adjacent and to the southern side of the A303.**
- 42.1.2 **J M Stratton & Co is strongly opposed to this proposal on the basis that is unnecessary and far exceeds the scope and justifications for the A303 project. Proposals to add to and widen the existing network of public rights of way in the area should (unless directly affected by proposed engineering works) be heard and evaluated on their merits through normal rights of way protocols and not attached to central governmental infrastructure schemes.**

Highways England response

- 42.1.3 The Planning Act 2008 established a regime for the consenting of nationally significant infrastructure projects. The regime is intended to operate as a 'one stop shop' for major infrastructure projects to avoid multiple concurrent public processes. This enables all of the issues engaged by projects to be examined in a holistic fashion. It is entirely proper that the changes to the public rights of way network comprised in the Scheme are examined in the context of the wider Scheme of which they form a part and not in isolation.
- 42.1.4 The proposed public rights of way, labelled reference A and D on sheets 1, 2 and 3 of the Rights of Way and Access Plans [APP-009] and described in Schedule 3 to the draft development consent order [REP2-003], provide a coherent link between the A303, the existing byway network (via SLAN3) and the village of Winterbourne Stoke. As an alternative route to the A303, the routes referenced A and D run parallel to the south of the proposed carriageway. The route is intended to address Highways England's requirement to provide parallel routes to new trunk roads for non-motorised users in accordance with their Cycling Strategy and as set out in Interim Advice Note (IAN) 195/16.

Key Issue

- 42.1.5 **We are especially opposed to the status of the proposed route being 'Restricted Byway' along the above described route. Restricted Byways are impossible to police and therefore encourage unlawful use by motorised vehicles including motorbikes**

Highways England response

- 42.1.6 To prevent improper use of the existing and proposed Public Rights of Way (PRoW) network, fences and gates would be provided. The detail of these

will follow at the detailed design stage if development consent for the Scheme is granted.

- 42.1.7 Fences along public rights of way would be provided to prevent access onto private land, grazed grassland or the highway, or to provide a buffer zone to the retained cutting between Longbarrow junction and the western tunnel entrance. Kent Carriage Gaps would be provided at access points to restricted byways, preventing entry by mechanically propelled vehicles. Equestrian gates would be provided at access points to bridleways and pedestrian gates would be provided at access points to footpaths. This is subject to detailed design of these matters and discussions with Wiltshire Council, and in the case of fencing affecting landowners, with landowners pursuant to item MW-COM3 of the OEMP. Within the World Heritage Site, the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3), reference D-CH14, requires the provision of fencing and surfacing to be developed in consultation with the National Trust, Historic England, English Heritage and Wiltshire Council. Further information on our thinking on the matters is set out in submission REP2-040.
- 42.1.8 Article 9 of the draft development consent order [REP2-003] makes provision for the public rights of way provided by the Scheme to be maintained by Wiltshire Council. Wiltshire Council could also use its powers to prevent unlawful use of the existing and proposed Public Rights of Way. Highways England is in discussions with Wiltshire Council concerning matters arising from its maintenance of roads affected by the Scheme.

43 The Turner Family (REP2-142 and REP2-143)

43.1 Air quality and emissions

Key Issue

43.1.1 **We are very concerned to ensure that the following provisions are included within the scheme:**

- **Filtrating room ventilation should be offered and fitted to nearby homes and businesses (to help reduce issues with dust).**

Highways England response

- 43.1.2 During the operational phase, none of the residential properties owned by the Turner family are located within 200m of the Scheme. Beyond 200m, pollutant contributions from the Scheme are likely to have reduced to a concentration equivalent to background concentration, see paragraph 5.3.10 of the ES [APP-043]. Air quality will be good in these locations with concentrations well within health based air quality objectives. As no significant changes in air quality would be expected in these locations or any other in the air quality study area, operational mitigation is not required, such as filtering room ventilation. See ES Significance of Effects section, Table 5.14 [APP-043].
- 43.1.3 In the construction phase as described in Appendix 5.4 Construction Air Quality and Mitigation [APP-193], receptors considered sensitive to potential dust effects are those outlined in paragraph 2.1.3. This includes residential properties located within 200m of potential dust generating activities and therefore includes Foredown House, Manor Farm Buildings, The Manor, and The Manor Barn events venue.
- 43.1.4 The other identified properties are beyond 200m and as with the operational effects are unlikely to be affected by dust generation during the construction phase.
- 43.1.5 In order to manage the construction phase an Outline Environmental Management Plan (OEMP) [APP-187] has been prepared. This sets out the principles and requirements for the control, mitigation and monitoring of potential construction impacts, including dust management and suppression techniques for minimising impacts on receptors which includes those in and around Winterbourne Stoke including the above locations identified by the Turner family (see PW-AIR1 and MW-AIR1 in the OEMP).
- 43.1.6 The adoption of mitigation measures as described above will minimise the risk of significant adverse dust effects and negates the need for filtering room ventilation in the construction phase.

Key Issue

43.1.7 **We are very concerned to ensure that the following provisions are included within the scheme:**

- **Dust suppression is carried out during the construction phase.**

Highways England response

43.1.8 As part of the EIA process, an Outline Environmental Management Plan (OEMP) [APP-187] has been prepared that sets out the principles and requirements for the control, mitigation and monitoring of potential construction impacts, including dust management and suppression techniques for minimising impacts on receptors which includes those in and around Winterbourne Stoke (see PW-AIR1 and MW-AIR1 in the OEMP). Examples are given in Appendix 5.4 of the ES [APP-043].

43.1.9 Highways England's appointed contractor will be required to develop, in consultation with Wiltshire Council, and implement a detailed Construction Environmental Management Plan (CEMP) based on, and incorporating the relevant requirements of, the OEMP, including air quality matters. The OEMP will be secured under paragraph 4 of schedule 2 of the draft development consent order [REP2-003].

Key Issue

43.1.10 **Location and access to Settlement Pond 3:**

The configuration of Settlement pond 3 and the proposed private means of access (for maintenance by Highways England) creates unnecessary land loss and severance implications. The route of the maintenance access renders a part of the field un-workable.

- **We request that the alternative private means of maintenance access is provided alongside the proposed route of the A303.**
- **The settlement pond is moved closer to the A303.**

Highways England response

43.1.11 The Settlement Pond referred to in the representation is proposed to be located immediately east of the River Till and south of the proposed dual carriageway in land identified as Plot 04-17 on the Land Plans, Sheet 4 [APP-005]. The route proposed (in the western section of Plot 04-22) is the shortest route available while minimising severance to Plot 04-21. A potential alternative route for a private means of access from byway WSTO6B and Green Bridge No. 2 would be longer and would require additional earthworks. The proposed access to Settlement Pond 3 would be designed so that it follows an existing field boundary to minimise the impact on farming operations. The precise form and location of the settlement pond will be determined at detailed design and would be subject to requirement 10, which requires the Secretary of State's approval of a drainage scheme.

Key Issue

43.1.12 Settlement Pond 5:

In preceding discussions with Highways England we have commented that the positioning of Settlement Pond 5 unnecessarily increases land take and wastes farmland. An alternative site for the pond is immediately adjacent on land already made unproductive by route alignment. We propose therefore that the location of the pond is amended to an alternative position shown on the annotation. We have been informed that this is not feasible in engineering terms. However, we do not believe that the potential has been probably assessed.

- We request that the location of the settlement pond is reconsidered and moved to the alternative position suggested.

Highways England response

- 43.1.13 The design and positioning of drainage treatment area 6 (DTA 6) (as shown on Figure 2-2, Appendix 11.3, Environmental Statement, referenced as 'Settlement Pond 5, in The Turner Family WR-074), as with other basins in the west of the Scheme, is proposed at an optimal outfall location. It has been designed to be as close to the new road as possible, and its location has been selected to balance operational performance with minimising land-take; the illustrative design is based on a conservative ground infiltration rate with a factor of safety of 20 applied (the final sizing will be subject to detailed design).
- 43.1.14 DTA 6 has been positioned at the low point of the slip roads. The lands to the east of the DTA rise in level rapidly. The invert of the DTA is fixed by the invert of the road alignment drainage system. If the basin, as the invert is fixed by the invert of the road alignment, moves further eastwards, the size of earthwork slope to tie in with the basin would increase as the existing ground levels rise, thus requiring a greater area of landtake.
- 43.1.15 In addition, if the invert level of the basin was raised to better match the ground level further to the east, the drainage system would require a pumping station to convey flows. Pumped systems are not Sustainable Drainage Systems and must be avoided where practicable.
- 43.1.16 The area shown for the basin at this preliminary stage is illustrative of the size required. During detailed design the shape of the basin will be developed to ensure minimal disruption to the land usage whilst maintaining the required efficiency of the drainage system.

Key Issue

43.1.17 Section of A360 north from the Longbarrow Junction:

The current layout includes unreasonable / unnecessary land take, in particular; the extent of highway verge surrounding the dumbbell roundabouts and alongside the A360.

43.1.18 The field access point opposite 'Kighton Track' must not be staggered. For safety and function it needs to be aligned immediately opposite the entrance to Kighton Track (this is consistent with one of the options drawn). The option for an offset field access slightly south of the Kighton Track entrance should be disregarded.

43.1.19 The extent of the red line includes a long spur of land running north between the entrance to Kighton Track and the roundabout at the Stonehenge Visitor centre. There seems to be no need for this area to be included within the red line.

- We request the extent of land take is reviewed and the roadside verges are reduced in scale.
- We request the configuration of the field access across the A360 from Kighton Track is not staggered and the boundary arrangements are changed as per the annotated plan.
- The red line is amended to remove the spur of land on the western side of the A360 leading to the visitor centre roundabout.

Highways England response

43.1.20 Following further discussions with the landowner, an alternative access opposite Kighton Track has been proposed. However, this revised layout is subject to a design review to establish its feasibility.

43.1.21 TD9/93 of the Design Manual for Roads and Bridges (DMRB) Volume 6, Section 1, Part 1, provides minimum requirements for Stopping Sight Distance (SSD). The A360 links to Longbarrow junction are in cutting to minimise its visual impact on the adjacent World Heritage Site. Therefore, to comply with design standards, the proposed red line boundary between Kighton Track and the Stonehenge Visitor centre and highway verges are required to be widened to provide adequate forward visibility.

43.1.22 As is explained in the Statement of Reasons [APP-023], in paragraph 5.3.4, Highways England considers that the Land included in the DCO is the minimum land-take required to construct, operate, maintain and mitigate the Scheme and is therefore necessary to achieve the objectives of the Scheme. Highways England has sought to achieve a balance between minimising land take and securing sufficient land to ensure delivery of the Scheme, noting that the detailed design of the Scheme has yet to be developed. In that context, the limits of the land have been drawn as tightly as possible so as to avoid unnecessary land take. In the event that less land proves to be

required in a particular area following the detailed design stage, Highways England would only seek to acquire that part of the land that is required and, in all events, will seek to minimise effects on landowners.

43.2 Design

Key Issue

43.2.1 B3083 realignment and underbridge:

There are numerous changes in ownership boundaries which will create fragmented land parcels. We seek clarification and confirmation that all that land currently in our ownership that may become severed is (regardless of size) retained in our ownership.

43.2.2 We request a detailed plan (for the areas surrounding the B3083 realignment) showing current and future ownership following the proposed CPO.

Highways England response

43.2.3 In implementing compulsory acquisition powers, if the DCO is approved, Highways England would seek to acquire the minimum land necessary for the purposes of the Scheme.

43.2.4 The Land Plans [APP-005] show the land proposed to be acquired in pink, land over which permanent rights are sought in blue and land which would be subject to temporary possession in green. The B3083 re-alignment is shown on sheet 3.

43.2.5 In the event that land is compulsory acquired that is no longer required for the Scheme after final construction, it will be offered back to the existing landowner under Crichel Downs rules to allow them to decide if they wish to re-acquire the land.

Key Issue

43.2.6 B3083 realignment and underbridge:

The existing route of the B3083 forms our perimeter boundary. The realignment therefore means the loss of road frontage. We would like legal clarity as to whether the ground underlying the existing B3083 belongs to the local authority or should 'in fact' be part of our title when 'stopped up'.

43.2.7 We request that Highways England provide title information in respect to the historic and current ownership of the land upon which the B3083 is currently aligned

Highways England response

43.2.8 The land on which the B3083 lies is unregistered. In the absence of any title documents to the contrary, the presumption is that the owners of the

adjoining land own the subsoil up to the midpoint of the road (the ad medium filium rule). The land, plot 03-20, is required for the construction of the new A303, new private means of access, works to realign the B3083 and for landscaping and environmental mitigation, and re-profiling.

Key Issue

43.2.9 **We are therefore very concerned to ensure that the following provisions are included within the scheme:**

- **Screens to reduce noise pollution should be fitted to both sides of the viaduct and should be non-reflective and a neutral colour.**

Highways England response

- 43.2.10 It is not proposed that a screen be provided on the north side of the viaduct. The need for screening is informed by both the landscape and visual impact assessment (LVIA) and the noise assessment. The assessments, which are reported in the Environmental Statement (ES) (see detailed references below), have concluded that environment screening on the south side of the viaduct will benefit the residents of Winterbourne Stoke in reducing the visual impacts of traffic, but there is not an equivalent need on the north side of the viaduct. Further details of the assessments can be found in ES Chapters 7, Landscape and Visual Assessment [APP-045], and Chapter 9, Noise and Vibration [APP-047].
- 43.2.11 The detailed design of the viaduct, and screening to the southern perimeter, would be progressed at the detailed design stage following grant of the scheme. The detailed design would be with reference to Highways England's Guide 'The Road to Good Design' (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/67822/Good_road_design_Jan_18.Pdf).

Key Issue

43.2.12 **We are very concerned to ensure that the following provisions are included within the scheme:**

- **The road is surfaced in material designed to minimise noise.**

Highways England response

- 43.2.13 A thin surfacing system (which generates less noise than a standard hot rolled asphalt surface) will be used on the new A303 dual carriageway and slip roads. This is detailed in the Outline Environmental Management Plan (OEMP), presented in Appendix 2.1 of the ES (OEMP) [APP-187], secured under Requirement 4 of Schedule 2 within the draft development consent order [REP2-003]. In accordance with the standard UK assessment methodology, such surfaces typically provide a 3 dB reduction in traffic noise at speeds of 75km/hr or more.

43.3 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

43.3.1 Red line amendment surrounding Foredown House:

We acknowledge and welcome the removal of Settlement Pond 1 from the scheme. However, we believe that the red line boundary at this location has not been altered to reflect the fact that the pond is no longer proposed.

43.3.2 The red line is therefore set unnecessarily wide and significantly hampers farming activity. The extent of the red line also prevents us from making our own planned changes to the curtilage of Foredown House (partly to increase screening of the road).

43.3.3 We request that the red line is amended as per the annotated plan.

Highways England response

43.3.4 Highways England has included this land in the Order limits to ensure that delivery of the Scheme will be possible. At this stage, Highways England anticipates that the land will be needed temporarily for the reasons set out in the Statement of Reasons, in Table 4 of Annex A (see reference to plot 4-04) [APP-023] which, in the main, relate to the provision of working space during construction. If, once a contractor has been appointed, it turns out not to be the case, then Highways England would not use all of the land within the Order limits – in particular the land closest to Foredown House.

43.4 Draft Development Consent Order

Key Issue

43.4.1 Matters reserved at the discretion of the appointed contractor:

It is the acquiring authority's intent to carry forward the detail of many critical mitigations so that the provisions are at the discretion of the 'Design and Build Contractors'. The limited detail on mitigation provisions have made it impossible to comment in full in all aspects of the scheme.

43.4.2 We request that the Inspector insist that design, treatment and mitigation statements are contractually agreed and included within the DCO. These statements should include:

- Soil and substrata protection, management and aftercare
- Site compounds (limitation of use and reinstatement)
- Fencing specifications
- Field and road Drainage

- **Public Rights of Way and private points of access**

Highways England response

- 43.4.3 The detail, development and implementation of the design of the Scheme and its mitigation measures will be secured by requirements within the draft development consent order [REP2-003], which will be binding on Highways England and any of its contractors in the construction, operation and maintenance of the scheme. Highways England will separately ensure compliance with relevant requirements via contractual obligations on main and sub-contractors, as described in paragraphs 2.3.61 and 2.3.62 of the Environmental Statement (ES) [APP-040].
- 43.4.4 In terms of securing the design of the Scheme, the draft development consent order [REP2-003] sets constraints (limits of deviation) for the Scheme and allows for a proportionate amount of flexibility for certain aspects of the Scheme. Limits of deviation are necessary because development consent is being applied for whilst the Scheme is still at the preliminary / reference design stage. Mitigation is secured in the Outline Environmental Management Plan (OEMP) [APP-187], implementation of which is secured by paragraph 4 of schedule 2 of the draft development consent order [REP2-003], in relation to geology and soils (PW-GEO1, PW-GEO2 and MW-GEO1 to10, which includes a requirement for a soils management strategy), restoration and aftercare of agricultural land (MW-COM4), general site management provisions including in relation to site compounds and hoarding / fencing of compounds (MW-G26-30), various provisions in relation to fencing (see for example specific requirements associated with heritage assets at Table 2.2, MW-CH1, MW-CH3, PW-CH1, PW-CH4), and drainage (PW-WAT2, MW-WAT3, MW-WA14, and in relation to water runoff, drainage more generally at MW-WA7). Changes to existing, or creation of new, public rights of way and private accesses are secured by the development consent order and are shown on the Rights of Way and Access Plans [APP-009].

43.5 Flood risk, groundwater protection, geology and land contamination

Key Issue

- 43.5.1 **The eastern bridgehead and earthworks from which the viaduct will project, create a pinch point in the watermeadows / flood plain. During times of high rainfall, this will serve to increase the current and force of flood water entering Winterbourne Stoke. The flood plain will be significantly altered. It therefore stands to reason that there will be impact upon the control of flood waters downstream within the settlement itself. Ultimately, the flood risk is being heightened. Therefore the bridgehead should be redesigned for flood and alluvial reasons.**

Highways England response

- 43.5.2 The position for the River Till viaduct has been carefully chosen to ensure it is in the optimal location. The Design and Access Statement [APP-295] explains, at Paragraphs 6.3.13 and 6.3.14 the factors that were taken into consideration in the development of the preliminary design of the viaduct, which reflects a carefully weighed balance of impacts on Winterbourne Stoke with minimising land take and avoiding or minimising impacts on the River Till SSSI/SAC and its flood zone. The position of the viaduct optimises the road alignment to cross the River Till at a right angle, enabling shorter spans for the twin deck structure over a narrow section of the river. Moving the eastern end of the viaduct south would adversely affect the overall balance of impacts.
- 43.5.3 Confirmation of fluvial impacts as a result of the scheme will be submitted as part of the Flood Risk Assessment at Deadline 3 on 31st May.

Key Issue

43.5.4 **Compaction:**

Please see the attached report prepared by an independent Hydro-geology consultancy 'Sweet water Resources'. The report explains the impact of construction compaction upon the chalk found at shallow depth under the top soil. The chalk is currently porous and allows water to percolate through and drain downwards. Intense construction activity of the type likely to be undertaken on the compound areas and haul road will compress and compact the natural porosity of the rock. The effect will be the creation of a pan of undrained land of diminished productive capability. It would not be possible to remediate this damage once that it has occurred.

- 43.5.5 **We request that this issue is carefully assessed and reported upon by suitably qualified persons. We do not believe that it has been assessed at all by Highways England.**

- 43.5.6 **In the context that we have some 185 acres of land being subject to compounds and other temporary working areas (cut and fill), we seek absolute assurances that the quality and drainage characteristics of the chalk and sub strata, shall not be compromised by the proposed scheme. Part of this assurance should be provided by 'before and after' core sampling and analysis.**

Highways England response

- 43.5.7 Compaction is a process by which the material is first broken up, or is placed in a loose condition, and is kneaded or vibrated to remove voids, reducing the volume and increasing the density of the reworked mass. This will not

occur anywhere other than in fill areas designated for embankment or landscape fill. Techniques such as dynamic compaction, used to stiffen or compact in situ materials, involve dropping very heavy weights from a significant height to achieve 'compaction' of deposits which are typically much softer or looser than the superficial deposits across the A303 site. The activity of stockpiling would bear no resemblance to such an extreme process.

- 43.5.8 The nearest that site activities might come to 'compaction' of the material close to the surface would be if the chalk surface is trafficked by construction plant without protection. However, it is common practice to place a layer of granular fill on haul routes to reduce the vehicle load that is actually applied to the original ground surface and to protect the surface from the effects of trafficking, particularly in inclement weather.
- 43.5.9 Any damage to the chalk surface would be superficial and would be easily rectified when the area is restored at the end of the construction period.
- 43.5.10 The Outline Environmental Management Plan (OEMP), as updated for Deadline 3, addresses restoration of agricultural land and aftercare (MW-COM4) and monitoring of agricultural land (MW-COM5).

Key Issue

- 43.5.11 **Water Resource protection and reliance:**
Manor Farm is reliant on borehole water abstraction. There is a significant risk, as a result of the scheme of contamination and interruption of groundwater flow to the farm's 5 points of abstraction points (please see Appendix 1) attached report prepared by an independent Hydrogeology consultancy 'Sweet water Resources'.
- 43.5.12 **The farm's internal water pipes traverse the proposed compound areas (for gravity feed purposes) so an alternative secure mains supply is required.**
- 43.5.13 **The farm cannot in any circumstances be left without water, a suitable and sufficient alternative mains supply needs to be contractually provided by the acquiring authority (with enduring legal rights for use by the farm). This alternative supply needs to be taken to Kighton Buildings. Where use of the mains supply is necessitated by scheme activity, adequate compensation should be given for water charges incurred.**
- 43.5.14 **We also require that a full network of supply pipes and water troughs are provided to all severed land parcels that are to be pasture.**
- 43.5.15 **We request that the Inspector orders a binding Water Supply obligation upon the acquiring authority.**

Highways England response

- 43.5.16 The Outline Environmental Management Plan (OEMP), as updated for Deadline 3, addresses the protection of private water supplies (MW-COM6). Where an existing private water supply to a farm is adversely and directly affected by the construction of the Scheme, the main works contractor shall, if requested by the farmer or landowner to do so, provide or procure or meet the reasonable cost of the provision of an alternative supply of water (at the contractor's option). Where the supply is affected temporarily by the construction of the Scheme, then the alternative supply need only be supplied for the period during which it is affected.
- 43.5.17 Where a request is made by the farmer or landowner for a permanent supply due to permanent severance of the existing supply caused by the construction of the Scheme, the main works contractor shall, where provision of an alternative means of supply can be demonstrated by the land owner/farmer to be reasonably required for his business, provide or procure or meet the reasonable cost (at the contractor's option) of a permanent means of alternative supply of water.

43.6 Health & Wellbeing

Key Issue

- 43.6.1 **River Till Viaduct, Human Health and Injurious Affection:**

The property known as Foredown House (which forms part of our ownership) is occupied by... The house is within 160m of the proposed viaduct and as a consequence, there is an enhanced risk that dust, noise and light pollution will cause harm. The ... children mean that they are especially vulnerable to the effects of dust which could trigger asthma and other respiratory health concerns. We do not feel that the duty of care that is owed by the authority to our and other local families has been appropriately met.

Highways England response

- 43.6.2 The possible impacts of dust, noise and light as a result of the Scheme on human health, including of particularly vulnerable receptor such as children, are assessed in the relevant topic chapters of the Environmental Statement (ES) including Chapter 5 - Air Quality [APP-043] section 5.9, ES Chapter 9 - Noise and Vibration [APP-047] section 9.9 and ES Chapter 13 - People and Communities [APP-051], section 13.9. The assessments were carried out in accordance with the relevant assessment guidance and best practice, as set out in the legislative and policy framework sections of each ES chapter and as such is fully compliant with the relevant legal standards and duties.
- 43.6.3 The People and Communities assessment has assessed that there would no significant adverse effects during either construction or operation in terms of community amenity, including at this location. It also assessed the outcomes

of the scheme proposals in respect of 'noise, air quality and neighbourhood amenity', as a determinant of human health. The assessment concludes a neutral outcome on this determinant arising from the scheme overall during construction and a positive outcome during operation, which apply across the route. These conclusions were derived from consideration of the following in whole; noise effects experienced at residential properties in the study area with the majority of residential properties experiencing no significant adverse effects; no significant adverse effects experienced by human receptors in the study area in respect of air quality; and no significant adverse effects on the amenity of residents, users of public rights of way, community facilities or businesses from construction activities or construction traffic.

- 43.6.4 The Noise and Vibration assessment has identified there is a risk of a significant construction noise effect at Foredown House during some periods of the works to construct the River Till viaduct, as detailed below a range of mitigation measures will be employed during the construction works to minimise construction noise levels. During operation, a significant adverse operational traffic noise effect is identified at Foredown House. Though it is noted that the major increase in traffic noise at Foredown House is limited to the northern façade facing the bypass. The southern façade of the house facing the existing A303 experiences a major reduction in traffic noise. In addition, absolute traffic noise levels at the building are low in the 50 to 55 dB LA10,18h range with and without the Scheme. As detailed below a range of mitigation measures have been included in the scheme to minimise operational traffic noise impacts at Foredown House.
- 43.6.5 The construction phase air quality assessment identified Foredown House as a sensitive receptor located within 200 m of potential dust generating activities (Appendix 5.4 Construction Air Quality and Mitigation [APP-193]). The assessment stated that standard mitigation measures will be required in this area. During the operational phase, Foredown House will be located beyond 200 m from the scheme. Beyond 200m, pollutant contributions from the Scheme are likely to have reduced to concentrations equivalent to background concentrations, see paragraph 5.3.10 of the ES [APP-043]. Air quality will be good at Foredown House and well within health-based air quality objectives. As no significant changes in air quality would be expected at Foredown House, operational mitigation is not required.
- 43.6.6 The Outline Environmental Management Plan (OEMP) in the ES Appendix 2.2 [APP-187], sets out measures that will be employed during construction to reduce, as far as is reasonably practicable, the potential for adverse impacts on local people, communities, and business including, for example, in relation to control of dust and noise, reducing the risk of spillage and pollution, and limiting or avoiding any disruption caused by materials being delivered to site. Compliance with the OEMP is secured under paragraph 4 of Schedule 2 within the draft development consent order [REP2-003]. Mitigation measures are also secured through the Environmental Mitigation

Schedule [APP-186], and the contract, which places a contractual responsibility on the contractor to deliver each mitigation measure as specified in the ES, unless the contractor is able to define an alternative measure or measures, approved by Highways England, which achieve the same level of mitigation.

- 43.6.7 In terms of specific measures, during construction, impacts will be controlled and reduced as far as reasonably practicable through measures contained within the OEMP [APP-187] to, for example, control noise (PW-NOI1, PW-NOI3, PW-NOI4, PW-NOI5, MW-NOI1, MW-NOI3 MW-NOI4, MW-NOI5, and MW-NOI6), dust (PW-AIR1 and MW-AIR1), and artificial lighting (MW-G29).
- 43.6.8 During operation, traffic noise impacts will be minimised through the vertical and horizontal alignment of the scheme, in particular the use of false cuttings to the north of Winterbourne Stoke, and the use of a thin road surfacing system which results in lower levels of noise generation than a standard hot rolled asphalt surface. Light pollution impacts will be reduced through the provision of an environmental screen on the south side of the viaduct, which will screen views of car headlights from Winterbourne Stoke, and which will also contribute to a reduction in traffic noise levels at Foredown House. The environmental screen is secured in the OEMP [APP-187] reference D-LAN2.

43.7 Landscape and Visual

Key Issue

43.7.1 Landscaping in the vicinity of the B3083:

We request that Settlement Pond 2 is relocated to the west and / or is made narrower in shape to reduce unnecessary land take and to prevent pockets of land being made unworkable.

Highways England response

- 43.7.2 The Settlement Pond referred to in this comment is the pond to the north of the new bypass between the existing B3083 and the River Till.
- 43.7.3 The infiltration basins are described in ES Appendix 11.3 - Road Drainage Strategy [APP-281] with Pond 2 positioned at a low point in the highway alignment. If Pond 2 was moved west, then a pumping station would be required, and these are not sustainable drainage systems. Additionally, by moving Pond 2 west the earthworks would increase, as to the west of Pond 2 the ground levels rise but the invert level of Pond 2 would remain fixed by the proposed road. The proposals as submitted accordingly minimise landtake.
- 43.7.4 The final sizing of the basins would be subject to the detailed design process and it is anticipated that these areas would be fenced to ensure segregation from livestock. The final design would be subject to the approval of the Secretary of State, following consultation with Wiltshire Council, pursuant to

requirement 10 of Schedule 2 to the draft development consent order [REP2-003].

Key Issue

43.7.5 Landscaping in the vicinity of the B3083:

We request additional areas of hedging (as marked on the annotated plans). In particular, we would ask that the hedge line alongside the proposed A303 includes tree planting as well as hedge plants

Highways England response

43.7.6 The Applicant has no objection to these proposals in principal which consist of additional hedging on the east side of the southern part of the existing B3083 and hedges and trees to the south of the proposed A303, to the east of the B3083 which are within the Order Limits. Discussions are ongoing with the Stakeholder as this planting is within their land holdings, and the Applicant will update the Examination on their progress.

Key Issue

43.7.7 We are very concerned to ensure that the following provisions are included within the scheme:

- **Additional planting is added to the earth bank on the north side of the eastern bridgehead.**

Highways England response

43.7.8 The viaduct crossing of the River Till is designed to retain the open character of the valley floor and minimise its visual impact on the landscape within which it would be located. The embanked approaches will be landscaped and there will be planting either side of the viaduct as indicated on the Environmental Masterplan [APP-059]. In addition, discussions are ongoing with landowners regarding potential offsite planting by agreement within the Till valley between the viaduct and Winterbourne Stoke. Landscape reprofiling areas are shown indicatively on the General Arrangement Drawings [APP-012]. The detail of proposed landscaping will be developed as part of the detailed design of the Scheme. Requirement 8 in Schedule 2 to the draft development consent order [REP2-003] requires before the commencement of any part of the Scheme, the written approval of the Secretary of State, in consultation with the local planning authority, of a landscaping scheme for that part of the Scheme, based on the mitigation measures included in the Environmental Statement [principally APP-038 to 054, 059, 186 and 187].

Key Issue

43.7.9 Landscaping considerations between the eastern side of the viaduct bridgehead and Longbarrow Roundabout:

We request that the marked areas are planted with shrubs / trees in order to improve screening.

Highways England response

43.7.10 The Applicant has no objection to these proposals in principal. Discussions are ongoing with the Stakeholder, the Applicant will update the Examination on these as they progress.

Key Issue

43.7.11 **Landscaping considerations between the eastern side of the viaduct bridgehead and Longbarrow Roundabout:**

- **We ask that a section of proposed hedge is removed in order to decrease the segregation of the fields and allow the enclosure to be farmed as one field. The hedge as currently proposed unnecessarily divides the field and renders the enclosure inefficiently sized.**

Highways England response

43.7.12 The Applicant has no objection to these proposals in principal. Discussions are ongoing with the Stakeholder, which the Applicant will update the Examination on these as they progress.

Key Issue

43.7.13 **Landscaping considerations between the eastern side of the viaduct bridgehead and Longbarrow Roundabout:**

- **We seek clarification on who is expected to meet the costs of ongoing hedge maintenance.**

Highways England response

43.7.14 New land boundaries created by the Scheme will be provided as appropriate for the relevant land use. Once the specification is agreed between landowners and Highways England and the new boundary treatment is in place, responsibility for the on-going future maintenance of these will be passed to the landowner. Accommodation work discussions have begun with affected landowners. Details and specifications regarding reinstatement and accommodation works relating to boundary treatment/accesses, barriers/gate arrangements, future boundary maintenance and internal farm accesses are currently being discussed, with a view to agreeing solutions acceptable to all parties.

43.8 Noise and Vibration Effects

Key Issue

43.8.1 **We are very concerned to ensure that the following provisions are included within the scheme:**

- **There should be no night work.**

Highways England response

- 43.8.2 Construction working hours will be dependent on the nature of the construction activity as well as the location of the specific work being carried out, being sensitive to the circumstances and seeking to avoid or minimise disturbance and effects. Details of the approach to be taken can be found in item PW-G4 of Table 3.2a of the Outline Environmental Management Plan (OEMP), ES Appendix 2.2 [APP-187] in respect of the preliminary works, and items MW-G12 to G14 of Table 3.2b of the same document in respect of the main works. Compliance with the OEMP is secured by paragraph 4 of Schedule 2 of the draft development consent order [REP2-003].
- 43.8.3 It is not possible to restrict the construction phase to no night works for reasons of safety and operational necessity. Conditions where additional working hours (outside of core working hours and site-specific working hours) could be required, such as works in response to an emergency, are described within item MW-G14 of the OEMP. Activities outside core working hours that could give rise to disturbance will be kept to a reasonably practicable minimum. There are no night works planned for the bypass section of the Scheme to the north of Winterbourne Stoke, including the River Till Viaduct. The only major item of works which would operate 24/7 is the tunnelling and ancillary works which are remote from residential properties.

43.9 Traffic and Transport

Key Issue

- 43.9.1 **Former A303 Stopping Up to West of Scotland Lodge:**

By not preventing vehicular traffic from accessing the section of the former A303 (which will become a no through road) there is almost certainty that the current lay-by will become a location for unlawful parking, camping and antisocial activity.

- 43.9.2 **We request that the former section of A303 is gated and layby removed.**

Highways England response

- 43.9.3 Following confirmation by Wiltshire Council that the lay-by is no longer required by them for operational reasons, Highways England intends to close this lay-by, re-profile it to prevent access, re-seed it and return it to a grassed verge.

Key Issue

- 43.9.4 **The bridleway marked as Route 11 merging with shared cycleway Route 12 should be relocated to the southern side of the existing A303.**

This would improve user experience. Establishing this bridleway on the southern side of the road would improve the safety of those using the route between Winterbourne Stoke and the Longbarrow Roundabout. This is because those coming from the village would only need to cross the road once as opposed to twice (as currently proposed).

- 43.9.5 **We request that the proposed Routes 11 & 12 are realigned on the southern side of the existing A303.**

Highways England response

- 43.9.6 The reference to Route 11 is taken from the landowner Accommodation Works plans, however these aspects are currently under discussion and are ongoing in parallel with the DCO process. Thus, they have not been submitted to the ExA. Route 11 is Reference Z on Sheet 4 of the Rights of Way and Access Plans and Route 12 is Reference G on Sheet 5 of the Rights of Way and Access Plans.
- 43.9.7 The proposed bridleway between Winterbourne Stoke and Longbarrow junction is better located on the north side of the old A303, separated from the existing road by an existing mature hedge along part of the route. The alternative route on the south side would mean the removal of an area of woodland and would involve additional earthworks.

Key Issue

- 43.9.8 **The Bridleway**

At the point where Route 12 merges with Route 16 there is a crossing proposed across the A360 (southern roundabout of the Longbarrow Junction). This crossing point should be provided by an underpass suitable for pedestrian, cycle and equestrian users. The current proposal is to have a road crossing managed by traffic lights. This junction carries all traffic from the A360 including many heavy goods vehicles. The heightened risk of a serious accident is evident. It is impractical to expect that equestrian users will be able to 'press the traffic management button' and wait safely while either mounted or dismounted. Moreover, users on foot and bicycle will have a more pleasant experience if they could have uninterrupted access.

- 43.9.9 **Similarly, the existence of traffic lights at this location (at the end of a slip road leading of the A303 just after the tunnel) will almost certainly create traffic jams to back up onto the A303. Not only does this result in outcomes contrary to the objectives of the scheme, it also enhances the risk of road collision.**
- 43.9.10 **A legacy opportunity exists to improve the accessibility of Winterbourne Stoke to the World Heritage Site. At present, the proposals do not secure a positive legacy. Indeed the proposed**

development will crystallise unacceptable risks to the community and visitor users of the local rights of way network.

- 43.9.11 **We request that a pedestrian, cyclist and equestrian underpass is established under the A360 at Longbarrow Junction (removing the requirement for traffic lights to be installed).**

Highways England response

- 43.9.12 The reference to Routes 12 and 16 is taken from the landowner Accommodation Works plans, however these aspects are currently under discussion and are ongoing in parallel with the DCO process. Thus, they have not been submitted to the ExA. Route 12 is Reference G and Route 16 is Reference Y, both on Sheet 5 of the Rights of Way and Access Plans.
- 43.9.13 The precise form of non-motorised user (NMU) crossing will be confirmed during detailed design; at this stage it is anticipated that this will be facilitated through the use of Pegasus crossings (signal-controlled crossings adapted for both pedestrian and equestrian use).
- 43.9.14 Pegasus crossings are widely used and are endorsed by the British Horse Society in their "Advice on Road crossings for horses" which states "A Pegasus crossing is a means of creating a relatively safe means of crossing at grade, which is cheaper and more practical on existing roads, and some new developments, than building an underpass or overpass. However, where new roads are planned, the British Horse Society recommends the use of an underpass as the first choice of crossing if feasible." The A360 southern link to Longbarrow junction is in cutting to minimise its visual impact on the adjacent World Heritage Site, an underpass is thus not feasible and has been discounted due to the potential flood risk, the difficulty of providing it in a cutting and the length of approach ramps required to accommodate a 3.4m minimum height for horse riders. An underpass for Walkers, Cyclists, and Horse Riders (WCHs) under the A360 at Longbarrow junction would thus require considerable construction and would not be cost-effective for the anticipated number of users.
- 43.9.15 Longbarrow junction will not include street lighting to limit visual impact on the World Heritage Site. For this reason, traffic lights will be installed at the junction for safety purposes and it has been assumed that they will operate at night time. These traffic signals junction shall have shrouds or louvres to direct the signals towards the intended user and minimise light spill. The traffic lights will therefore not affect the conclusion that traffic movements will be free-flowing as they are intended to be operational outside of the busier day time periods.
- 43.9.16 The signal controlled southern roundabout will also ensure safe use of the junction and provide safe crossing of the A360 (south) for non-motorised users. The proposal to include traffic lights will make the stop lines more prominent for road users and will combat the potential conflict with Walkers, Cyclists, and Horse Riders (WCHs) and slow-moving vehicles. This will

enhance the safety of WCHs and road users and mitigate against the risk of road collisions at the junction.

- 43.9.17 A key objective of the Scheme is to provide a positive legacy for communities and improve access both within and to the WHS. The new public rights of way (PRoW) proposed along the Scheme will not only maintain, but will also considerably enhance the existing PRoW network, significantly improving connectivity for users. Accessibility between Winterbourne Stoke and the World Heritage Site will be significantly improved through the provision of an off-road bridleway.

Key Issue

- 43.9.18 **The Bridleway**

The proposal provides for land to be taken out of our farm holding and made into Routes 11 & 12. These routes are to be fenced off from the remainder of the field. The southern boundary of these routes will be formed by the existing hedge and tree line (currently the wide field boundary). The existence of the fenced off public right of way will make maintenance of the existing tree line / hedge impracticable.

Highways England response

- 43.9.19 The reference to Routes 11 and 12 is taken from the landowner Accommodation Works plans, however these aspects are currently under discussion and are ongoing in parallel with the DCO process. Thus, they have not been submitted to the ExA. Route 11 is Reference Z on Sheet 4 of the Rights of Way and Access Plans. Route 12 is Reference G on Sheet 5 of the Rights of Way and Access Plans.
- 43.9.20 The Turner family will not be required to maintain the existing tree line/hedge which will form the divide between the bridleway and the existing A303. It will form part of the local highway and public right of way network owned and maintained by Wiltshire Council moving forward.

Key Issue

- 43.9.21 **Green Bridge 2 and WST06B:**

Classification of this route as a restricted byway would help ensure a safe and more harmonious network of public rights of way and improve the project legacy for the community.

Highways England response

- 43.9.22 The Scheme is maintaining the continuity of byways WSTO6B via Green Bridge No. 2. Any review of its designated status and use would be a matter for Wiltshire Council as the responsible authority for the byways.

Key Issue

43.9.23 Fencing, gates and boundary treatments:

The World Heritage Site and the surrounding area is prone to unlawful camping and the anti-social parking of vehicles along byways and in gateways. This is due to draw and interest of the stones. These activities create a significant nuisance to the local community and those deriving a living from the land.

43.9.24 As part of the legacy of the project we hope and believe that the problem can be removed or alleviated, by the sensible reclassification of routes and provision of appropriate rights of way furniture (gates etc).

43.9.25 Whilst restricted byways are vastly better than unrestricted byways, their existence does result in a predicament as to how to allow lawful use, whilst keeping out motorised vehicles (4x4s, camper vans and motorbikes). The problem is so acute and specific to the World Heritage Site, that we recommend that more creative and dynamic solutions are investigated.

43.9.26 Please note that restricted byways are seldom used by horse and cart drivers, whereas where these routes exist on our holding, we require access on a daily basis (often multiple times a day). The predominance of use is therefore for practical farming purposes and the designed solution should accommodate ease and efficiency of access.

- We specifically request that ‘Kentish Carriage Gates’ and ‘Motorcycle Gates’ are not installed on our holding as they are ineffective and serve only as an obstacle to legitimate farm Traffic (of varying types and vehicle widths).
- We request that where fencing is to be installed upon our holding, it is specified that it must be of a metal galvanised type (suitable for cattle and sheep).
- The fencing alongside the proposed A303 should be deer proof and 6ft in height.

Highways England response

43.9.27 New land boundaries created by the Scheme will be provided as appropriate for the relevant land use. Once the specification is agreed between landowners and Highways England and the new boundary treatment is in place, responsibility for the on-going future maintenance of these will be passed to the landowner. Within the World Heritage Site Highways England will also consult National Trust, Historic England, English Heritage and Wiltshire Council on the provision of fencing and surfacing (this is required

by reference D-CH14 contained in the OEMP [APP-187] (being updated at Deadline 3 of the examination) secured by requirement 4 in Schedule 2 to the draft development consent order [REP2-003]. Details and specifications regarding reinstatement and accommodation works relating to boundary treatment/accesses, barriers/gate arrangements, future boundary maintenance and internal farm accesses are currently being discussed, with a view to agreeing solutions acceptable to all parties.

- 43.9.28 Appropriate physical interventions could be used to ensure that the appropriate class of user would have access to the corresponding public right of way. For example, interventions like Kent Carriage Gaps or suitable alternatives, could be provided at access points to restricted byways, preventing entry by mechanically propelled vehicles. Equestrian gates could be provided at access points to bridleways and pedestrian gates could be provided at access points to footpaths. These interventions would be discussed with Wiltshire Council who will become the highway authority for the public rights of way, and with affected landowners.
- 43.9.29 Locking field gates could also be provided alongside the Kent gaps and gates above to maintain access for authorised motorised vehicle users such as landowners and maintenance vehicles.
- 43.9.30 The final details of these solutions would be determined at detailed design as set out in the Outline Environmental Management Plan (OEMP) [APP-187] which is Appendix 2.2 of the Environmental Statement. Compliance with the OEMP is secured under paragraph 4 of Schedule 2 within the draft development consent order [REP2-003].
- 43.9.31 Relevant extracts from OEMP section 3.3 “Record of Environmental Actions and Commitments” are provided below:

MW-COM1 Notification of works:

The main works contractor shall advise landowners, occupiers and agents, as appropriate, regarding the intended commencement of construction works in areas of the site adjacent to agricultural holdings. The main works contractor shall also liaise with landowners, occupiers and agents, as appropriate, regarding the provision of accommodation works and agree the programme of works and access routes to be used by both the construction traffic and, where relevant, agricultural machinery and/or livestock.

MW-COM3 Liaison with landowners:

The main works contractor, through the Agricultural Liaison officer (ALO), shall liaise with landowners, occupiers and agents, as appropriate, to establish:

- a. Measures to be implemented to maintain livestock water supplies which may be affected due to construction works;
- b. Fencing requirements both during and post-construction;

- c. Locations of potential carcass burial sites.

Key Issue

43.9.32 Western Tunnel Portal:

We are greatly concerned about the safety of the tunnel when in use. There is significant potential for road traffic accidents and fire. The alignment of the tunnel means that westbound drivers will during the evening emerge directly into the glare of the sun. This would reduce visibility and increase potential for slowed traffic creating obstructions.

- 43.9.33 **The A303 is used a lot by hay and straw hauliers. When loaded these lorries carry large quantities of dried material that can and does easily catch fire. The prospect of a straw lorry (or indeed any other flammable cargo) catching alight within the tunnel is truly frightening. We**

- 43.9.34 **request that this risk is examined in greater detail.**

Highways England response

- 43.9.35 The impact of sunlight on drivers has been carefully considered in the design of the proposed tunnel and its portal locations. Its impact on drivers has been mitigated in two separate ways.

- 43.9.36 Firstly, the tunnel is required to comply with The Road Tunnel Safety Regulations 2007 (and the amendment regulations dated 2009). These regulations are derived from the European Road Safety Directive, 2004/54/EC (“Minimum safety requirements for tunnels in the Trans-European Road Network”), which requires that *“tunnels should have lighting that ensures appropriate visibility day and night for drivers in the entrance zone as well as in the interior of the tunnel”*.

- 43.9.37 Therefore, the tunnel lighting system has been designed in compliance with BD78/99 (“Design of Road Tunnels”, part of Highways England’s Design Manual for Roads and Bridges), with three separate but interlinked lighting sections. In the middle of the tunnel, the lighting levels will be set to a safe level. At the tunnel entrance and again at the tunnel exit, the lighting system will be set to a level that allows the drivers’ eyes to adjust from the outside lighting level to the tunnel lighting level at the middle of the tunnel. The tunnel entrance and exit zone lighting will automatically detect the lighting level just outside of the adjacent portal and adjust the tunnel lighting to suit. Therefore, as drivers approach the exit portal, their eyes will already be adjusted to the brighter outside conditions during daytime.

- 43.9.38 As can be seen in the engineering sections [APP-011, sheet 7 of 12], the western portal exits into a deep cutting. The depth of the cutting (approximately 10m below local ground level) provides some screening for drivers against low sun conditions (although the primary purpose of the cutting is to screen the World Heritage Site from the sight of traffic on the

- A303). Therefore, drivers will be protected from the evening sun while in the deep cutting adjacent to the western portal.
- 43.9.39 Therefore, the design of the tunnel and its lighting system will mitigate the impact of potential sun glare on drivers exiting the western portal during the evening.
- 43.9.40 Similarly, the safety of tunnel users takes priority in designing the tunnel structure and its equipment.
- 43.9.41 Again, the tunnel is required to comply with The Road Tunnel Safety Regulations 2007 (and the amendment regulations dated 2009). These regulations enact the European Road Safety Directive, 2004/54/EC (“Minimum safety requirements for tunnels in the Trans-European Road Network”) requires a number of safety features to protect tunnel users. The tunnel features required are described in BD78/99 (“Design of Road Tunnels”, part of Highways England’s Design Manual for Roads and Bridges).
- 43.9.42 For responding to the rare incidence of vehicle fires, the tunnel would have a range of fire-fighting safety features, developed in liaison with Dorset and Wiltshire Fire & Rescue Service. This is likely to include incident detection systems; a fixed fire-fighting system; fire mains and hydrant points; regular cross passages for evacuation, and a ventilation system (as required by the OEMP [APP-187]. Highways England has been working closely with the emergency services on the technical design of the tunnel and its future operation. This includes contingency planning arrangements for any foreseeable scenario that could unfold in the future, as is Highways England's standard practice for protecting and maintaining parts of the network where there is sensitive infrastructure.
- 43.9.43 Our fire engineering team has assessed a wide range of fire sources and sizes in developing the project’s design fire size, which forms the basis of design of the tunnel fire life safety systems. The fire load represented by a hay/straw haulier or indeed other HGVs has been taken into consideration in the preliminary design. Therefore, the issue has already been considered in detail and suitable control measures have been identified.

44 Barry Garwood (REP2-164 to REP2-166 and REP2-208)

44.1 Alternatives

Key Issue

44.1.1 Consideration should be given to alternatives, including:

44.1.2 A route entirely to the north of the World Heritage Site by diverting the eastern part of Winterbourne Stoke bypass further north to connect with the A360 giving access to the Stonehenge visitor centre, or directly to the Packway through Larkhill, with a new road from the Durrington roundabout running south of Bulford to reconnect with the A303 further east. Although this would bring extra traffic through Larkhill, it is an army camp and could be relocated at least in part. This route would be cheaper to build and add little to the length of road.

Highways England response

44.1.3 A full range of route corridors and, within these, routes both within and outside the WHS has been identified and appraised during the course of the Scheme's development. The selection of the preferred route was made based on the assessment of multiple criteria. As detailed in Table 3.1 of Chapter 3 of the Environmental Statement [APP-041], it was found that there was limited scope for surface routes north of the WHS because of the proximity of Larkhill and Durrington. This northern route corridor would also have caused substantial harm to important heritage features such as Durrington Walls and the Outstanding Universal Value of the WHS, and so would not deliver overall heritage benefits. There would also have been significant adverse impacts on the environment and local communities. Further information can be found in the Technical Appraisal Report [REP1-031, REP1-032 and REP1-033].

Key Issue

44.1.4 Consideration should be given to alternatives, including:

44.1.5 Building the Winterbourne Stoke bypass as planned as far as just west of the Longbarrow roundabout and then leaving the A303 as it is past Stonehenge. Although the road is busy and traffic bunches up as drivers slow down to view the stones, it generally keeps moving. As the application notes, delays are usually due to congestion and are normally fairly short, rather than the much longer delays that result from collisions on the M4/M5 alternative route. Again this would be cheaper and not really any longer than the current route.

Highways England response

- 44.1.6 As set out within its Road Investment Strategy (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/408514/ris-for-2015-16-road-period-web-version.pdf), the Government's aim is to upgrade all remaining single carriageway sections of the A303/A358 corridor into a high-quality dual carriageway route, improving connectivity to the South West. Solely building the Winterbourne Stoke bypass would not achieve that aim. Countess roundabout and the stretch of A303 past Stonehenge would remain congested and the WHS would still suffer the adverse effects of the A303. Separating the Scheme in this way would also be inefficient and less cost efficient.

Key Issue

Consideration should be given to alternatives, including:

- 44.1.7 **A route to the south such as the one called AR2 in the document TR010025-000652 Objectors Alternative Routes, or similar. This would utilise Boscombe Down runway, or alternatively the access runway allowing the main runway to remain open. It crosses the Avon to the north of the Woodfords and to the south of Great Dunford without needing to be particularly close to either settlement before linking south of Stapleford onto the existing A36 which could then be dualled as far as the junction with the A303 to the west. An alternative would be to head north-west from the Avon crossing, with a river Till crossing between Winterbourne Stoke and Berwick St. James to link in with the existing dual A303. Such a route would have the added advantage of bypassing Amesbury. I understand that the applicants have discounted such a route on the basis of disturbing the tranquility of the Avon valley in the vicinity of the Woodfords, but I do not consider the disturbance would be so great as to discount the route completely, when compared with the disturbance to the WHS of the tunnel proposals.**

Highways England response

- 44.1.8 A full range of routes outside the WHS was identified and appraised during the course of the Scheme's development. All have been discounted as they would not be as successful as the proposed scheme in delivering the Scheme objectives or were discounted on environmental grounds. Further information can be found in the Technical Appraisal Report [REP1-031, REP1-032 and REP1-033]. The route presented as Alternative Route 2 (AR2) was considered at the Public Inquiry in 2004. It was therefore included in the list of historic routes assessed in PCF Stage 1 (Design Fix A and B) as listed in paragraph 6.4.1 of the Technical Appraisal Report (TAR) [REP1-031] and as illustrated in Appendix B1. It was considered as part of the assessment of Corridor F (south) as set out in Section 5.2 of the TAR (paragraph 5.112 to 5.166) and summarised in Table 5-7 (Page 102). Corridor F was not ruled

out at this stage. Appendix C6 of the TAR explains how the routes within Corridor F were then rationalised. The western sections of the route were incorporated into Route Options F004, F005 and F006. The central section was incorporated into Route Options F001 and F006. The eastern section was ruled out due to its proximity to Boscombe Down Airfield Primary Runway which could be avoided by other Route Options. Therefore, consideration has been given to this alternative route.

Key Issue

Consideration should be given to alternatives, including:

- 44.1.9 **A route even further south as presented to the preliminary meeting in document form by Graham Parker as part of the Balfour Beatty assessment. It would be very helpful if he could attach a copy of at least this route to the examination. It also bypasses Amesbury to the south using Boscombe down airfield before following the A345 south almost to Old Sarum before crossing the Avon valley to the south of the Woodfords. From here it can either follow the A360 north before bypassing Winterbourne Stoke to the south, or link back to the A303 by way of the A36. Such a route would have the added advantage of being able to link with the A30 to form a Salisbury northern bypass.**

Highways England response

- 44.1.10 A full range of routes outside the WHS was identified and appraised during the course of the Scheme's development. All have been discounted as they would not be as successful as the proposed scheme in delivering the Scheme objectives or were discounted on environmental grounds. Further information can be found in the Technical Appraisal Report [REP1-031, Rep1-032 and REP1-033].
- 44.1.11 The route presented by Mr Graham Parker was considered at the Public Inquiry in 2004 (known at that time as 'Alternative Route 4'). It was therefore included in the list of historic routes assessed in PCF Stage 1 (Design Fix A and B) as listed in paragraph 6.4.1 of the Technical Appraisal Report (TAR) [REP1-031] and as illustrated in Appendix B1. It was considered as part of the assessment of Corridor F (south) as set out in Section 5.2 of the TAR (paragraph 5.112 to 5.166) and summarised in Table 5-7 (Page 102). Corridor F was not ruled out at this stage. Appendix C6 of the TAR explains how the routes within Corridor F were then rationalised. The eastern sections of the route were incorporated into Route Options F001, F003 and F006. The western section was incorporated into Route Option F001, F002 and F007 (similar to '2004 Act Route'). The central section was ruled out as it bisected Little Durnford and affected High Post Golf Course which were avoidable with other route options. Therefore, consideration has been given to this alternative route.

44.2 Cultural Heritage

Key Issue

- 44.2.1 **The delicate hydrogeology of the Chalk has helped preserve archaeological evidence dating back thousands of years. Tunnelling through it will alter the hydrogeological characteristics of the area, with the potential to destroy as yet undiscovered archaeological evidence that could shed further light on our early civilisation.**

Highways England response

- 44.2.2 A hydrological model has been developed to inform the assessment of groundwater effects. The main archaeological site exposed to risk of potential changes in hydrology is the Blick Mead site in the grounds of Amesbury Abbey, and the assessment shows there will not be any adverse effect on the spring flows which sustain the boggy ground at the Blick Mead site and the archaeology contained within it. Further information on the assessment of Blick Mead can be found in ES Chapter 11, Appendix 4, Annex 3, Blick Mead Tiered Assessment [APP-282]. Further information on the assessment of groundwater effects more generally can be found in ES Chapter 11, Road Drainage and Water Environment [APP-049].

Key Issue

- 44.2.3 **At worse, the tunnelling could destroy parts of the site that it purports to protect and in any case will result in the presence of wholly out-of-place concrete portals and approach roads within the World Heritage Site, which will detract from the wider setting of Stonehenge.**

Highways England response

- 44.2.4 The approach to integrating the road into the existing landscape is set out in the Design and Access Statement [APP-295]. The approach includes the provision of bunds and false cuttings, with sympathetic regrading of earthworks to match the existing natural rolling landform, along with the provision of new hedgerows and planting areas. This will be secured as part of the landscaping scheme to be approved and implemented pursuant to requirement 8 of the draft development consent order [REP2-003]. Within the WHS, the removal of the existing surface road will greatly enhance the landscape, improving tranquillity. The impact of the Scheme on the landscape has been assessed and the results of that assessment are reported in ES Chapter 7 [APP-045].
- 44.2.5 The protection of the WHS including the setting of Stonehenge has been at the forefront of considerations whilst designing the Scheme. The Heritage Impact Assessment (HIA) [APP-195] assesses the impact of the proposed Scheme on the Attributes that convey the OUV of the WHS, their Integrity and Authenticity, as well as the alignment of the Scheme with the vision,

aims and policies of the 2015 WHS Management Plan and the criteria for the site's inscription as a WHS. The HIA concludes that the overall effect on the OUV of the WHS would be slight beneficial and the OUV will be sustained by the construction of the Scheme.

Key Issue

- 44.2.6 **Of much greater desirability [than the linking the Avenue to the south of A303] is the avoidance of large scale building work within the Stonehenge landscape as proposed, which will have huge impact on the setting of elements such as the Longbarrow roundabout group and Blick Mead.**

Highways England response

- 44.2.7 Highways England is uncertain whether the reference to "building work" within this Written Representation is to the construction elements, only, of the Scheme or to the construction as well as the operational life of the Scheme. Highways England responds on both the construction and operational aspects, as follows:
- 44.2.8 The design has been carefully chosen in order to improve the setting of many heritage assets and asset groups in the central part of the WHS including the Avenue, Stonehenge itself and the Winterbourne Stoke barrow group; remove the intrusive sight and sound of traffic from the existing A303 as far as possible within the WHS; and design a scheme that is minimally intrusive in both the western and eastern parts of the WHS, including in key views from assets groups that contribute to the OUV of the WHS. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044]. Section 6.8, Table 6.9. The cultural heritage assessment, reported in ES Chapter 6, identifies the effects on known archaeological features whilst recognising the benefits that the tunnel will deliver for the WHS landscape as a whole.
- 44.2.9 During the construction phase, the building work would affect the Winterbourne Stoke (Longbarrow roundabout) group of monuments. There would be a temporary negative change to setting of the barrow group, although the Applicant notes that this setting would continue to be dominated by traffic on the existing highways, with construction occurring behind that screen of traffic.
- 44.2.10 While there would be considerable activity around Countess, both in terms of construction activity and traffic movement, relatively few heritage assets are present and the majority of these are within Amesbury Abbey Park and are well screened. The assets affected here are historic buildings located on the A345 immediately to the north and south of Countess Roundabout and the Amesbury Abbey RPG and Conservation Area at the point where they share a boundary to the south of the present A303 and the west of Countess Road.(ES Ch 6.9 [APP-044]. It is not considered that the Scheme would

impact upon the setting of the Blick Mead archaeological site. The Setting Assessment found that "There would be an impact on the northern boundary and part of the eastern boundary of Amesbury Abbey RPG as a result of the Scheme. However, that impact would not extend far into the RPG due to screening provided by the dense vegetation that covers the majority of the northern part of the asset. The settings of the majority of assets [including the Blick Mead archaeological site] within the park would be unchanged as a result of the Scheme" [APP-218, para. 3.4.10].

Key Issue

- 44.2.11 **Stonehenge has a great spiritual value for many, has been a meeting place for people from all over the country at solstice events going back thousands of years and is a hugely significant astronomical structure. It should be preserved as it is for all.**

Highways England response

- 44.2.12 The removal of the existing A303 surface road from a large part of the WHS landscape will result in extensive benefits for the WHS, including significant reductions in (a) traffic noise, as set out in ES Chapter 9 [APP-047], Section 9.9, and illustrated in Figure 9.4 [APP-167], and (b) visual intrusion, as set out in ES Chapter 7 [APP-045], Section 7.9. The cultural heritage assessment for the Scheme can be found in the ES, Chapter 6 [APP-044]. The Heritage Impact Assessment (HIA) (ES Appendix 6.1, [APP-195]) concludes that the Scheme will have an overall slight beneficial effect on the WHS and will sustain its OUV, as set out in Section 12.4. The Scheme is being pursued to address the congestion on the A303 which itself is currently damaging to the Outstanding Universal Value of the WHS; reducing the damaging effects of the A303 on the WHS has been a long-standing aspiration and commitment for the WHS since its inscription in 1986 and through successive WHS Management Plans, including the latest Management Plan for the WHS published in 2015. Placing the A303 in a 2-mile long tunnel will transform and enhance the WHS landscape in that area. The Scheme will improve the visitor experience by transforming the WHS landscape in that area and reconnecting the two halves of the WHS, which are currently severed by the surface road. Connectivity into and through the WHS will be improved through the placement of the road in bored tunnel and the provision of new and enhanced public rights of way across the landscape, notably the new byway on the line of the old A303, linking Winterbourne Stoke with Amesbury via the WHS.
- 44.2.13 Archaeoastronomical aspects are considered in the Heritage Impact Assessment, set out in the Environmental Statement, Chapter 6, Cultural Heritage, Appendix 6.1, Section 6.15 [APP-195] and Annex 5 [APP-200], which highlights the astronomical aspects that contribute to the Outstanding Universal Value of the WHS. These are all considered and assessed in the Heritage Impact Assessment with reference to the Scheme. With regards to

Attribute 4 The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy, the Heritage Impact Assessment concludes that the Scheme would result in a Large Beneficial Effect (ES Chapter 6, Cultural Heritage, Appendix 6.1, paragraphs 9.4.24-9.4.28) [APP-195].

Key Issue

- 44.2.14 **Our understanding of the wider historical context of the site is still in infancy. It is probable that there is more to be discovered in future. The proposals look more likely to destroy archaeological evidence than preserve it.**

Highways England response

- 44.2.15 The preferred route was carefully chosen to avoid known archaeological remains. A comprehensive programme of archaeological evaluation surveys (see ES Chapter 6 Cultural Heritage, [APP-044 paragraphs 6.6.13 – 6.6.52]), covering the entire red line boundary of the scheme, has informed the scheme being designed in a way that has limited archaeological impacts where this is practicable. Examples of how the design has been developed to limit impacts on archaeology include the choice of a northern bypass of Winterbourne Stoke, the reduced footprint and land take for Rolleston Corner, and the design and placement of the western and eastern tunnel portals and approaches in areas that have been shown to have limited archaeological remains within their footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Table 6.9. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction, to avoid, as far as is practicable, previously unknown archaeological remains being uncovered during construction. The Draft DAMS submitted at deadline 2 [REP2-038] sets out the structured, iterative detailed archaeological mitigation strategy. This includes provision for the preservation of archaeological remains in situ, where this is practicable, as well as provision for archaeological excavation and recording. The DAMS is being developed in consultation with the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust, and English Heritage) and the Scientific Committee. It will be finalised prior to the end of the Examination and is secured by Requirement 5 of Schedule 2 of the draft development consent order [REP2-003] The archaeological results and the archive of finds and reports would be available for study in the future, enabling knowledge of the ancient landscape to be re-evaluated as knowledge of our past and scientific techniques evolve.

44.3 Design

Key Issue

- 44.3.1 **The positioning of tunnel portals and approach roads close to important monuments within the Stonehenge landscape will detract from the outstanding universal value of the site in the widest possible sense of the expression.**

Highways England response

- 44.3.2 Along with considerations of cost, the location and design of the tunnel portals have been optimised in terms of the natural topography of the area, impact within the WHS and the extent of benefit that will be secured by one of the key aims of the scheme which is to remove the sight and sound of the A303 traffic from much of the WHS landscape. With accompanying mitigation, the assessments show that the preferred solution is a 2-miles (3.3km) long tunnel extending between portals located adjacent to the existing A303 to the east of The Avenue and to the west of Normanton Down.
- 44.3.3 The Preferred Route Announcement (PRA) by the Secretary of State in September 2017 was based on a 2.9km long twin bored tunnel. The western portal was located south of existing A303 and northwest of Normanton Gorse and eastern portal to the north of A303 and east of the Avenue. Since the PRA, during the Scheme development, and in response to consultation responses, the applicant has amended the scheme to extend the tunnel. Two changes were made to the location of the western portal which resulted in a 300m extension to the tunnel:
- the end of the bored tunnel was moved 100m west to avoid impact on a scheduled barrow (NHLE No. 1010832 – Bowl barrow south of the A303 and north west of Normanton Gorse) that contributes to the OUV of the WHS; and
 - a 200m cut-and-cover extension, or canopy, was added for improvement in landscape and visual connectivity and tranquillity within the WHS.
- 44.3.4 At the eastern end a cut-and-cover extension of 85m has been added to suit topography for improvement in landscape and visual connectivity and tranquillity within the WHS.
- 44.3.5 Further westwards extensions of the tunnel were ruled out because of topographical and technical constraints, and because they would not deliver sufficient additional benefits to justify the additional cost.
- 44.3.6 In terms of impacts on monuments and monument groups (Asset Groups) in the WHS, these are considered in ES Chapter 6, Cultural Heritage [APP-044] and the Heritage Impact Assessment (ES Chapter 6, Cultural Heritage, Appendix 6.1) [APP-195]. The preferred route for the Scheme was selected to avoid known archaeological remains, important sites and monuments.

Subsequent design development at the western tunnel approach, including mitigation measures to limit or avoid impacts, has been informed by a comprehensive programme of archaeological evaluation surveys, which have confirmed the limited nature of the archaeological remains within the construction footprint for the Western Portal and its approach cutting. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Table 6.9. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction. The Outline Archaeological Mitigation Strategy (OAMS) [APP-220] identifies areas to be protected in-situ. A Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] is being developed in consultation with Wiltshire Council Archaeology Service and the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust, and English Heritage), and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003].

- 44.3.7 The constructed Scheme will improve the visitor experience by increasing landscape tranquillity and improving the visual connectivity of the many heritage features within the WHS. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole and the OUV of the WHS would be sustained. Further information can be found in the ES Chapter 6, Cultural Heritage [APP-044] and ES Appendix 6.1, Heritage Impact Assessment [APP-195].

Key Issue

- 44.3.8 **The proposed Byway closures and other changes to the Public Right of Way network will cut off north-south access in a number of places, disadvantaging those that currently use them.**

Highways England response

- 44.3.9 The new public rights of way measures proposed along the Scheme would not only maintain, but would also considerably enhance the existing PRoW network, significantly improving connectivity for non-motorised users, as shown on the Rights of Way and Access Plans [APP-009].

Key Issue

- 44.3.10 **The criteria chosen by Highways England for deciding upon the tunnel route appears somewhat illogical. While avoiding any further crossings of the river Avon may be desirable, it does not outweigh the desirability of preserving the wider Stonehenge landscape as far as possible as it is.**

Highways England response

- 44.3.11 A full range of routes outside the WHS has been identified and appraised during the course of the Scheme's development. All have been discounted as they would not be as successful as the proposed Scheme in delivering the Scheme objectives. Surface routes to the north of the WHS were rejected due to the location of settlements giving little scope to realign the A303 without substantial harmful impacts. A surface route to the south of Salisbury was rejected because the length of such an option would lead to substantially increased habitat loss and severance compared to other corridors. This option, whilst offering improved access to Salisbury would fail to reduce journey times for users of the A303 and would not, therefore, meet the objectives for the Scheme. Surface routes south of the WHS but north of Salisbury would be significantly longer and would pass through a largely unspoilt, high quality, tranquil landscape with an additional crossing of the River Avon Special Area of Conservation (SAC). They would have a much larger footprint and a greater overall environmental impact, despite having greater benefits for the WHS. There would be disbenefits for road users having to travel on a longer southern route, and southern routes would also not interact effectively with the local road network, leaving higher levels of rat-running traffic adversely affecting the quality of life in local communities.
- 44.3.12 The criteria for discounting surface routes around the WHS were therefore much wider than the single issue of crossing the River Avon SAC. One of the objectives of the Scheme is to improve the quality of everyday life in local communities and a bypass round the WHS would not satisfy this objective. Further information can be found in the Technical Appraisal Report (<https://highwaysengland.citizenspace.com/cip/a303-stonehenge/>) and section 3.2 of the Environmental Statement [APP-041].

Key Issue

- 44.3.13 ... **the proposal to link the part of The Avenue to the south of the A303 [does not] justify the very high desirability rating given by the applicants.**

Highways England response

- 44.3.14 The Scheme will allow for the reconnection of the Avenue where it is crossed by the current A303 resulting in a permanent large beneficial effect, as reported in Table 6.11 in the ES Chapter 6 on Cultural Heritage [APP-044]. These benefits are considered in the context of the whole WHS and the many scheduled monuments within it, not just Stonehenge and the Avenue. The Heritage Impact Assessment, as set out in ES Appendix 6.1 [APP-044], Section 12.4, concludes that the scheme will deliver beneficial effects for the setting of many scheduled monuments within the WHS, as well as Stonehenge, whilst sustaining the OUV of the WHS. The Applicant considers that the benefits as summarised here and more fully reported in the ES are supported by the assessment and are robust.

Key Issue

- 44.3.15 **[In reference to]** An article written for Apollo magazine, by Dan Hicks, Associate Professor and Curator in Archaeology at the University of Oxford ...
- 44.3.16 ... *suggestions of re-instating the Avenue are impractical, as it is no longer visible east of Stonehenge Bottom, runs across private land, crosses another road and would require the demolition of West Amesbury House, a Grade 1 listed building.*

Highways England response

- 44.3.17 The tunnelled element of the Scheme, in combination with the decommissioning of the current A303, creates the opportunity to reconnect the northern and southern parts of the WHS and the many monuments and monument groups that contribute to the OUV of the WHS that are currently severed and separated by the road. This includes the reconnection of the severed route of the Avenue where it is crossed by the current A303. Please see 6.8.12 of ES Chapter 6 Cultural Heritage [APP-044].
- 44.3.18 Further reconnection of the Avenue and making it fully accessible falls outside the scope of the Scheme.

44.4 Climate Change

Key Issue

- 44.4.1 **The dualling of the A303 will add a lane to the main routes between London and the south-west. Experience shows that traffic volume expands to fill the capacity available. Along with the significant carbon emissions that will result from construction, the increased traffic will have a negative effect on the environment, contributing to the ongoing climate emergency.**
- 44.4.2 **Improvements to public transport including the rail network could improve connectivity with a much lower impact on climate change.**

Highways England response

- 44.4.3 The National Policy Statement for National Networks (2014) page 11 sets out the need for, and Government's policies to deliver, development of nationally significant infrastructure projects on the national road and rail networks in England. Compliance of the scheme with the requirements of the NPSNN, including those related to health and the wider environment, are shown in Appendix A of The Case for the Scheme [APP-294].
- 44.4.4 The Government's Road Investment Strategy (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/408514/ris-for-2015-16-road-period-web-version.pdf)

sets out priorities for improvements to the strategic road network, consistent with the NPSNN. This document confirmed the improvement of the A303 between Amesbury and Berwick Down as a priority project.

- 44.4.5 As is set out in Chapter 14 of the ES, the Scheme assessment of carbon emissions ("GHG") concludes that the Scheme will not have a material impact on the ability of the UK Government to meet its carbon reduction targets (paragraph 14.9.11[APP-52]). Further detail is provided throughout Chapter 14 and in CC.1.6, and the output from the carbon assessment is presented in table 14.16 of Chapter 14. This sets out, for instance, that the greatest period of emissions impact during the life of the Scheme will be during the 4th carbon budget (2023-2027) when net emissions are estimated to be 449,231tCO₂e. This will equate to 0.023% of the 4th carbon budget (1,950 MtCO₂e). During the 5th carbon budget period (2028 to 2032) net GHG emissions from the operation of the Scheme are estimated to be 136,080 tCO₂e. This equates to 0.008% of the total 5th carbon budget (1725 MtCO₂e). _
- 44.4.6 Having regard to the journeys being taken by those who use the A303, alternative transport measures (including rail improvements) would make little headway in addressing the specific problems identified - the proposed road improvement is needed to address the local and regional needs arising from the current issues with the road and to deliver the objectives set for the scheme, as explained in Appendix A paragraph 2.25 of the Case for the Scheme [APP-294] and section 8 of the Transport Assessment [APP-297]. The local PRoW network is also being substantially improved as part of the Scheme proposals, improving transport choices for non-motorised users, and this is considered as assessed in the Environmental Statement (ES) Chapter 13, People and Communities [APP-051].

44.5 Flood risk, groundwater protection, geology and land contamination

Key Issue

- 44.5.1 **The application does not appear to give consideration to the possibility of increased groundwater levels on the southern, downstream side of the proposed tunnel. However, the structure of Chalk gives rise to the possibility that construction of a tunnel could see an increase in groundwater level at some points on the downstream side, particularly in the vicinity of Stonehenge Bottom where the lowest point of tunnelling occurs.**
- 44.5.2 **The act of tunnelling is very likely lead to fracturing of the Chalk in the vicinity of the works, given the rather fragile nature of the rock. This would lead to localised increases in the transmissivity, or rate that water can flow through the rock. Although the tunnel may form a physical barrier to flow from north to south across the route, fracturing**

would increase hydraulic mobility along the direction of the tunnel but outside it, channelling water towards the low point in the Stonehenge Bottom area.

Highways England response

- 44.5.3 The groundwater risk assessment [APP-282] demonstrates that the construction of the tunnel would lead to a small rise in groundwater levels upstream and a fall downstream. An increase downstream is not anticipated.
- 44.5.4 The nature of the Chalk is discussed in detail in [AS-017] Implications of 2018 Ground Investigations to the Groundwater Risk Assessment. The Chalk is dominated by fracture flow (secondary permeability) and is heterogeneous with a wide range of hydraulic conductivity and transmissivity. The conclusion is that there may be preferential groundwater flow that is active in Stonehenge Bottom valley. It is agreed that flows will change locally as they are diverted around the tunnel but Stonehenge Bottom is a higher flow zone and the effects of this change in flow are not significant as set out in the ES Chapter 11, Road Drainage and Water Environment [APP-049].
- 44.5.5 A closed-face Tunnel Boring Machine (TBM) is considered to be the best option for tunnelling in the chalk geology (Preliminary Geotechnical Investigation Report, ES Appendix 10.1 [APP-273]). The Chalk is known to be a fractured rock and the presence of further fractures (should they be created during tunnelling) and open voids will not present any problems for the closed-face tunnelling methodology. The presence of open voids will not present any problems for the closed-face tunnelling methodology. As part of the risk management process during the TBM operation, grouting behind the tail skin will ensure uniform contact between the lining and the ground by ensuring voids are filled.

Key Issue

- 44.5.6 **Phosphatic Chalk is known to be present at Stonehenge Bottom and thought to have increased permissivity. Increased groundwater here, along with constructional disturbance may lead to higher phosphate levels ending up in the local river systems, particularly the Avon, by way of the local springs and groundwater feed. The application considers the high phosphate levels in the Avon to come from the Greensand rather than the Chalk but there doesn't seem to be any direct evidence of this.**

Highways England response

- 44.5.7 The potential for the Scheme to affect European protected sites, including the River Avon SAC, has been assessed, as reported in ES Chapter 8, Biodiversity [APP-046], and, with regards to the habitats regulations assessment (HRA), ES Appendix 8.24 [APP-265] and 8.25 [APP-266]. The

assessment has concluded that, with the implementation of the proposed environmental mitigation measures, there will be no adverse effects on the integrity of the River Avon SAC. These mitigation measures are described in Section 8.8 of the ES Chapter 8 and Appendix 2.1 of the ES [APP-186] (which will be implemented as part of the landscaping scheme required pursuant to requirement 8 of Schedule 2 of the draft development consent order [REP2-003]), and in the Outline Environmental Management Plan [APP-187] (a revised version of which is submitted at Deadline 3) (MW-WAT1, WAT2, WAT6, WAT7, and WAT15), as secured through paragraph 4 of schedule 2 of the draft development consent order [REP2-003].

- 44.5.8 Chemical testing and assessment of the solubility and leachate potential of the phosphatic chalk show that the material does not pose a risk to controlled waters. The phosphorus levels in the River Avon SAC would not be affected. Further information on the phosphatic chalk can be found in the ES Chapter 10, Geology and Soils [APP-048], Section 10.6, paragraphs 10.6.75 – 10.6.79.
- 44.5.9 ES Chapter 11 [APP-049] discusses phosphorus in groundwater in paragraphs 3.10.8 to 3.10.14 which concludes that the general low concentration of orthophosphate measured in the groundwater is in contrast to higher concentrations measured in the River Avon. It is this evidence that suggests that the origin of the natural phosphorus in the surface water is from the Upper Greensand catchment rather than the Chalk.

Key Issue

- 44.5.10 **There are thought to be voids in the phosphatic Chalk, some of which may have been filled with less permeable material. Although the application states that there is no strong evidence in the literature reviewed that phosphatic Chalk could form a preferential flow pathway, this remains an unknown unless a tunnel is actually bored through it. Equally it can be said that there is no strong evidence that the phosphatic Chalk will not form a preferential flow pathway.**
- 44.5.11 **Mortimore et al., Fig. 25 depicts typical cross-sections of the Chalk that would be encountered during tunnelling and notes potentially unstable tunnel crown conditions with overlying phosphatic Chalk. Tunnelling would very likely disturb unstable phosphatic Chalk, creating additional voids, or channels at such locations.**
- 44.5.12 **A possible outcome of the tunnelling as proposed will be to create hydraulic gradients away from the eastern end of the scheme and hence the region of aquifer close to Blick Mead. A similar argument also applies to the western end of the proposed tunnel, with increased hydraulic gradient towards Stonehenge Bottom having implications for groundwater abstraction.**

Highways England response

- 44.5.13 The approach to dealing with the risk of encountering open voids within the chalk during tunnelling requires detailed consideration of the most appropriate tunnel boring method to use based on an assessment and understanding of the expected geological and hydrogeological conditions. Industry guidelines, as published by the British Tunnelling Society and a health and safety code of practice have been referenced in the development of the Scheme in consideration of the most appropriate means of tunnelling. In addition, the Joint Code of Practice for Risk Management of Tunnel Works contains measures to ensure best practice in the minimisation and management of risks associated with the design and construction of tunnelling projects.
- 44.5.14 A closed-face Tunnel Boring Machine (TBM) is considered to be the best option for tunnelling in the chalk geology found in this location as it provides greater control on settlement and removes the need for dewatering during the main tunnel construction; this is referenced in the Environmental Statement (ES) Chapter 2 The Scheme section 2.4.33 [APP-040].
- 44.5.15 The Preliminary Geotechnical Investigation Report, ES Appendix 10.1 [APP-273], has identified that the tunnel will be constructed through a zone of Phosphatic chalk. The sections of main TBM tunnel drives to be constructed within this zone are below the groundwater level and the presence of open voids will not present any problems for the closed-face tunnelling methodology. As part of the risk management process during the TBM operation, grouting behind the tail skin will ensure uniform contact between the lining and the ground by ensuring voids are filled.
- 44.5.16 The zone of influence on groundwater as a result of the tunnel is presented in ES Chapter 11, Appendix 4, Groundwater Risk Assessment [APP-282]. The effects do not extend to the Blick Mead area or to any groundwater abstraction and there are no significant adverse effects on these receptors.

Key Issue

- 44.5.17 **The eastern end of the tunnel and associated works would be below groundwater levels, as would the foundations for the Countess flyover. It seems inevitable that such constructions would affect the hydrology in the vicinity, particularly during any constructional dewatering but also potentially permanently by creating additional fracturing in the Chalk during construction.**

Highways England response

- 44.5.18 The effect of the tunnel and associated works on hydrology in the vicinity were assessed and are considered not significant as set out in paragraph 11.9.7 of the ES Chapter 11, Road Drainage and Water Environment [APP-049].

- 44.5.19 Any need for dewatering will be minimised as far as reasonably practicable. The current proposal is to use tunnel construction techniques (such as the use of Tunnel Boring Machines) that limit the requirement for dewatering.
- 44.5.20 A closed-face Tunnel Boring Machine (TBM) is considered to be the best option for tunnelling in the chalk geology (Preliminary Geotechnical Investigation Report, ES Appendix 10.1 [APP-273]). Grouting behind the tail skin will ensure uniform contact between the lining and the ground by ensuring voids and fractures are filled.

Key Issue

- 44.5.21 **Blick Mead has a groundwater level above the construction level of the tunnel retaining walls and flyover foundations and as such its hydrology is likely to be affected. There is a concern that alterations to groundwater levels and hydraulic flows could have a detrimental effect on the preservation of archaeological remains in the area, including the very likely possibility of remains that have yet to be discovered.**

Highways England response

- 44.5.22 The Scheme would have no adverse impact on Blick Mead. Where it passes by Blick Mead, the Scheme has been kept within the current highway boundary at the level of the existing A303 and would not touch the Blick Mead site. The Scheme's potential impacts on groundwater levels and flows (including consideration of surface rainwater run-off to outfalls in the area of Blick Mead) have been assessed and the assessment shows there would not be any adverse effect on spring flows and the overall water regime at Blick Mead. Further information can be found in ES Appendix 6.8, Table 1.2 [APP-217], and ES Appendix 11.4, Annex 3, Blick Mead Tiered Assessment [APP-282].

44.6 Landscape and Visual

Key Issue

- 44.6.1 **If restoring the Stonehenge landscape to how it would have been seen in the past were really the main motivation for the proposals then much could be done by removing the miles of barbed wire fencing, ugly concrete infrastructure associated with the former visitor centre and car park which intrudes on views of Stonehenge from the north and even removal of the buildings at Larkhill that intrude on views to the north.**

Highways England response

- 44.6.2 The Scheme objectives are set out in paragraph 2.1.4 of Chapter 2: The Scheme [APP-040] and include: helping to conserve and enhance the World Heritage Site and to make it easier to reach and explore. The Scheme properly relates to the proper planning of the DCO project and is therefore

only covering a specific part of the Stonehenge and Avebury World Heritage Site, (WHS) as indicated on the General Arrangement Drawings, [APP-012] rather than addressing matters across the wider extent of the WHS.

Key Issue

44.6.3 **In response to an earlier consultation for a tunnel under Stonehenge, East Amesbury residents wrote in 2003 that:**

44.6.4 ***“The removal of the A303 and A344 from site of the stones does mean that the opposite is also true***

-- the site of the stones from these roads is lost. The dis-advantage here is that this view is then not replaced.”

Highways England response

44.6.5 A principal aim of the Scheme, supporting the aims of the World Heritage Site Management Plan 2015, is to remove the A303 and the sight and sound of traffic from much of the WHS landscape, thereby re-uniting Stonehenge with its surrounding monuments in their natural chalk downland setting.

44.6.6 The tunnel is a fundamental part of the Scheme, designed to bring substantial benefits to the WHS. This inevitably means losing the view of Stonehenge from the A303, but the experience for visitors to the WHS would be considerably enhanced, and access would be readily and freely available via the new public right of way to be created along the old A303 through the WHS, accessible from Winterbourne Stoke, Amesbury and connecting rights of way, as well as via the Stonehenge visitor centre. Non-motorised visitors will continue to have free access by using the new and existing public rights of way that cross the WHS landscape as shown on sheets 5 to 9 of the Rights of Way and Access Plans [APP-009] and via the National Trust's right to roam policy.

44.6.7 Travellers who stop and visit Stonehenge will be able to use the enhanced public rights of way network to enjoy views of the transformed WHS landscape. There will be no view of Stonehenge from the new A303 but there will be from the existing A303 once converted into a restricted byway.

44.7 Socio-economic effects

Key Issue

44.7.1 **... most people wishing to see Stonehenge will be virtually forced into buying tickets, or walk miles across Salisbury Plain, rather than being able to view the site from the A303 or the adjacent Byways that are currently open to all traffic.**

44.7.2 **... very much in the face of the way it was given freely to the nation.**

Highways England response

- 44.7.3 The tunnel is a fundamental part of the Scheme, designed to bring substantial benefits to the WHS. This inevitably means losing the view of Stonehenge from the A303, but the experience for visitors to the WHS would be considerably enhanced, and access would be readily and freely available via the new public right of way to be created along the old A303 through the WHS, accessible from Winterbourne Stoke, Amesbury and connecting rights of way, as well as via the Stonehenge visitor centre. Non-motorised visitors will continue to have free access by using the new and existing public rights of way that cross the WHS landscape as shown on sheets 5 to 9 of the Rights of Way and Access Plans [APP-009] and via the National Trust's right to roam policy, which remains unchanged.

44.8 Traffic and Transport

Key Issue

- 44.8.1 **Traffic could be managed by signposting other routes for the A303, reducing the speed limit to say 40 mph and imposing a weight limit of say 7.5 tonnes past Stonehenge.**

Highways England response

- 44.8.2 There are no short-term options that offer an alternative to the Scheme to address the problems on the A303 and which would deliver the Scheme's objectives.
- 44.8.3 Imposing additional speed restrictions would not remove the congestion. Observed journey times along the 30-mile section of the A303 between the A34 and A36 shown in the Transport Assessment [APP-297], Section 6.5.4 indicate an average speed during busy days of 45 mph, demonstrating that speeds are already very low, and this is forecast to reduce to 35mph by 2041. In respect of signposting, there are no alternative routes that can take the traffic, other than those that are currently used by rat running traffic which badly affects local communities and still leaves congestion on the A303.
- 44.8.4 A weight limit applied to the A303 would only impact upon up to 15% of the traffic currently using the A303 based upon the observed proportions of different vehicle types currently using the A303 as shown in the Combined Modelling and Appraisal Report – Appendix A: Transport Data Package [APP-299] Section 5.2. Diversion of this traffic would have significant negative effects on local communities along the chosen alternative routes.
- 44.8.5

45 Brian Edwards (REP2-159 to REP2-162)

45.1 General and cross-topic

Key Issue

- 45.1.1 **The many identified and newly recognised archaeologically important sites could be more appreciatively celebrated individually and collectively by the captive audience journeying across the WHS. The travel experience could be enhanced through accessible smart equipment. Advancing technologies typified by handheld devices, and such as electric and driverless cars, pose advantageous refinements for travellers and visitors.**

Highways England response

- 45.1.2 The Scheme is needed to cater for current and forecast traffic levels. The impact of innovations such as driverless vehicles is not predicted to have a material effect on traffic levels. Further, the use of such technologies as suggested and hinted at in the representation would not present a solution (as set out below in our response to issue 45.2.6) for the negative impacts that the existing A303 has on the setting of Stonehenge, the integrity of the WHS property, and visitor access to some parts of the wider landscape. The approach suggested in the representation would fail to deliver some of the core objectives of the Scheme, including: to deliver a high quality reliable route between the South East and the South West that meets the future needs of traffic; and to help conserve and enhance the World Heritage Site and to make it easier to reach and explore. Further information can be found in Chapter 5 of The Case for the Scheme [APP-294].

45.2 Cultural Heritage

Key Issue

- 45.2.1 **Since inscription of the WHS, an extensive tradition of engagement with Attribute 7 of OUV from and including the A303 is evident in writings, music, and photographs, countless examples of which are freely shared online. The removal of the above-ground section of the A303 in the vicinity of the Stones and the proposed tunnel portals and other Scheme infrastructure would have an irreversible negative impact on the OUV of the WHS as a result of impacts on Attribute 7.**
- 45.2.2 **Examples of music inspired by the journey along the existing surface A303 past Stonehenge included in:**
- **Appendix 2: MP3 Greg Hancock, 2017, 'A303'**
 - **Appendix 3: MP3 Devonbird, 2015, 'Dead King's Land'**

Highways England response

- 45.2.3 Highways England acknowledges Attribute 7 of OUV of the WHS as:
- 45.2.4 *“The influence of the remains of the Neolithic and Bronze Age funerary and ceremonial monuments and their landscape setting on architects, artists, historians, archaeologists and others”*
- 45.2.5 The potential for the Scheme to impact on this Attribute of OUV is considered in the Heritage Impact Assessment (HIA) [APP-195], which concludes that the existing A303 has an adverse effect on this Attribute, concluding Negligible Negative impact leading to a Slight Adverse effect, as set out in HIA Section 9.1, paragraphs 9.1.24 – 9.1.25. The HIA also concludes that the removal of the A303 from the key views which have inspired artists and others over centuries, including present-day visitors and those for whom the property has spiritual associations, though recognising the loss of important views from the existing road, would have a Negligible Positive impact on this Attribute of OUV, resulting in a Slight Beneficial effect, as set out in HIA Section 9.4.38 – 9.4.40.

Key Issue

- 45.2.6 **At the time of inscription of the property on the World Heritage List in 1986, the A344 was projected for closure not the A303. Commitments of conservation and preservation made at the time included retaining the above ground A303 and its inherent traditions.**

Highways England response

- 45.2.7 The WHS was inscribed on the World Heritage List in 1986 HIA [APP-195, para 6.6.3].
- 45.2.8 The three original UNESCO definitions of Criteria i, ii and iii for inscription on the world heritage list, which were current and in use in 1985–6, are:
- 45.2.9 *‘Criterion (i) – represent a unique artistic achievement, a masterpiece of creative genius.*
- The monuments of the Stonehenge, Avebury, and Associated Sites World Heritage Sites property demonstrate outstanding creative and technological achievements in prehistoric times.*
- 45.2.10 *Criterion (ii) – have exerted great influence, over a span of time or within a cultural area of the world, on developments in architecture, monumental arts or town planning and landscaping.*
- The World Heritage Site provides an outstanding illustration of the evolution of monument construction and of the continual use and shaping of the landscape over more than 2000 years, from the Early Neolithic to the Bronze Age. The monuments and landscape have had an unwavering influence on architects, artists, historians, and archaeologists, and still retain a huge potential for future research.*

- 45.2.11 *Criterion (iii) – bear a unique or at least exceptional testimony to a civilisation which has disappeared.*

The complexes of monuments at Stonehenge and Avebury provide an exceptional insight into the funerary and ceremonial practices in Britain in the Neolithic and Bronze Age. Together with their settings and associated sites, they form landscapes without parallel.’

- 45.2.12 As set out in the HIA [APP-195, para 6.6.13] these criteria are further described in the Statement of OUV (SoOUV) which sets out a summary of the World Heritage Committee’s reasons why the Site has OUV (UNESCO 2013, 291–94).

- 45.2.13 Under Protection and Management Requirements [APP-195, para 6.6.13]

“At the time of inscription the State Party agreed to remove the A344 road to reunite Stonehenge and its Avenue and improve the setting of the Stone Circle. Work to deliver the closure of the A344 will be complete in 2013. The project also includes a new Stonehenge visitor centre. This will provide world class visitor facilities including interpretation of the wider World Heritage property landscape and the removal of modern clutter from the setting of the Stone Circle. Although substantial progress is being made, the impact of roads and traffic remains a major challenge in both parts of the World Heritage property. The A303 continues to have a negative impact on the setting of Stonehenge, the integrity of the property and visitor access to some parts of the wider landscape. A long-term solution remains to be found.”

- 45.2.14 The 2015 WHS Management Plan reiterates this, describing the major roads as the ‘*main adverse impact of development on integrity*’ (Simmonds and Thomas 2015, 35 http://www.stonehengeandaveburywhs.org/assets/2015-MANAGEMENT-PLAN_LOW-RES.pdf) within the WHS.

- 45.2.15 Paragraph 2.2.23 of the 2015 WHS Management Plan states:

“Today several major intrusive elements are obvious within the rich archaeological landscape. Roads and traffic in particular dominate in a number of areas and are visibly and aurally intrusive. At Stonehenge, although considerable progress has been made by the closure of the A344, the A303 and the A360 run straight across the landscape. The traffic impacts negatively on the setting of multiple attributes of OUV including Stonehenge, the round barrow cemeteries on King Barrow Ridge and Winterbourne Stoke Barrows. In addition the A303 and the A345 sever the Stonehenge Avenue and the henge at Durrington Walls respectively in two. At Avebury the A361/4361 and A4 are major roads; the former bisects the henge monument. The A4 has a similar impact on the setting of Silbury Hill and the Sanctuary. It bisects the Overton Hill Barrow Cemetery and divides it from the Sanctuary and the two barrows to the south of the A4. The B4003 runs along and across the West Kennet Avenue detracting from its prominence as a key element leading out from the Henge.”

45.2.16 Paragraph 2.3.28 states:

“The main adverse impact of development on integrity - the major roads A303, A344, A (4)361 and the A4 – were present in 1986. At that time, the Government gave assurances that they would give serious consideration to the closure of A344 where it crossed the Avenue at Stonehenge. This was achieved in 2013. These impacts have not largely changed in form though there is now a greater impact from increased traffic. More intensive use of the roads has an impact on the visual and tranquil enjoyment of the Site.”

45.2.17 Paragraph 3.3.4 states:

“The A303 continues to have a detrimental visual and aural impact on the World Heritage Site and its integrity, effectively cutting the Site in two, and is causing considerable frustration at certain times to both local residents and travellers using the road.”

45.2.18 Paragraph 7.1.3 states:

“The A303 continues to have a negative impact on the setting of Stonehenge, the integrity of the WHS and visitor access to some parts of the wider landscape.”

45.2.19 It is therefore clear that it is an aspiration of both the SoOUV and the 2015 WHS Management Plan to find a long-term solution for the negative impacts that the existing A303 has on the setting of Stonehenge, the integrity of the WHS property and visitor access to some parts of the wider landscape.

Key Issue

45.2.20 **The effect of the A303, particularly regarding sight and sound of it, has been disproportionately cast as a negative issue in comparison with the immediate impact of tourist crowds, the turnstile and fencing experiences, visitor transportation, and closure of the A344 that passed immediately alongside the stones.**

Highways England response

45.2.21 In terms of the WHS Management Plan, Aim 6 within Section 11 of the Plan is to "Reduce significantly the negative impacts of roads and traffic on the WHS and its attributes of OUV and increase sustainable access to the WHS". Section 11 actually anticipates and presumes the construction of a tunnel at least 1.8 miles (2.9km) long, subject to assessment, to achieve this aim, and does not preclude new construction within the WHS to achieve Aim 6. Moreover, the cultural heritage assessment, reported in ES Chapter 6 [APP-044], and the accompanying heritage impact assessment, in ES Appendix 6.1 [APP-195], set out the effects of the Scheme on the WHS and the overall benefits it will deliver.

45.2.22 Consideration of car parking and other arrangements for the facilitation of tourist activity is beyond the scope of the Scheme. However, Highways

England will work with heritage partners to support proposals for creating suitable facilities for visitors to the WHS.

Key Issue

- 45.2.23 **The Scheme in reality would result in more tarmac road surface than it removes and introduce enormously damaging tunnel portals in addition to a cutting of around 1km through a Beaker cemetery, a complex of long barrows and an area thought to have been an early occupation site.**

Highways England response

- 45.2.24 Impacts on monuments and monument groups (Asset Groups) in the WHS are considered in ES Chapter 6, Cultural Heritage [APP-044] and the Heritage Impact Assessment (ES Chapter 6, Cultural Heritage, Appendix 6.1) [APP-195]. The preferred route for the Scheme was selected to avoid known archaeological remains, important sites and monuments. Subsequent design development at the western tunnel approach, including mitigation measures to limit or avoid impacts, has been informed by a comprehensive programme of archaeological evaluation surveys, which have confirmed the limited nature of the archaeological remains within the construction footprint for the Western Portal and its approach cutting. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Table 6.9. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction. The Outline Archaeological Mitigation Strategy (OAMS) [APP-220] identifies areas to be protected in-situ. A Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] is being developed in consultation with Wiltshire Council Archaeology Service and the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust, and English Heritage), and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003].

Key Issue

- 45.2.25 **The Scheme also plans to install a flyover at Countess that will elevate four lanes of fast moving traffic and all the noise and light pollution that goes with it immediately alongside the Mesolithic site of Blick Mead.**

Highways England response

- 45.2.26 Full details of the cultural heritage assessment in relation to Blick Mead can be found in ES Chapter 6 [APP-044]. The Scheme will have no adverse effects on Blick Mead, as set out in ES Appendix 6.8, Table 1.2 [APP-217], and ES Appendix 11.4, Annex 3, Blick Mead Tiered Assessment [APP-282].

- 45.2.27 The ES Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218] sets out the setting assessment for the Grade II* Amesbury Abbey Park. This notes that "There would be an impact on the northern boundary and part of the eastern boundary of Amesbury Abbey RPG as a result of the Scheme. However, that impact would not extend far into the RPG due to screening provided by the dense vegetation that covers the majority of the northern part of the asset. The settings of the majority of assets (which would include the Blick Mead archaeological site) within the park would be unchanged as a result of the Scheme" [APP-218, para. 3.4.10]. "The Scheme would run from west to east to the north of the northern boundary of the park, taking much the same route as the current A303 apart from the approach to the eastern tunnel portal to the north of Vespasian's Camp in the north-west corner of the park. Here, the new road would run in cutting (Amesbury cutting), climbing gently to the east towards the proposed new grade separated Countess junction in the location of the present Countess Roundabout. The junction would comprise a flyover (Countess Flyover) across the centre of the current roundabout with bridges over the carriageways of Countess Road and ramps (Countess eastern and western diverges) to the east and west. The flyover would be provided with acoustic fencing to both sides. The majority of the park (including the Blick Mead archaeological site) would be screened from the Scheme by the natural landform and the dense vegetation along the northern boundary of the park to the west of the proposed new grade separated Countess junction." [APP-218, pp. 127-128].
- 45.2.28 As these quotations demonstrate, the setting of Blick Mead would be unchanged as a result of the Scheme and is, in any event, protected by the natural landform by substantial vegetative screening.

Key Issue

- 45.2.29 **The UNESCO World Heritage Centre and ICOMOS' Final Report on the joint World Heritage Centre / ICOMOS Advisory mission to Stonehenge, Avebury and Associated Sites 5– 7 March 2018 (page 6) clearly states:**
- 45.2.30 **"...the construction of four-lane highways in cuttings at either end of the tunnel would adversely and irreversibly impact on the integrity, authenticity and Outstanding Universal Value (OUV) of the WHS, particularly through disrupting the spatial and visual links between monuments, and as a result of its overall visual impact."**

Highways England response

- 45.2.31 The recommendations of the UNESCO/ICOMOS missions carried out in 2015, 2017 and 2018 and the subsequent decisions of the World Heritage Committee have been considered carefully and aspects of the design have been altered to address their recommendations. The World Heritage Committee decision with regard to the Scheme not proceeding in its current form refers to the scheme as was set out at public consultation in March 2018. The Scheme design has evolved substantially since that date, as put

forward in the supplementary consultation and following that, the DCO application.

- 45.2.32 UNESCO/ICOMOS recommendations and World Heritage Committee decisions have informed the development of the Scheme throughout its development and its design responds to these including: the route alignment selected as the preferred route avoiding the winter solstice sunset alignment and the bisecting of the Diamond Group; setting the road in deep retained cuttings to minimize landtake; determining the length of the tunnel to avoid the Scheduled Monument known as the Avenue (NHLE 1010140) at its eastern end and a Bowl barrow south of the A303 and north west of Normanton Gorse (NHLE 1010832) at its western end – the tunnel length has been extended to 2 miles (or 3km) in length; the further addition of 200m of canopy at the western portal and 85m of canopy at the eastern portal to further extend the tunnel (to almost 3.3km) to aid landscape integration; the optimization of the positions of the tunnel portals at the head of dry valleys in the landscape; in order to reduce the length of cutting (and minimize the length of the culvert part of the tunnel in the western approaches); the addition of the 150m long land bridge to maintain physical and visual connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group; the removal of the surface A303 into a tunnel and approach cuttings to reduce noise and improve the tranquillity of the WHS; in order to minimize light spill measures have included no lighting of the new Longbarrow junction or the approach cuttings, new directional lighting at Countess junction replacing the existing non-directional lighting, lighting of the portals would be designed to minimize light spill out in to the WHS landscape and lighting under the land bridge will only operate during daylight hours; and to minimize the visibility of new infrastructure within the WHS signage and other highways installations will sit completely within the approach cuttings and not extend above them. Further information on the missions, including how Highways England has considered the recommendations of UNESCO/ ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.
- 45.2.33 The Scheme design submitted for development consent has evolved substantially since the last UNESCO/ICOMOS mission was carried out in early 2018 and following submission of the DCO, UNESCO has been notified of the application. It is expected that The State of Conservation Report (SOCR) prepared by the Department for Digital, Culture, Media & Sport will be considered at the next meeting of UNESCO's World Heritage Committee, scheduled for summer 2019.
- 45.2.34 The World Heritage Committee decision recommended consideration of “further design refinement, with a view to avoiding impact on the OUV of the property, including longer tunnel options”. Longer tunnel designs have been considered and discounted as they would not deliver sufficient additional benefits.

46 Avebury Parish Council (REP2-056)

46.1 Cultural Heritage

Key Issue

- 46.1.1 **Avebury Parish Council (APC) represents parishioners living in a village located in the northern part of the World Heritage Site (WHS) of whose southern part Stonehenge is the dominating feature. The various sites at and close to Avebury are open-access and currently attract some 350,000 visitors each year. These visitors generate significant income for local businesses, few in number though they are. WHS status is fundamental to Avebury's attraction. APC is acutely aware that aspects of Highways England's proposal could imperil that status. This Written Representation Expresses that concern and follows APC's response last year to the consultation then being conducted by Highways England.**
- 46.1.2 **If Highways England proceeds with its proposal, there will inevitably be adverse consequences for those visiting Stonehenge, certainly for the duration of the works and probably thereafter. APC believes that in consequence a significant number of would be Stonehenge visitors are likely to be deflected north to Avebury. The main site at Avebury is already saturated or nearly so, especially at peak periods. The safety of visitors crossing the increasingly busy A4361 bisecting the village cannot be guaranteed. Cars are often parked illicitly on verges and elsewhere, risking damage to buried archaeology.**

Highways England response

- 46.1.3 A number of relevant representation responses expressed concern about the potential for impacts on the Avebury half of the World Heritage Site (WHS) [RR-0861, RR-1567, RR-2268, RR-2329, RR-1896]. In response, Highways England noted that "Given the distance of the works from the Avebury element of the WHS (40km), the Scheme will have no direct physical impacts on it. In terms of indirect impacts, it is pertinent to note that the main or predominant characteristics of visitors to Stonehenge and Avebury are distinct; those visiting Stonehenge are often either from the international market, visiting iconic tourist attractions, or part of an organised tour or event; those visiting Avebury are often more dedicated, in-country visitors interested in the prehistoric period and its monuments. As the existing A303 will remain open throughout construction, and because of the predominantly different nature of visitor each site attracts, it is not anticipated that visitors and tour operators will change their tour schedule to visit Avebury rather than Stonehenge during construction, or following Scheme opening and in the operational phase. It is therefore expected that the construction or operation of the Scheme will not have an indirect impact on Avebury."

- 46.1.4 As well as access being maintained on the A303 throughout construction, as noted above, there is no planned closure of access to either site as a result of the Scheme. Socio-economic impacts will therefore be minimal on Avebury from the construction of the Scheme.
- 46.1.5 The maintenance and policing of the local highways, including illicit parking, is the responsibility of the Local Highway Authority.

Key Issue

- 46.1.6 **We were surprised and disappointed to learn that UNESCO/ICOMOS does not endorse the current version of Highways England’s scheme. We understand that Highways England and others on behalf of the UK government hosted an expert delegation from UNESCO/ICOMOS on a three-day visit in 2018. The first recommendation mentioned in the report of this visit states clearly that the proposed scheme “should not proceed in its current form.” Whilst some improvements in recent revisions to Highways England’s proposals are recognized and welcomed, the report makes a number of highly critical observations. These suggest that Highways England is a long way from achieving the endorsement from UNESCO/ICOMOS hoped for by Mr Parody in his reply to APC’s letter of April 2018. Indeed it is hard to avoid the thought that the site’s WHS status is in peril if Highways England’s scheme is not revised fundamentally and if the revision is not fully aligned with advice from UNESCO/ICOMOS. It would be a serious blow to Avebury if the WHS lost that status or was put on UNESCO’s ‘Sites in Danger’ list.**

Highways England response

- 46.1.7 The recommendations of the UNESCO/ICOMOS missions carried out in 2015, 2017 and 2018 and the subsequent decisions of the World Heritage Committee have been considered carefully and aspects of the design have been developed to address their recommendations. The World Heritage Committee decision with regards to the scheme not proceeding in its current form refers to the scheme as was set out at public consultation in March 2018. The Scheme design has evolved substantially since that date, as put forward in the supplementary consultation and following that, the DCO application.
- 46.1.8 UNESCO/ICOMOS recommendations and World Heritage Committee decisions have informed the development of the scheme throughout its development and its design responds to these including: the route alignment selected as the preferred route avoiding the winter solstice sunset alignment and the bisecting the Diamond Group; setting the road in deep retained cuttings to minimise landtake; determining the length of the tunnel to avoid the Scheduled Monument known as the Avenue (NHLE 1010140) at its eastern end and a Bowl barrow south of the A303 and north west of Normanton Gorse (NHLE 1010832) at its western end – the bored tunnel length has been extended to 3km in length; the further addition of 200m of

canopy at the western portal and 85m of canopy at the eastern portal to further extend the tunnel (to almost 3.3km) to aid landscape integration; the optimization of the positions of the tunnel portals at the head of dry valleys in the landscape; in order to reduce the length of cutting (in the western part of the WHS) the addition of a 150m wide green bridge to maintain physical and visual connectivity between the northern and southern parts of the WHS and the monuments in those parts; and the removal of the surface A303 into a tunnel and approach cuttings to reduce noise and improve the tranquillity of the WHS. In order to minimise light spill, measures have included: no lighting of the new Longbarrow junction or the approach cuttings; and new directional lighting at Countess junction replacing the existing non-directional lighting. Additionally, lighting of the portals and canopies would be designed to minimise light spill out in to the WHS landscape and lighting under the 150m wide green bridge will only operate during daylight hours. To minimise the visibility of new infrastructure within the WHS, signage and other highways installations will sit completely within the approach cuttings and not extend above them. Further information on the missions, including how Highways England has considered the recommendations of UNESCO/ ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.

- 46.1.9 Highways England acknowledges that the Scheme would have some adverse effects on some of the Attributes of OUV. In arriving at an assessment of the overall effect on the OUV of the WHS as a whole, the assessment has also taken into account the very substantial benefits arising from the provision of the 3.3km tunnel.
- 46.1.10 As stated above, the Scheme design, submitted for development consent, has evolved substantially since the last UNESCO/ICOMOS mission was carried out in early 2018 and, following submission of the DCO, UNESCO has been notified of the application containing the evolved design. It is expected that the State of Conservation Report (SOCR) subsequently prepared by the Department for Digital, Culture, Media & Sport, and submitted to the World Heritage Centre in February 2019, will be considered at the next meeting of UNESCO's World Heritage Committee, scheduled for summer 2019.
- 46.1.11 The impact of the Scheme in terms of the inscription of the WHS is assessed in Section 12.5 of the HIA and concludes that the Scheme would not impact upon the continuing relevance and application of the WHS inscription criteria, and, in fact, the Scheme will bring extensive benefits to the WHS. The scheme was most recently considered by the World Heritage Committee at its meeting in June 2018 - there has been no indication that World Heritage status might be removed.

Key Issue

- 46.1.12 **APC requests that, if a proposal from Highways England on the A303 at Stonehenge is further progressed, renewed effort is made, in particular by responding fully and positively to UNESCO/ICOMOS guidance, to preserve the site's WHS status, recognising that that status is or should be paramount amongst all other considerations.**

Highways England response

- 46.1.13 Please see response to above in relation to the consideration given to UNESCO/ICOMOS recommendations.
- 46.1.14 The Scheme has been designed throughout in full recognition of the site's WHS status, and to minimise any risks of the works to the future status of the site as a WHS. The design process has involved extensive consideration of heritage issues, which have influenced the design of the Scheme throughout the development of the DCO design. Heritage partners have attended and input to design team workshops, making sure that the status of the WHS is fully recognised by the integrated, collaborative Project Team, alongside the WHS's economic value to the surrounding area. The design has sought to avoid risks to the WHS status. The Scheme seeks to avoid and minimise adverse impacts on the Attributes that convey the Outstanding Universal Value (OUV) of the WHS, its Integrity and Authenticity, wherever possible, and is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole and to sustain the OUV of the WHS.
- 46.1.15 The impact of the Scheme in terms of the inscription of the WHS is assessed in Section 12.5 of the HIA. This concludes that the Scheme would not impact upon the continuing relevance and application of the WHS inscription criteria, and, in fact, the Scheme will bring extensive benefits to the WHS. The Scheme was most recently considered by the World Heritage Committee at its meeting in June 2018 - there has been no indication that World Heritage status might be removed.
- 46.1.16 In terms of the WHS status being paramount to all other considerations, the relevant tests for the Examining Authority and Secretary of State in determining whether to grant consent for the Scheme are set out in section 104 of the Planning Act 2008, and, as a result of those provisions, the decision maker must decide the application in accordance with the National Policy Statement for National Networks (NPSNN). That requirement is subject to certain exceptions, including under section 104(7) which requires that the application should be determined in accordance with the NPSNN unless the adverse impact of the proposed development would outweigh its benefits. This requires a balancing exercise to be undertaken of the adverse and beneficial impacts of the Scheme.
- 46.1.17 Another exception makes the requirements of the World Heritage Convention relevant to the decision to grant consent. Other prescribed matters and any other important and relevant matters will also be relevant to

the decision, including conformity with local planning policy and the WHS Management Plan.

- 46.1.18 With respect to the NPSNN requirements, NPSNN is concerned to avoid substantial harm to heritage assets, and includes requirements in relation to the balancing of less than substantial harm against the public benefit of the development. The Scheme's compliance with the NPSNN requirements is demonstrated in the NPSNN accordancy table in Appendix A of the Case for the Scheme and NPS Accordancy [APP-294].
- 46.1.19 The requirements of the World Heritage Convention and the Scheme's compliance with those requirements are addressed in response to Written Question G.1.1 [REP2-021].
- 46.1.20 Local planning policy compliance is addressed in Appendix B of the Case for the Scheme and NPS Accordancy [APP-294].

46.2 Socio-economic effects

Key Issue

- 46.2.1 **APC believes that there is a very strong case for so-called legacy funding from Highways England for the northern part of the WHS. The funding would be used to implement the Avebury WHS Transport Strategy, which was endorsed by all relevant stakeholders in 2015. The implementation outcome would be improved perceived and actual road safety for vulnerable road users and others in and around the WHS at Avebury. APC requests that, if a proposal from Highways England on the A303 at Stonehenge is further progressed, legacy funding from Highways England is made available to implement the Avebury WHS Transport Strategy, thereby improving road safety.**

Highways England response

- 46.2.2 With regard to the wider WHS (and outside the scope of the Scheme), Highways England has obtained Designated Fund money to support the WHS in pursuing three of the 2015 WHS Management Plan objectives, including the Land Access Strategy, Sustainable Tourism Strategy and Sustainable Transport Strategy. By doing this Highways England is assisting its partners to move these strategies forward in pursuit of the full potential benefits that the Scheme can bring to the WHS, its visitors and local communities. Highways England will continue to work collaboratively with the World Heritage Site Partnership Panel to plan for the post-scheme future. The allocation of Designated Funds in the future will be informed by the results of the work commissioned into the three strategies.

47 C A Shell (REP2-181)

47.1 Cultural Heritage

Key Issue

- 47.1.1 **The Scheme entrains irreversible destruction of the natural, topographic and cultural integrity of the central western part of the World Heritage Site through the siting of a western dual-tunnel portal and its associated deep cutting within the World Heritage Site.**

Highways England response

- 47.1.2 The removal of the existing A303 surface road from the WHS landscape will result in extensive benefits for the World Heritage Site (WHS) including beneficial effects to many heritage assets within the WHS.
- 47.1.3 The cultural heritage assessment for the Scheme can be found in the ES, Chapter 6 [APP-044]. Detailed consideration of the assessment of the scheme in the context of the OUV of the WHS can be found in ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195]. Table 3 in the HIA shows the effects that the Scheme would have on the WHS in relation to its Attributes of OUV, Integrity and Authenticity. The table also shows how the Scheme would benefit the WHS in comparison with the effects of the existing A303. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained.
- 47.1.4 Paragraph 7.4.4 of the HIA [APP-195] states that 'the permanent removal of existing road infrastructure in the tunnel section of the Scheme provides the opportunity to reconnect and improve this landscape without parallel. The tunnel section and proposed tunnel portal locations would remove the existing severance due to the A303 in key views and sight lines, including the midwinter solstitial alignment. In particular, the proposals would remove the severance of the Avenue by the existing A303. The proposals also include the removal from the WHS of the existing Longbarrow Roundabout. In addition, the western portal has been carefully designed. Visual intrusion has been minimised by the portal's careful positioning and design and the addition of a grassed-over canopy.
- 47.1.5 Paragraphs 9.4.41 – 9.4.45 of the HIA [APP-195] set out the assessment of the impacts on the Integrity of the WHS, noting that there will be both beneficial and adverse aspects to the Scheme. It concludes that 'Overall, it is anticipated that the Scheme would have a Negligible Positive impact on the Integrity of the WHS, resulting in a Slight Beneficial effect.'

Key Issue

- 47.1.6 **The Applicant fails to acknowledge the full importance of the Sites and their Setting, individually and collectively, in the area impacted by the**

Scheme's western design, and its consequential detriment to the Outstanding Universal Value (OUV) of the WHS.

Highways England response

- 47.1.7 All heritage assets (whether designated or not) and Asset Groups that contribute to the Outstanding Universal Value (OUV) of the World Heritage Site (WHS) have been assigned a Very High value in Environmental Statement Chapter 6 Cultural Heritage [APP-044] and the Heritage Impact Assessment (HIA) [APP-195]. The setting of heritage assets and Asset Groups and their inter-connections (physically and visually) are all considered as part of the Environmental Statement Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218] and the HIA [APP-195, Sections 6.9 and 6.10] alongside other aspects including cultural and spiritual values and influences [APP-199; APP-200; APP-201; APP-202; APP-203 and APP-204].
- 47.1.8 Section 11 of the HIA [APP-195] includes a description of the impacts of the different sections of the Scheme, including the Western Portal and Western approach road on the Attributes that convey the OUV as well as the Integrity and Authenticity of the WHS, and evaluates the overall impact and significance of effect of the Scheme on the OUV of the WHS. Section 12.4 [APP-195] sets out the overall effects on the OUV of the WHS.
- 47.1.9 The Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on three of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained.

Key Issue

- 47.1.10 **In landscape terms the western section of the road scheme directly affects the, at present, undisturbed open landscape of the upper western arm of the Stonehenge Bottom dry valley system between Wilsford and Lake Downs. Located here are monuments that include a unique cluster of Neolithic long barrows and a mortuary structure. This grouping of Early Neolithic monuments, both long mounds and oval barrows, and their particular settings (Bewley, Crutchley and Shell 2005, *New Light on an Ancient Landscape*, Antiquity 79, p642) around the upper part of the western dry valley system, is unique in Southern England, not just to the WHS.**

Highways England response

- 47.1.11 Highways England acknowledges that there is a group of Neolithic long barrows in the western section of the Scheme along with other burial mounds that cluster around them. Impacts on these heritage assets and Asset Groups are considered in ES Chapter 6, Cultural Heritage [APP-044] and the Heritage Impact Assessment (ES Chapter 6, Cultural Heritage, Appendix 6.1) [APP-195, in particular paragraphs 9.3.1-9.3.3 that consider the long barrow groupings].
- 47.1.12 The preferred route for the Scheme was selected to avoid known archaeological remains, important sites and monuments. Subsequent design development at the western tunnel approach, including mitigation measures to limit or avoid impacts, has been informed by a comprehensive programme of archaeological evaluation surveys, which have confirmed the limited nature of the archaeological remains within the construction footprint for the Western Portal and its approach cutting [see APP195, paragraphs 6.3.4 – 6.3.12]. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Table 6.9.

Key Issue

- 47.1.13 **It is axiomatic that any monument involving significant expenditure of effort in its construction is not randomly placed in the landscape, and the decision of its placement took into account local topography as well as the position of monuments already present in the landscape. Severing of the monument spatial relationships by the proposed Scheme, which brings an irreversible modification of the landscape, removes for future generations the opportunity to physically understand and experience their setting by moving between them, something the principal conservation bodies profess a desire to expand in the WHS.**

Highways England response

- 47.1.14 As stated at paragraph 9.1.36 of the HIA [APP-195], ‘the [existing] A303 restricts and severs access and impacts the quality of visitor experience, such that the vast majority of visitors are able only to visit part of the WHS.’
- 47.1.15 Paragraph 7.4.4 of the HIA [APP-195] states that we have considered the cultural landscape in our approach, stating that ‘the permanent removal of existing road infrastructure in the tunnel section of the Scheme provides the opportunity to reconnect and improve this landscape without parallel. The tunnel section and proposed tunnel portal locations would remove the existing severance due to the A303 in key views and sight lines, including the midwinter solstitial alignment. In particular, the proposals would remove the severance of the Avenue by the existing A303. The proposals also include the removal from the WHS of the existing Longbarrow Roundabout.’

- 47.1.16 Paragraphs 9.4.34 – 9.4.37 of the HIA [APP-195] also set out the assessment of the impacts of the Scheme on Attribute 6 (The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period). It concludes (at para 9.4.36) stating that ‘the overall assessment of impacts for this Attribute requires a balanced judgement. The Scheme has been designed to avoid major known concentrations of archaeological remains that contribute to the OUV of the WHS; however, it would have adverse effects on the setting of some assets and Asset Groups. The beneficial effects are considered to slightly outweigh the adverse effects of the Scheme in terms of this Attribute. Overall, it is anticipated that the Scheme would have a Negligible Positive impact on this Attribute of OUV, resulting in a Slight Beneficial effect.’
- 47.1.17 The design of the Scheme allows for the creation of new Non-Motorised User routes within the WHS along parts of the existing A360 and along the existing A303. These create new ways of accessing and experiencing the landscape – access that is currently not possible due to heavy traffic on the roads.
- 47.1.18 The preferred route was carefully chosen to minimise effects on archaeology, and a comprehensive programme of archaeological evaluation surveys has informed the Scheme design to limit direct physical impacts as far as practicable, including limiting impacts on archaeological remains that contribute to the OUV of the WHS. The design has been carefully chosen in order to preserve archaeological remains along the 2 mile section of tunnel; improve the setting of many heritage assets and asset groups in the central part of the WHS including the Avenue, Stonehenge itself and the Winterbourne Stoke barrow group; remove the intrusive sight and sound of traffic from the existing A303 as far as possible within the WHS; and design a scheme that is minimally intrusive in both the western and eastern parts of the WHS, including in key views from asset groups that contribute to the OUV of the WHS. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044]. Section 6.8, Table 6.9. The cultural heritage assessment, reported in ES Chapter 6, identifies the effects on known archaeological features whilst recognising the benefits that the tunnel will deliver for the WHS landscape as a whole.

Key Issues

- 47.1.19 **Finally, and briefly, the construction of the Western Cutting will destroy a large extent of Neolithic and Early Bronze Age activity defined so far, that most probably represents settlement located with an interesting relationship to the surrounding long barrows and associated monuments to which I have previously referred.**

Highways England response

- 47.1.20 Impacts on monuments and monument groups (Asset Groups) in this part of the WHS are considered in ES Chapter 6, Cultural Heritage [APP-044] and the Heritage Impact Assessment (ES Chapter 6, Cultural Heritage, Appendix 6.1) [APP-195]. The preferred route for the Scheme was selected to avoid known archaeological remains, important sites and monuments.
- 47.1.21 Subsequent design development at the western tunnel approach, including mitigation measures to limit or avoid impacts, has been informed by a comprehensive programme of archaeological evaluation surveys. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Table 6.9.
- 47.1.22 Recent archaeological evaluation of the western portal and approach cutting has confirmed the results of geophysical survey and previous fieldwork. A limited number of subsurface features were exposed in the trial trenches, including a single isolated crouched burial and several isolated pits which, together with artefactual material in the plough zone may indicate settlement activity in the area during the Early Bronze Age period,
- 47.1.23 The impact of the Scheme in the evaluated area within the draft development consent order [REP2-003] boundary is confined to the footprint of the cutting; beyond this, mitigation will comprise chalk grassland reversion, leaving archaeological remains untouched. The burial and a small hengiform monument observed in geophysical surveys lie outside of the footprint of the works for the approach cutting and would not be affected by the Scheme. Also outside of the cutting footprint is a natural sinkhole feature containing material from the Neolithic to modern periods; this has some similarity with the Wilsford Shaft, which lies some 480m to the east. Remains that would be affected include parts of more extensive lithic scatters and isolated pits.
- 47.1.24 The reports detailing the results of the archaeological evaluation trenches in the area of the western cutting were submitted on 12 April [REP1-045 and 046]. Further detail of charcoal and mollusc assemblages from the evaluation here, together with lithic material from the ploughzone as requested by HMAG members, is submitted at Deadline 3.

47.2 Design

Key Issue

- 47.2.1 **The introduction and positioning of the Green Bridge over the western cutting and the Canopy at the Western Portal into the Scheme is an acknowledgement of this connectivity between monuments, but are inadequate and token in nature, given the overall irreversible impact of the deep cutting over which they are positioned, and their short life in the long term of this historic landscape.**

Highways England response

- 47.2.2 Green Bridge No.4 was moved eastwards and widened from 50m to approximately 150m in order to provide greater physical and visual connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group and, in particular, the two upstanding long barrows in each group in this western part of the WHS. The retained cutting in the western approaches allows visual connectivity to be maintained between the Winterbourne Stoke Crossroads Barrows, the Diamond Group and the Normanton Down Barrows that contribute to the OUV of the WHS, as agreed with heritage stakeholders. The design of the retained cutting incorporates an upper grassed slope and chalk grassland mitigation to the north and south. This allows the cutting to blend into the surrounding landscape from key views between monument groups.
- 47.2.3 The Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the Scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on three of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the Scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained.

47.3 Noise and Vibration Effects

Key Issue

- 47.3.1 **The adverse impact of the western cutting on the setting of the long barrows WS1 and W34 in particular, as well as physically destroying their local topographic setting and that of their associated monuments will, due to its close proximity, introduce considerable traffic noise reverberating from the cutting walls.**
- 47.3.2 **The importance of the WS1 long barrow to the OUV of the WHS should not be underestimated given the recent radiocarbon dating to the Early Neolithic (3630–3360 cal BC) of the male burial with flint artefact in a single grave within it – the first recognition of an individual burial in a monument that is otherwise communal in its burial practice.**

Highways England response

- 47.3.3 Traffic noise in the vicinity of the western portal would be minimised through a range of mitigation measures including the location of the A303 in a deep cutting, the use of a thin surfacing system, which results in lower levels of noise generation than a standard hot rolled asphalt surface, the use of a noise absorbent finish at the entrance/exit of the tunnel and the use of a surface finish on the retaining walls to reduce reflection.

47.3.4 All heritage assets (whether designated or not) and Asset Groups that contribute to the Outstanding Universal Value (OUV) of the World Heritage Site (WHS) have been assigned a Very High value in Environmental Statement Chapter 6 Cultural Heritage [APP-044] and the Heritage Impact Assessment (HIA) [APP-195]. The setting of heritage assets and Asset Groups and their inter-connections (physically and visually) are all considered as part of the Environmental Statement Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218] and the HIA [APP-195, Sections 6.9 and 6.10] alongside other factors [APP-199; APP-200; APP-201; APP-202; APP-203 and APP-204].

48 Devon County Council (REP2-085)

48.1 Socio-economic effects

Key Issue

- 48.1.1 The 'A303/A358/A30 Economic Impact Study' and 2018 refresh demonstrate that the South West have a unique opportunity to contribute more to the national economy by releasing the untapped potential in the economy through investment in this vital piece of infrastructure. The 2018 'A303/A358/A30 Economic Impact Study' refresh provides a more up to date evidence base for the GVA benefits of a whole route improvement. This considered the existing economic climate of the South West region alongside business survey data in order to monetise the predicted GVA outcomes of implementing an improvement over a 60-year horizon. This demonstrated that an improvement to the whole corridor would result in GVA benefits to the region of almost £40 billion, with Devon benefitting from £9.8 billion alone. It should be noted that the results given in these studies can only be fully realised with improvements to the whole A303/A358/A30 corridor.
- 48.1.2 It should be noted that the 'Client Scheme Requirements' for Transport and Economic Growth focuses on creating a high quality and reliable route that meets the future needs of traffic and enables growth in jobs and housing by providing a free-flowing connection between the South East and South West. However, it is Devon County Council's opinion that these objectives will only be fully achieved once the whole corridor improvements are delivered. The delivery of the A303 Amesbury to Berwick Down scheme alone will not solve the connectivity issues between the South West and South East. Although it will resolve one of the key Pinchpoints and serve as a catalyst for the remaining schemes, further Pinchpoints along the corridor must be prioritised to achieve the scheme objectives.
- 48.1.3 It is our understanding that the Road Investment Strategy for the 2015/16 – 2019/20 refers to the 'A303/A30/A358 corridor package of commitments' and not a 'A303/A358 corridor package of commitments', as repeatedly referenced by the applicant. Improvements to the A30 between Honiton and Southfields form part of the overall corridor package and the full benefits to the South West cannot be achieved with the exclusion of this section.

Highways England response

- 48.1.4 Thank you for the work undertaken to demonstrate the economic benefit that upgrading the A303/A358/A30 corridor could provide to the South West region. Devon County Council's Written Representation and the Relevant

Representations by the Heart of South West Local Enterprise Partnership, the Peninsula Transport Sub-national Transport Body and the A303/A30/A358 Improvement Partnership show the level of support for improvements to the corridor from local authorities and other regional bodies in the South West.

- 48.1.5 Highway England's own work presented in its 2017 report 'Socio-economic analysis, future forecasts and the strategic road network (https://highwaysengland.citizenspace.com/he/strategic-economic-growth-plan/supporting_documents/Socioeconomic%20analysis%20future%20forecasts%20and%20the%20SRN%20%20final.pdf) concludes (Chapter 5) that "growth in employment and GVA in peripheral regions would be enhanced by effective connections that reduce effective distance with urban agglomerations, improve access to international gateways and reduce journey times for tourists and leisure travellers". The A303 Amesbury to Berwick Down Scheme fulfils these points.
- 48.1.6 Furthermore, analysis of the distribution of traffic using the A303 past Stonehenge, and as presented in Figure 2-2 of the ComMA [APP-298], shows that only 11% of trips have both an origin and destination within 10 miles (16 kilometres) of Stonehenge (i.e. are local), with the average length of journeys being 100 miles (160 kilometres). This highlights both the sub-regional and regional connectivity provided by the A30, which business and leisure users (including tourists during busy periods) would benefit from with the proposed Scheme. Analysis of the Scheme benefits is set out in Section 6 of Appendix D to ComMA [APP-302], with Section 6.7 explaining the local, sub-regional and regional distribution of benefits that the scheme would deliver.
- 48.1.7 As set out within its Road Investment Strategy (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/408514/ris-for-2015-16-road-period-web-version.pdf), the Government's aim is to transform all remaining single carriageway sections of the A303/A358 corridor into a high-quality dual carriageway route, linking the South East with the South West. By providing a free-flowing and reliable connection to the South West, as part of the upgrading of the A303/A358 corridor, the scheme will help to boost productivity in the region. The scheme will make the South West an easier place for tourists to access, which is a major part of the region's economy. It will also facilitate new jobs and long-term prosperity, meeting the needs of a growing residential and growing population. Further information can be found in Chapter 5 of The Case for the Scheme [APP-294]. The RIS also identifies that funding will be set aside for smaller-scale improvements to the A303/A30 section between Southfields and Honiton to improve safety and journey quality for road users along the existing single carriageway, recognising that large scale improvements would be challenging given the protected landscape and topography surrounding the route. This includes future small-scale work in

the Blackdown Hills AONB which will take account of the environmental sensitivity of the area.

Key Issue

- 48.1.8 **Populations of the corridor's adjoining authorities have continued to grow, with further growth planned in the future. The existing Local Plans for Wiltshire, North Dorset, South Somerset, Taunton Deane, East Devon and Exeter allocate approximately 100,000 additional new dwellings and 420ha of employment to be delivered in the districts by 2031. 40% of these new dwellings are within 5km of the A303/A358/A30 corridor. Their close proximity to the strategic link of the A303/A30 means the success of these developments will be expected to be influenced most by the future performance of the corridor. Large future growth is also planned for the wider South West, with large developments planned for the Greater Exeter area, Cornwall, Plymouth and Torbay. If all planned development comes forward, there will be a large resultant demand, and a high-quality transport network will be required to ensure the region's population and economy can grow. It is vital that the A303/A30 does not act as a barrier to the planned growth in the South West**

Highways England response

- 48.1.9 Section 4.2 of the Transport Forecasting Package (Appendix C of the Combined Modelling and Appraisal Report (ComMA), [APP-301]) sets out how future developments have been identified and detailed in an uncertainty log as part of the development of traffic forecasts for the scheme.
- 48.1.10 The Transport Assessment [APP-297] Section 10.5 indicates that, with the Scheme in place, the section of the A303 between Amesbury and Berwick Down is forecast to be operating at around 60% of its capacity in 2041, indicating that the route will have sufficient capacity to accommodate further future planned growth in the South West.

49 David Field (REP2-163)

49.1 Cultural Heritage

Key Issue

- 49.1.1 **In my view the proposal to benefit one part of the WHS at the expense of another is misguided. The areas beyond the stones are not simply a buffer zone and should not be viewed as one. The area has been designated WHS status and its boundaries carefully chosen because the whole area is important, with each component having equal value. The area around the western portal is particularly sensitive because it is likely to be the area where settlement developed and from where traditions of ritual and ceremonial sprang.**

Highways England response

- 49.1.2 The elements of the WHS that would be affected by the Scheme have been assessed in the Heritage Impact Assessment [APP-195], and therefore the conclusions with respect to the impact on the WHS as a whole and its OUV are for the entire WHS. See the response to Written Question CH.1.4 [REP2-025] for further detail. The HIA concludes that the overall effect on the Outstanding Universal Value (OUV) of the WHS would be slight beneficial and the OUV will be sustained by the construction of the Scheme. In addition, the benefits of the Scheme associated with removal of the sight and sound of traffic from a large part of the WHS, the opportunity for reconnection of The Avenue, and the provision of a c.150 metre green bridge, are considered in the context of the whole WHS and the many scheduled monuments within it, not just the Stonehenge monument.
- 49.1.3 Impacts on monuments and monument groups (Asset Groups) in the western part of the WHS are considered in ES Chapter 6, Cultural Heritage [APP-044] and the Heritage Impact Assessment (ES Chapter 6, Cultural Heritage, Appendix 6.1) [APP-195], including the impacts on the long barrow groupings (as one of the earliest parts of the monumental landscape to be created) which are set out in paragraphs 9.3.1-9.3.3].
- 49.1.4 The preferred route for the Scheme was selected to minimise effects on archaeology and to avoid known archaeological remains, important sites and monuments. A comprehensive programme of archaeological evaluation surveys (see ES Chapter 6 Cultural Heritage, paragraphs 6.6.13 – 6.6.52) has informed the scheme being designed in a way that has limited archaeological impacts as far as practicable, including within the WHS. Examples of how the design has been developed to limit direct impacts on archaeology include the design and placement of the western tunnel portal and approach within the WHS in an area that has been shown to have limited archaeological remains within its footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES

Chapter 6, Cultural Heritage [APP-044], Section 6.8, Table 6.9. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction in order to avoid, as far as is practicable, previously unknown archaeological remains being uncovered during construction. The Outline Archaeological Mitigation Strategy (OAMS) [APP-220] identifies areas to be protected in-situ. A draft Detailed Archaeological Mitigation Strategy (DAMS), submitted at Deadline 2 [REP2-038] is being developed in consultation with Wiltshire Council Archaeology Service and the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust, and English Heritage), and with inputs from the Scientific Committee, and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003].

Key Issues

- 49.1.5 **Of particular note, are the large long barrows that stand sentinel-like either side of the Wilsford coomb, ie those at Winterbourne Stoke Crossroads and at Lake, that seem to channel movement from the southwest towards the area of the stones.**
- 49.1.6 **As this may be where ritual and ceremonial in the landscape began, the zone and vistas between these two monuments is of particular importance to preserve.**

Highways England response

- 49.1.7 The long barrows within the AG12 Winterbourne Stoke Crossroads Barrows and the AG13 Diamond Group are all outside the Scheme order limits and will be preserved in situ during Scheme construction. Please see the Detailed Archaeological Mitigation Strategy (DAMS) submitted at Deadline 2 of this Examination REP2-038, Appendix D, Action Area 27.3 for the AG12 Winterbourne Stoke Crossroads Long Barrow. As the AG13 Diamond Group lies outside the order limits, these will not be physically impacted and will remain in situ in private land and under their current agricultural regime. Lake long barrow, which is part of Asset Group AG16 North Kite Enclosure and Lake Barrows, lies further away from the Scheme to the southeast, adjacent to Byway 12.
- 49.1.8 The Scheme has been designed to reduce the visual intrusion of the retained cutting for the western approach road within the landscape. The proposed Green Bridge No. 4 (the long land bridge) would help to reduce the severance due to the cutting and would maintain physical landscape connectivity in this area, being specifically placed to ensure that the relationships (physical, topographic and visual) are maintained between the two upstanding long barrows in the Winterbourne Stoke Crossroads Barrows (AG12) and the Diamond Group (AG13). Please see 9.3.2 of the Heritage Impact Assessment [APP-195]. The preferred route for the Scheme was selected to minimise effects on archaeology and to avoid known

archaeological remains, important sites and monuments. A comprehensive programme of archaeological evaluation surveys (see ES Chapter 6 Cultural Heritage, paragraphs 6.6.13 – 6.6.52) has informed the scheme being designed in a way that has limited archaeological impacts as far as practicable, including within the WHS. Examples of how the design has been developed to limit direct impacts on archaeology include the design and placement of the western tunnel portal and approach within the WHS in an area that has been shown to have limited archaeological remains within its footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Table 6.9.

Key Issue

- 49.1.9 **That at Winterbourne Stoke Crossroads is iconic, comprising all the known types of round barrow. It is the best preserved round barrow cemetery in the UK and is of international importance. It is important that the cemetery can be appreciated as a whole within its landscape setting and indeed, as for the long barrows, that the zone and vista between it and its neighbouring cemetery at Lake be preserved..**

Highways England response

- 49.1.10 With reference to AG12 Winterbourne Stoke Crossroads Barrows, both the A303 and the A360 including the existing Longbarrow Roundabout (which all cause physical and visual severance to Asset Groups to the west, south and east), will be removed from immediately adjacent to AG12 and replaced with a sensitively designed Non-Motorised User route with adjacent chalk grassland. The A303 will move 150m to the south and be built in cutting to remove the sight and sound of traffic from immediately adjacent to AG12. These benefits are demonstrated by the photomontages and CGIs presented in the ES Chapter 6, Appendix 6.9 [APP-218] (Figure 4, Figure 5 and Figure 7).
- 49.1.11 The Scheme is assessed to result in a Moderate Beneficial effect on the Asset Group [Heritage Impact Assessment [APP195] Table 11: Summary of assessed impacts and effects of the existing A303 and anticipated impacts and effects of the Scheme on Asset Groups conveying Attributes of OUV]. The setting of the Asset Group within the landscape will therefore improve.
- 49.1.12 As part of the development of the design of the Scheme, Green Bridge No. 4 was moved eastwards and widened from 50m to approximately 150m in order to provide greater physical and visual connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group and, in particular, the two upstanding long barrows in each group in this western part of the WHS. The retained cutting in the western approaches allows visual connectivity to be maintained between the Winterbourne Stoke Crossroads Barrows, the Diamond Group and the Normanton Down Barrows that contribute to the OUV of the WHS, as agreed with heritage

stakeholders. The design of the retained cutting incorporates an upper grassed slope and chalk grassland mitigation to the north and south. This allows the cutting to blend into the surrounding landscape from key views between monument groups. The Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the Scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on three of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the Scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained.

Key Issue

- 49.1.13 **Further, systems of ancient fields were established here by at least the Bronze Age. The proposed cutting strikes a course between them, but this is precisely where we would expect settlement to be and indeed, fieldwalking in the past has indicated a great concentration of domestic debris in the topsoil here.**
- 49.1.14 **A little further south a formal trackway leads from the southwest towards Stonehenge. This is the earliest and only prehistoric road that we know of that leads towards Stonehenge. The cutting does not interfere with it, but it does interfere with its associated landscape. So we have a potential settlement with its fields and contemporary landscape, all extremely fragile and important archaeology that can in due course inform us with regard to the society that constructed the stones. Here, then is a third reason why it is inappropriate to place a cutting through this area..**

Highways England response

- 49.1.15 Although late prehistoric field systems are noted in the area on aerial photographs, archaeological trial trenching that has been conducted in the area has not supported or confirmed their presence. It is noted that the current landscape is under a modern arable and animal husbandry (pig farm). An extant landscape of contemporary Bronze Age field systems, settlement and associated with a prehistoric track way has not been located in the area traversed by the Scheme.
- 49.1.16 Evidence for activity from the archaeological trial trenches includes artefactual material in the plough zone and several isolated Early Bronze Age pits, please see paragraph 6.6.31 in 6.1 the Environmental Statement (ES) Chapter on Cultural Heritage [APP-044]. The Scientific Committee, of which Mr Field is a member, has been given the opportunity to view the archaeological evaluations in progress in the field, to view the artefactual material that has been recovered from the plough zone, and has been

provided the reports from the archaeological evaluation [REP1-039 – REP1-056].

- 49.1.17 Impacts on monuments and monument groups (Asset Groups) in this part of the WHS are considered in ES Chapter 6, Cultural Heritage [APP-044] and the Heritage Impact Assessment (ES Chapter 6, Cultural Heritage, Appendix 6.1) [APP-195]. The preferred route for the Scheme was selected to avoid known archaeological remains, important sites and monuments. Subsequent design development at the western tunnel approach, including mitigation measures to limit or avoid impacts, has been informed by a comprehensive programme of archaeological evaluation surveys, which have confirmed the limited nature of the archaeological remains within the construction footprint for the Western Portal and its approach cutting.

Traffic and Transport

Key Issue

- 49.1.18 **One of the reasons for upgrading the road in Highways Authority literature is to benefit the WHS. The position of the western terminal clearly does not meet that objective. If this route is chosen, then the western portal really does need to be positioned outside the WHS.**

Highways England response

- 49.1.19 The locations of the eastern and western portals in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost. Further detail of the longer tunnel alternative can be found in Highways England's response to Written Question AL.1.29 [REP2-024].

50 Jon Morris (REP2-173)

50.1 Socio-economic effects

Key Issue

- 50.1.1 **This representation reviews concerns that the methodology applied to this particular project will set an unsustainable environmental precedent. In brief, this is to allow a project to proceed based on perceived benefits which will not be achieved in practice: Those perceived benefits have been used to generate a monetised valuation of the total project benefit. This is required for a publicly financed project to proceed.**
- 50.1.2 **A valuation based on perceived benefit is allowable under Green Book principles. However, an exception exists where a perceived benefit, one that individuals are willing to pay for, is known not to provide the benefit that individuals believe it would have: Society should not have to fund perceived benefits that will not exist in practice.**
- 50.1.3 **The TAR quantifies this project as “medium” value for money [1:p214]. However, if the aspirations of benefit are not met by the works being done, the project could be reclassified as “low” value for money. A project that is low value for money is wasteful of limited resources and therefore detrimental on environmental grounds.**

Highways England response

- 50.1.4 The core method of economic appraisal, cost-benefit analysis, has been designed to inform comparison between options for interventions using public money. The appraisal for this scheme recognises that the appraisals needs to go beyond traditional financial analysis, and pick up broader social, environmental and economic effects. The appraisal methods are fully aligned to the Guidance issued by HM Treasury, the Department for Transport and Highways England.
- 50.1.5 Economic appraisal is based on the principles of welfare economics – that is, how the government can improve social welfare or wellbeing, referred to in the Green Book as social value. The HM Treasury Green Book (2018) set outs that the Economic Case should use Social Cost-Benefit Analysis to assess the net value to society (the social value) of a policy intervention. The Green Book emphasises that costs or benefits of options should be valued and monetised where possible in order to provide a common metric. For some costs and benefits there may be no market price, or the market price may not fully reflect societal costs or benefits. In these cases, the Green Book summarises the main techniques that can be used including stated preference techniques which are commonly used to elicit estimates of what individuals are willing to pay or accept for a specific outcome.

- 50.1.6 The valuation study of cultural heritage benefits sought to value changes in tranquillity, visual amenity and landscape severance associated with removing the A303 from much of the WHS. These are not solely perceived benefits – they will be delivered in reality by the proposed scheme.
- 50.1.7 Respondents to the survey were provided with a description of the impact of the existing A303 on the WHS. They were also provided with information on the expected impacts of the scheme in terms of tranquillity, visual amenity and landscape severance. Based on this information, respondents were asked to consider if they were willing to pay something to realise these impacts, or if they would require to be compensated for these impacts. Care was taken to ensure that responses were focussed on the impact of removing the road from much of the WHS landscape, rather than other factors such as transport benefits, and considerations of affordability.
- 50.1.8 It is important to note that the work around the contingent valuation report (CVR) was primarily relevant to the Department for Transport's (DfT) investment decision in the Scheme, not the planning merits of the Scheme.

Key Issue

- 50.1.9 **A Contingent Valuation Survey (CVS) was used to value the benefits of this project.**
- 50.1.10 **The method chosen by the Highways documentation is described in more detail within the Green Book's technical guidance documents. An extract from that description is included here for context:**
- 50.1.11 **“Contingent valuation methods construct and present a hypothetical market to questionnaire respondents. A detailed description of a good, how it will be provided, and the method and frequency of payment are usually highlighted. Following this, questions are posed in order to infer a respondent's WTP or WTA. These valuation questions can be presented in a number of different ways, including open ended, bidding game, payment card, and dichotomous choice elicitation formats (see Annex A).” [15: p11]**
- 50.1.12 **It is a specific concern of this representation that the estimates of the CVS appear to be implausible.**

Highways England response

- 50.1.13 The contingent valuation study found that the value of improving cultural heritage by removing the road from a section of the WHS is worth £6.88 per taxpayer per year for the 3 years – giving a total benefit of £995m (in 2010 prices and value). Whilst the unique iconic character of Stonehenge makes it difficult to draw comparisons, benchmarking has shown that this value is well within the range of values elicited from comparable studies, including a study in 2001 specifically on removal of the A303 from a 2km stretch of the WHS. It is also comparable to the £6 per taxpayer per year spent on cultural

heritage by the Department for Digital, Culture, Media and Sport, although the scheme delivers a permanent improvement after 3 years, so could equally be considered a small fraction of government expenditure on cultural heritage over the 60 year appraisal period.

Key Issue

- 50.1.14 **The guidance [15] referred to by the Green Book [14] states: “it is unlikely that reliable research for a single sample study can be carried out for less than £25-£30,000 (excluding the field survey costs).” Although not known (documentation not available), it is expected that the eventual CVS was expansive. However, because the information was not made available, this is an unknown.**
- 50.1.15 **The Contingent Valuation Study (CVS) was not made available to the general public but a redacted version was released after a FOI request by a researcher. This consisted of two documents: HE551506 AA GEN SWI RP JX 000025 Redacted [12] and HE551506 AA GEN SWI RP JX 000026 [13].**
- 50.1.16 **However, there is no “Appendix 1” in the documents. Nevertheless, a second supplied document under the Freedom of information request is assumed by us to be Appendix 1.**
- 50.1.17 **The reason that the above (described in 2.3.4 to 2.3.7) may be a concern is that the only information available for review is a single sample study which falls outside the requirements stated as necessary for an evaluation in the Green Book guidance (see 2.3.1 above).**

Highways England response

- 50.1.18 Contingent Valuation is an acceptable approach to valuing Cultural Heritage. It is a stated preference survey-based methodology that seeks to elicit monetary values for non-market goods by directly asking individuals about their willingness to pay or willingness to accept compensation for a particular change – it is an established economic tool.
- 50.1.19 The consultancy firm Simetrica were appointed to design and conduct the ‘Willingness to Pay’ surveys to elicit the value that three groups of individuals place on the benefits. They are a highly competent firm with extensive experience in this field.
- 50.1.20 The Applicant can confirm that Document HE551506 AA GEN SWI RP JX 000026 was Appendix A (incorrectly referred to as Appendix 1) to Document HE551506 AA GEN SWI RP JX 000025. The surveys elicited a relatively large number of respondents – above the initial target needed to generate statistically robust results allowing for margins of error. The results are statistically reliable and robust.
- 50.1.21 The appraisal methods are fully aligned to the Guidance issued by HM Treasury, the Department for Transport and Highways England.

Key Issue

- 50.1.22 The main report [1] indicates that the majority of the aggregate willingness to pay (which generated value/benefit) is found from general population responses.
- 50.1.23 In the above, the vast majority of valued benefit was generated by the General Population survey. The second Appendix [13, p25] shows how the reasons to pay were generated: These percentages are based on pilot surveys (unfortunately the final reports were excluded from the FOI request (see section 2.3 above).

50.1.24 Of these reasons to pay (on which benefit is calculated):

- The first is a question about a dual carriageway and not a tunnel. It achieved 22.22% of responses. It talks about relieving traffic congestion and reducing accidents.

However, research [21] has shown that severe accident rates [and cost rates] in tunnels were often found to be higher than those on the corresponding larger roads. This reason to pay appears not to be applicable to the tunnel solution as it does not achieve what the correspondents think they would get by paying additional taxes: Other solutions generate more benefit of the type anticipated.

- The stated reason to pay of the fifth item (27.27%) will not be accomplished by the scheme: Removal of the road will only give access to the “Stonehenge Landscape” of which most land is to the North of the A303. The remainder of the WHS to the South contains some bye-ways with public access. However, the monuments themselves can not be accessed except by trespass: the land is not defined as CROW accessible:

The issue with this item is that approximately 28% of respondents identified a willingness to pay for this access. However, access will not be achieved by building a tunnel [see Appendix B, item 1). Though some relatively minor access will be available to what is essentially privately held land, this does not address the benefit that the tax payers believe that they will get.

- The stated reason to pay of the sixth item (25%) is that Stonehenge is a national icon which should be protected. It is unclear why the respondents think that a tunnel would achieve this. In the very long term a tunnel would need additional expenditure for maintenance(not budgeted for in the above costings). Without that expenditure, the decay of the tunnel would destabilize the ground below Stonehenge. Therefore the (low) budget allowances that the tax payers think they are paying to provide protection appears to do the opposite in practice

If protection of a national icon is required over the very long term, significant additional budget allowances may be required over the tunnel's lifespan.

- 50.1.25 **Of the above reasons to pay, only items 4 and 7 would be addressed by provision of a tunnel. This accounts for only 13.89% of the reasons to pay that have been produced in support of a tunnel.**
- 50.1.26 **On this basis, and accounting for negative impacts listed above, the tunnel appears to have inadequate cost-benefit. However, it has not been possible to identify if this lack of benefit is extensive.**

Highways England response

- 50.1.27 It is important to note that the work around the contingent valuation report (CVR) was primarily relevant to the Department for Transport's (DfT) investment decision in the Scheme, not the planning merits of the Scheme.
- 50.1.28 The pilot survey was designed to find out how people might react to different sorts of questions, to ensure the final surveys are well-understood, provide sufficient information, and focus only on the attributes of cultural heritage that Highways England was looking to value. The results of the pilot surveys (and therefore the percentages quoted here) are not, therefore, a reflection of the results of the final surveys.

Key Issue

- 50.1.29 **The definition of a tunnel within the valuation documentation**
- 50.1.30 **The respondents were not informed that a choice exists between a cut and cover tunnel and a bored tunnel: Only "a tunnel". A cut and cover tunnel, which is significantly less expensive, would achieve the same description given to the correspondents. Correspondents do not appear to have been given preference choices to opt for the low-cost method of achieving the same aim:**
- 50.1.31 **Therefore, even if a tunnel could achieve the benefit aims of the CVA (see section 2.4.1 above), a different type of tunnel appears to be able to achieve those benefits at a lower cost.**

Highways England response

- 50.1.32 At the time of undertaking the research, the precise design and location of tunnel portals was yet to be determined. The survey therefore focused on the removal of the A303 and provided only limited information on precise alignment and design aspects of the tunnel. A cut and cover tunnel was not under consideration.
- 50.1.33 The appraisal process aims to capture only the change in values as a result of the intervention and not the overall values. In this case the contingent valuation was designed to elicit responses that were focussed on the impact of removing the road from the landscape; to that end they it is neutral on the

mechanism by which the road is removed – the results are valid for any scheme which delivers the same improvements to landscape, noise intrusion and visual amenity.

Key Issue

- 50.1.34 **The existing TARs do not consider simple options such as keeping the existing road, making it one way to double volume, reducing the speed and making a lower speed limit mandatory (which further increases vehicle throughput).**
- 50.1.35 **In the event that a 'one way' option were considered, a second 'temporary' dual carriageway could be constructed using pre-loading of fill over a protection layer to preserve the archaeology below. In the very long term, this could have no impact on the archaeology and could be removed at a later date.**

Highways England response

- 50.1.36 The Road Investment Strategy 2015-2020 and supporting feasibility studies identified the need for “building a tunnel as the road passes Stonehenge” as it was identified as one of the “most notorious hotspots on the network” (page 55). Therefore, the need for widening the A303 through a tunnel was addressed in the feasibility study supporting this policy decision.
- 50.1.37 Following this, the Department for Transport set Client Scheme Requirements which reflect the cultural heritage importance of the Scheme, as well as the need to deliver economic, transport, environmental and community objectives.
- 50.1.38 By removing the road from the World Heritage Site (WHS), the Scheme has the potential to restore the tranquil setting of Stonehenge, reconnecting two halves of the WHS currently split by the road, improve the setting of the Winterbourne Stoke Barrow group and end the physical severance of an ancient ceremonial processional route known as The Avenue. The Scheme will allow visitors to explore this wider area through an extended network of public rights of way. Options which retain the current road would not meet these objectives.
- 50.1.39 Historic routes considered in previous iterations of the Scheme over many years were considered through Highways England’s Project Control Framework Stages 0, 1 and 2 as set out in the TAR [REP1-031 to REP1-038] and SAR [REP1-023] to REP1-030]. A full appraisal of a wide range of corridors and route options was carried out in accordance with online Transport Appraisal Guidance (WebTAG) which is the standard approach used for investment decisions on all road schemes across the county. Where a scheme has been subject to a full options appraisal in achieving its status in a Road Investment Strategy, option testing may not need to be considered by the decision maker (paragraph 4.27, NN NPS). Indeed, it is not necessary for the Examining Authority to revisit the process as long as

they are satisfied it has been undertaken. In the case of this scheme, this process has been undertaken as is demonstrated in the TAR and SAR.

- 50.1.40 In terms of utilising the existing A303 as one half of a new dual carriageway, such a dual carriageway proposal through the WHS without a tunnel is not possible, no matter how well landscaped, screened or protected. This is because it would cause unacceptable damage to the Outstanding Universal Value (OUV) of the WHS. It would also likely breach the World Heritage Convention and would be unlikely to receive development consent, conflicting with national and local planning policies. Further information can be found in the TAR. Additionally, keeping the existing A303 open past Stonehenge would retain the damaging impact that the existing road has on the OUV of the WHS. It would not address one of the fundamental objectives of the Scheme, which, as stated in the Case for the Scheme [APP-294], is to help conserve and enhance the World Heritage Site, by removing the sights and sounds of traffic through much of the WHS landscape, and make it easier to reach and explore, by reconnecting the northern and southern parts of the Stonehenge section of the WHS.

51 Kate Freeman (REP2-190)

51.1 General and cross-topic questions

Key Issue

- 51.1.1 **People from around the UK and abroad do not agree with the vision and aims of the national heritage bodies that are promoting the Stonehenge Expressway scheme and have since 2014 commented on the Stonehenge Alliance petition about the damage inflicted to the Stonehenge World Heritage Site as a whole.**

Highways England response

- 51.1.2 All views previously expressed in response to the consultation have been considered and taken into account as set out in the Consultation Report [APP-026]. The Scheme is now subject to an examination by a panel of inspectors, who will make a recommendation to the Secretary of State for Transport. The views of all those who have an interest in the Scheme and who make representations will be considered during the examination, as well as information and evidence presented, and the relevant policy requirements. The final decision on the Scheme will be made by the Secretary of State for Transport.

51.2 Cultural Heritage

Key Issue

- 51.2.1 **The problem of the sights and sounds of traffic on the surface road have been overstated. Whilst acknowledging that the traffic is a continuous presence, it is not as intrusive nor as dominating as the problems associated with tourism, including, for example, the tarmac, the wide foot paths, pavement edging, temporary and permanent fencing, busses, and cars, as well as the vast car park and large number of visitors.**

Highways England response

- 51.2.2 The A303/ A358 corridor is a vital connection between the South West and the South East. 35 miles (56km) of this corridor remain single carriageway and these sections act as bottlenecks for users of the route, resulting in congestion particularly in the summer months and at weekends. This causes delays to traffic travelling between the M3 in the South East and the M5 in the South West and increases the risk of accidents. The Scheme is part of a wider package of proposals for the A303/A30/A358 corridor designed to transform connectivity to and from the South West by creating a high quality dual carriageway along the corridor. The A303/ A30/ A358 corridor improvements were identified in the 2016-2021 National Infrastructure

Delivery Plan as one of the country's top five projects or programmes for delivery within the road sector.

- 51.2.3 Furthermore, paragraph 11.1.14 of the Stonehenge and Avebury World Heritage Site Management Plan 2015 states that:

“The road and traffic represent visual and aural intrusion and have a major impact on the tranquillity of the WHS.”

- 51.2.4 In terms of the WHS Management Plan, Aim 6 within Section 11 of the Plan is to "Reduce significantly the negative impacts of roads and traffic on the WHS and its attributes of OUV and increase sustainable access to the WHS". Section 11 actually anticipates and presumes the construction of a tunnel at least 1.8 miles (2.9km) long, subject to assessment, to achieve this aim, and does not preclude new construction within the WHS to achieve Aim 6. Moreover, the cultural heritage assessment, reported in ES Chapter 6 [APP-044], and the accompanying heritage impact assessment, in ES Appendix 6.1 [APP-195], set out the effects of the Scheme on the WHS and the overall benefits it will deliver.
- 51.2.5 Consideration of the intrusion caused by visitors and associated vehicles and tourist infrastructure is considered, where relevant, in the Environmental Statement Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218, for example Asset Groups AG17, AG18, AG21 and AG22]. Reducing the intrusion from car parking and other arrangements for the facilitation of tourist activity is beyond the scope of the Scheme. However, Highways England will liaise closely with Wiltshire Council, Historic England, English Heritage, National Trust and others in doing what it can to support proposals for creating suitable facilities for visitors that minimise intrusion to the WHS.

51.3 Traffic and Transport

Key Issue

- 51.3.1 **For visitors to move freely around a WHS is a worthy ambition that cannot be fully realised without highly managed access routes. The proposals are lacking details of rights of way and access, including details of fencing. There is also the matter of segregating areas that require an entrance fee and those that do not.**

Highways England response

- 51.3.2 The Scheme does not intend to facilitate the free movement of visitors around the WHS. However, a key objective of the Scheme is to improve access both within and to the WHS. To achieve this, the Scheme is providing a comprehensive set of public rights of way proposals along its length, integrating the Scheme with the existing public rights of way network and enhancing existing provision. Full details are shown on the Rights of Way and Access Plans [APP-009] and are described in Schedule 3 to the draft development consent order [REP2-003].

51.3.3 The detail of the fencing and gating strategy for the PRowWs will follow at the detailed design stage if development consent for the Scheme is granted. At this stage it is envisaged that fences along public rights of way would be provided to prevent access onto private land, including the English Heritage managed Stonehenge site. Where necessary for adjacent land use, appropriate stock-proof netting would be added to strained wire or other fence by way of accommodation works, agreed between Highways England and the adjacent landowner. Indicative details are available in Series 3 of the Highway Construction Details, Manual of Contract Documents for Highway Works (http://www.standardsforhighways.co.uk/ha/standards/mchw/vol3/section1/h_series.pdf). Some of these details may be modified within the World Heritage Site. Areas that require an entrance fee are currently fenced and are managed by English Heritage, these fences will not be removed as part of the Scheme.

Key Issue

51.3.4 **The bottleneck on the A303 past Stonehenge is the driving force behind the scheme. There is intermittent peak and seasonal congestion, but the congestion suffered on this stretch of road is not the worst in England. On behalf of the Stonehenge Alliance Dr Simon Temple analysed Highways England’s data in their written representation entitled ‘Transport Planning and Economics Issues, reference 2001870’ and concluded in paragraph 5.3.1 that significant delays occur “mainly on a relatively small number of weekends annually.”**

51.3.5 **Highways England cannot justify the Scheme on the basis of congestion.**

Highways England response

51.3.6 Figure 4-8 of the Transport Assessment [APP-297] shows the distribution of median daily observed travel times on the A303 between the A36 and A338 over the course of the year as derived from Trafficmaster Global Positioning Systems (GPS) data provided by the Department for Transport (DfT). As explained in response to the Written Question Tr.1.11 [REP2-036], there were 251 days of the year where the median travel time was 1 minute and 9 seconds longer than the days with the fastest travel time, and 151 days when the median travel time was over four minutes and 45 seconds longer than the fastest days of the year. The Written Question Tr.1.8 [REP2-036], explained that these delays do not just occur on weekends during the summer and on that basis Highways England does not agree with the analysis carried out on behalf of the Stonehenge Alliance.

52 Gillian Swanton (REP2-185)

52.1 Cultural Heritage

Key Issue

- 52.1.1 **When the WHS was first Inscribed in 1986 there was no category for Cultural Landscapes. Since then the assurance has been given that, although not inscribed as such, this is the way in which the WHS is viewed and research throughout the areas has reinforced the necessity of this approach:-**
- 52.1.2 **“...The World Heritage Site extends far beyond the iconic henges at Avebury and Stonehenge to encompass their surrounding landscapes, each containing an unusually dense concentration of exceptionally well-preserved prehistoric monuments.” (Duncan Wilson, CE Historic England, Foreward in A Research Framework for the Stonehenge, Avebury and Associated Sites World Heritage Site ed M Leivers & A B Powell. Wessex Archaeology Monograph 38, 2016.)**
- 52.1.3 **The research mentioned above has revealed the presence of many now invisible monuments, whether deliberately created as such or subsequently destroyed by ploughing or development. These sites are as important as those currently visible and as components of these complicated and designed landscapes should be treated as such.**

Highways England response

- 52.1.4 The removal of the existing A303 surface road from the WHS landscape will result in extensive benefits for the World Heritage Site (WHS) including beneficial effects to many heritage assets within the WHS.
- 52.1.5 The cultural heritage assessment for the Scheme can be found in the ES, Chapter 6 [APP-044]. Detailed consideration of the assessment of the scheme in the context of the OUV of the WHS can be found in ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195]. Table 3 in the HIA shows the effects that the Scheme would have on the WHS in relation to its Attributes of OUV, Integrity and Authenticity. The table also shows how the Scheme would benefit the WHS in comparison with the effects of the existing A303. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained. It is also important to note that this assessment of the Scheme has been made following an assessment of the impact of the Scheme on the WHS as a whole, and not just on the henges at Avebury and Stonehenge.
- 52.1.6 In particular, paragraph 7.4.4 of the HIA [APP-195] demonstrates how the cultural landscape has been considered as part of the approach of the Scheme, stating that ‘the permanent removal of existing road infrastructure in the tunnel section of the Scheme provides the opportunity to reconnect

and improve this landscape without parallel. The tunnel section and proposed tunnel portal locations would remove the existing severance due to the A303 in key views and sight lines, including the midwinter solstitial alignment. In particular, the proposals would remove the severance of the Avenue by the existing A303. The proposals also include the removal from the WHS of the existing Longbarrow Roundabout. Paragraphs 9.4.34 – 9.4.37 of the HIA [APP-195] set out the assessment of the impacts of the Scheme on Attribute 6 (The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel) that conveys the OUV of the WHS. It concludes by stating that ‘the overall assessment of impacts for this Attribute requires a balanced judgement. The Scheme has been designed to avoid major known concentrations of archaeological remains that contribute to the OUV of the WHS; however, it would have adverse effects on the setting of some assets and Asset Groups. The beneficial effects are considered to slightly outweigh the adverse effects of the Scheme in terms of this Attribute. Overall, it is anticipated that the Scheme would have a Negligible Positive impact on this Attribute of OUV, resulting in a Slight Beneficial effect.’

- 52.1.7 Regarding ‘invisible monuments and archaeology’ the preferred route was carefully chosen to minimise effects on archaeology (including monuments that have had their surface earthworks ploughed out and buried archaeological remains), and a comprehensive programme of archaeological evaluation surveys has informed the Scheme design to limit direct physical impacts as far as practicable, including limiting impacts on archaeological remains that contribute to the OUV of the WHS. The design has been carefully chosen in order to preserve archaeological remains along the 2 mile section of tunnel, improve the setting of many heritage assets and asset groups in the central part of the WHS including the Avenue, Stonehenge itself and the Winterbourne Stoke barrow group; remove the intrusive sight and sound of traffic from the existing A303 as far as possible within the WHS; and design a scheme that is minimally intrusive in both the western and eastern parts of the WHS, including in key views from assets groups that contribute to the OUV of the WHS. Examples of how the design has been developed to limit impacts on archaeology include, but are not limited to, the choice of a northern bypass of Winterbourne Stoke, the reduced footprint and land take for Rollestone Corner, and the design and placement of the western and eastern tunnel portals and portal approaches in areas that have been shown to have limited archaeological remains within their footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044, Section 6.8, Table 6.9]. The cultural heritage assessment, reported in ES Chapter 6, identifies the effects on known archaeological features whilst recognising the benefits that the tunnel will deliver for the WHS landscape as a whole.

52.1.8 The Scheme includes measures to facilitate the sharing and understanding of archaeological discoveries. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of the construction of the Scheme. The Outline Archaeological Mitigation Strategy (OAMS) [APP-220] also identifies areas to be protected in-situ. A draft Detailed Archaeology Mitigation Strategy (DAMS) submitted at Deadline 2 [REP2-038], which includes resourcing and arrangements for publishing results and storing/displaying finds, will be developed in consultation with Wiltshire Council Archaeology Service and the Heritage Monitoring Advisory Group prior to the end of the Examination, and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. The project archive of reports and archaeological finds would be deposited in a local museum once the archaeological excavations have been analysed and published.

Key Issue

52.1.9 **Despite many representations over the years from many historic landscape specialists, it has been very difficult to persuade developers and others that the WHS is not just about the henge monuments at Stonehenge and Avebury but about the entire landscapes within which they sit. The so-called protection of the eastern part of the Stonehenge landscape would be at the expense of the western section**

Highways England response

- 52.1.10 The Scheme has been carefully designed to consider the cultural landscape as a whole, including to remove the sight and sound of traffic from the existing A303 and to avoid visual intrusion between key Asset Groups and monuments within the western part of the WHS.
- 52.1.11 The permanent removal of the existing road infrastructure in the tunnel section of the Scheme provides the opportunity to reconnect and improve this landscape without parallel. The tunnel section and proposed tunnel portal locations would remove the existing severance due to the A303 in key views and sight lines, including the midwinter solstitial alignment. The proposals also include the removal from the WHS of the existing Longbarrow Roundabout.
- 52.1.12 With regard to Attribute 6 (The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period) that conveys the OUV of the WHS, the HIA [APP-195, para 9.4.37] concludes that overall it is anticipated that the Scheme would have a Negligible Positive impact on this Attribute of OUV, resulting in a Slight Beneficial effect.'

52.2 Landscape and Visual

Key Issue

- 52.2.1 **The proposal for the development of the road scheme does not exhibit cognisance of the importance of the gradual development of the Stonehenge landscape. The proposed cutting in the western part of the area would slice through one of the most important and very early areas to have been created. It would sever the WHS, irretrievably damage the landscape and destroy the tranquillity of the western part of the area.**

Highways England response

- 52.2.2 The Scheme design does exhibit cognisance of the importance and gradual development of the Stonehenge landscape. Impacts on monuments and monument groups (Asset Groups) in the western part of the WHS are considered in ES Chapter 6, Cultural Heritage [APP-044] and the Heritage Impact Assessment (ES Chapter 6, Cultural Heritage, Appendix 6.1) [APP-195, including the impacts on the long barrow groupings (as one of the earliest parts of the monumental landscape to be created) which are set out in paragraphs 9.3.1-9.3.3].
- 52.2.3 As stated at paragraph 9.1.36 ‘the existing A303 also restricts and severs access and impacts the quality of visitor experience, such that the vast majority of visitors are able only to visit part of the WHS.’
- 52.2.4 We have considered the cultural landscape in our approach. The permanent removal of existing road infrastructure in the tunnel section of the Scheme provides the opportunity to reconnect and improve this landscape without parallel. The tunnel section and proposed tunnel portal locations would remove the existing severance due to the A303 in key views and sight lines, including the midwinter solstitial alignment. In particular, the proposals would remove the severance of the Avenue by the existing A303. The proposals also include the removal from the WHS of the existing Longbarrow Roundabout.
- 52.2.5 Paragraphs 9.4.34 – 9.4.37 of the HIA [APP-195] also set out the assessment of the impacts of the Scheme on Attribute 6 (The disposition, physical remains and settings of the key Neolithic and Bronze Age funerary, ceremonial and other monuments and sites of the period, which together form a landscape without parallel) that conveys the OUV of the WHS, concluding that overall, it is anticipated that the Scheme would have a Negligible Positive impact on this Attribute of OUV, resulting in a Slight Beneficial effect.’
- 52.2.6 The preferred route for the Scheme was selected to avoid known archaeological remains, important sites and monuments. Subsequent design development at the western tunnel approach, including mitigation measures to limit or avoid impacts, has been informed by a comprehensive programme

of archaeological evaluation surveys, which have confirmed the limited nature of the archaeological remains within the construction footprint for the Western Portal and its approach cutting [see APP195, paragraphs 6.3.4 – 6.3.12]. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Table 6.9.

- 52.2.7 The removal of the existing A303 surface road from the WHS landscape will result in extensive benefits for the WHS, including significant reductions in traffic noise, as set out in ES Chapter 9 [APP-047], Section 9.9, and illustrated in Figure 9.4 [APP-167], and visual intrusion, as set out in ES Chapter 7 [APP-045], Section 7.9. The HIA concludes that overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained. This is set out in Section 12.4.
- 52.2.8 Please also refer to Relevant Representation responses ALT#027, GB#024 [AS-026] and Written Question Response CH.1.55 and CH.1.56 [REP2-025].

52.3 Traffic and Transport

Key Issue

- 52.3.1 **The Wiltshire Council Core Strategy, Core Policy 59iii includes “...reduce the negative impacts of roads, traffic...” – what is difficult to envisage is that the road proposals would improve the situation as it is now as the noise levels would rise with faster movement and the impact from traffic entering and leaving tunnels.**

Highways England response

- 52.3.2 The noise assessment for the Scheme is set out in ES Chapter 9, Noise and Vibration [APP-047]. The assessment is based on traffic data with and without the Scheme in place and includes changes in traffic speeds due to the Scheme.
- 52.3.3 With regard to the WHS, the Scheme would significantly reduce the level of traffic noise along the tunnelled section. Outside of the tunnelled section in the WHS potential impacts would be reduced by the cuttings in which the road will sit, a thin surfacing system (which generates less noise than a standard hot rolled asphalt surface), and the use of an absorbent lining inside the ends of the tunnel, resulting in beneficial traffic noise effects within the majority of the WHS, as illustrated on Figure 9.4 [APP-167] and 9.5 [APP-168].

53 Mike Pitts (REP2-176)

53.1 Cultural Heritage

Key Issue

- 53.1.1 **Taken together I believe the arguments presented in my WR, those challenging the four “major negative consequences of the tunnel options” presented by ‘Consortium of Stonehenge Experts’, support a case for the proposed roadworks, with the critical proviso that appropriate prior archaeological investigations are professionally conducted and fully funded by the developing authorities.**

Highways England response

- 53.1.2 Highways England acknowledges and welcomes your support for the Scheme, and the full detail of your representation and the arguments put forward. We confirm that a thorough and comprehensive strategy for archaeology has been designed into the Scheme, as set out below:
- 53.1.3 The principles of archaeological mitigation are outlined in Appendix 6.11 of the ES, Outline Archaeological Mitigation Strategy (OAMS) [APP-220], which has been informed by a comprehensive programme of archaeological evaluation [REP1-039 – REP1-056]. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction. The OAMS also identifies areas to be protected in-situ. A draft Detailed Archaeological Mitigation Strategy (DAMS), submitted at Deadline 2 [REP2-038] is being developed in consultation with Wiltshire Council Archaeology Service and the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust, and English Heritage), and with inputs from the independent expert panel of archaeologists that form the Scientific Committee. The DAMS is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003].
- 53.1.4 Paragraph 1.4.1 and Appendix B of the draft DAMS [REP2-038] set out the current good practice guidance that the draft DAMS conforms to. The draft DAMS is rooted in a heritage research-led framework [REP2-038; Section 2]. All of the required archaeological mitigation works will be fully funded by Highways England including the Public Archaeology and Engagement Strategy (as set out in Appendix F) and a comprehensive strategy for publication and dissemination (Section 8), alongside a strategy for archive preparation and deposition (Section 9).

Key Issue

- 53.1.5 **Other things being equal, none of us would wish to see a road tunnel portal in the World Heritage Site, still less two. But a substantial road and associated earthworks are already within the WHS, dominating**

public perception and engagement. Much of this would be removed. On balance, I believe the outcome of the proposals would be an improvement. The recent history of the WHS shows that people always want something better, and future generations would be likely to take advance of the changes and seek further improvements.

Highways England response

- 53.1.6 Highways England acknowledges and welcomes your support for the Scheme.
- 53.1.7 The removal of the existing A303 surface road from the WHS landscape will result in extensive benefits for the WHS, including significant reductions in traffic noise, as set out in ES Chapter 9 [APP-047], Section 9.9, and illustrated in Figure 9.4 [APP-167], and reduction of visual intrusion, as set out in ES Chapter 7 [APP-045], Section 7.9. The removal of much of the existing A303 surface route, which has a major adverse impact currently on the OUV of the WHS, is an objective of the WHS Management Plan 2015.

Key Issue

- 53.1.8 **Roadworks would break the ground, and without intervention remove and destroy areas of significant archaeological remains. But systems are in place for the proper response, which is to fully investigate any identified important archaeology ahead of the works, in the same way that archaeologists have been excavating within the WHS since its inscription and long before. There is a bonus: sites likely to be excavated are not typical of those usually addressed by archaeologists in the WHS, and the results offer the potential for new areas of public interest.**

Highways England response

- 53.1.9 Highways England agree that there are appropriate archaeological mitigation measures that can be implemented to record the archaeological remains, that cannot be preserved in situ, during the preliminary works phase in advance of construction.
- 53.1.10 The principles of archaeological mitigation are outlined in Appendix 6.11 of the ES, Outline Archaeological Mitigation Strategy (OAMS) [APP-220], which has been informed by a comprehensive programme of archaeological evaluation [REP1-039 – REP1-056]. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction. The OAMS also identifies areas to be protected in-situ. A draft Detailed Archaeological Mitigation Strategy (DAMS), submitted at Deadline 2 [REP2-038] is being developed in consultation with Wiltshire Council Archaeology Service and the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust, and English Heritage), and with inputs from the independent expert

panel of archaeologists that form the Scientific Committee. The DAMS is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003].

- 53.1.11 Paragraph 1.4.1 and Appendix B of the draft DAMS [REP2-038] set out the current good practice guidance that the draft DAMS conforms to. The draft DAMS is rooted in a heritage research-led framework [REP2-038; Section 2]. All of the required archaeological mitigation works will be fully funded by Highways England including the Public Archaeology and Engagement Strategy (as set out in Appendix F) and a comprehensive strategy for publication and dissemination (Section 8), alongside a strategy for archive preparation and deposition (Section 9).

Key Issue

- 53.1.12 **The tunnel and the opening up of the landscape that would follow, and the archaeological excavations done to mitigate surface ground disturbance, all at considerable financial cost, would together add value to the Stonehenge World Heritage Site, and be an example to the world of good heritage practice.**

Highways England response

- 53.1.13 Highways England acknowledges and welcomes your comment and support for the Scheme, in particular, your response stating that the Scheme has the potential to add value to the Stonehenge World Heritage Site, and be an example to the world of good heritage practice.

54 Green Lanes Environmental Action Movement (REP2-097)

54.1 Traffic and Transport

Key Issue

- 54.1.1 The Trail Riders Fellowship, the Green Lane Association and individuals argue that “an alternative link should be provided to replace the motorised link between byways AMES 11 and AMES 12 in the light of the existing use by motorised users and the need to comply with s136(1) of the Planning Act 2008” (Examining Authority’s Initial Assessment of Principal Issues. Page C9). We disagree for the following reasons. The effect of NERCA is that a new public right of way for motorised users (i.e a BOAT) to link AMES 11 and 12 can only come into being by express dedication by the landowner and creation by an instrument such as the draft Development Consent Order (dDCO). If the landowner is not willing to dedicate a new public right of way and it is not included in the DCO, it cannot come into being. Subsection 66(1) of NERCA says: “No public right of way for mechanically-propelled vehicles is created after commencement [2 May 2006 in England] unless it is-(a) created (by an enactment or instrument or otherwise) on terms that expressly provide for it to be a right of way for such vehicles, or (b) created by the construction, in exercise of powers conferred by virtue of any enactment, of a road intended to be used by such vehicles.”
- 54.1.2 The landowners and the dDCO are prevented, in our view, from creating a new BOAT to link AMES 11 and 12 by the planning requirements alluded to/mentioned in Highways England’s response to the comments asking for a link (Relevant Representations Report page 14.2) i.e. the requirement to avoid adverse impacts on the Normanton Down barrow group, on the tranquillity of the World Heritage Site (WHS) south of the current A303 and the Scheme objective to remove the sights and sounds of motorised traffic from within the WHS.

Highways England response

- 54.1.3 Taking into consideration this and other feedback from the statutory consultation on the Scheme proposals, the previously proposed link to the south of the existing A303 between Byways 12 and 11 was removed from the Scheme proposals. This change to the Scheme proposals presented for statutory consultation was one of three changes put forward for the supplementary consultation summarised in Chapter 6 of the Consultation Report [APP-026].

Key Issue

- 54.1.4 **Highways England should liaise with Wiltshire Council to stop up or otherwise prohibit recreational motor vehicle use of the BOATs AMES11 and AMES 12 (which passes within 300 metres of Stonehenge). Otherwise, “the scheme’s objective of fully removing the sight and sound of traffic from the vicinity of Stonehenge” (page 40 of the consultation booklet) will not be achieved. Prohibiting recreational motor vehicle use of the two BOATs would also avoid adverse impacts on the Normanton Down Barrow Group, which is also part of the WHS. However we note that Highways England has said in the Relevant Representations Report (page 14.7) that changing “the status of the existing BOATs is beyond the scope of the Scheme and is a matter for Wiltshire Council to consider as the local highway authority.” We also note that Wiltshire Council is the traffic authority for the BOATs, i.e. has the power to make TROs regulating their use.**

Highways England response

- 54.1.5 Highway’s England’s statement in the Relevant Representations Report remains unchanged - changing the status of the existing BOATs is beyond the scope of the Scheme and is a matter for Wiltshire Council to consider as the local highway authority.

Key Issue

- 54.1.6 **We agree with Winterbourne Stoke Parish Council that the section of the old A303 west of Winterbourne Stoke should be converted to a restricted byway, “to allow limited controlled farm access and to restrict potential criminality” (Relevant Representations Report page 25.2), i.e. that it should become a restricted byway with private rights for motor vehicular use. We do not understand why Highways England has treated this section of redundant A303 in a different way to other sections, but has decided that it should be created as a BOAT. This decision contradicts Highways England’s Preliminary Environmental Information Report, which said that new public rights of way would be non-motorised user routes (paragraph 2.2.46) and specifically said that this section of the old A303 would be a non-motorised public right of way with a private means of access (paragraph 2.2.45(a)).**

Highways England response

- 54.1.7 The section of downgraded A303 west of Winterbourne Stoke to its junction with the existing bridleway BSJA3, and the existing bridleway itself, will become a byway open to all traffic (BOAT) which MPVs including farm vehicles will be able to use without restriction in order to provide connection with the existing BOAT BSJA3.

- 54.1.8 Paragraph 2.2.45(a) of the Preliminary Environmental Information Report did not include specific reference to the proposal for the BOAT in question. However, the Draft Environmental Masterplan (Figure 2.4) which formed part of the suite of consultation materials, alongside the PEIR (and as referenced in paragraph 2.2.46 of the PEIR), clearly identifies this section as a 'new byway and private means of access'. As noted above, this BOAT would provide a connection to the existing BOAT BSJA3.

55 Peak District Green Lanes Alliance (REP2-122)

55.1 Alternatives

Key Issue

- 55.1.1 **Supporters assert that the Amesbury/Berwick Down section of the link is posing most problems in delay and unreliability. However, they quote the Road Improvement Strategy of 2019/20 as having a budget of only £2bn for three projects of which this is just one.**
- 55.1.2 **This impression of working to a fixed budget is reinforced in section 6.2.5 of the 2nd ICOMOS report which shows HE fixated on a tunnel length of 2.9km. Our understanding is that this budget constraint results from the need, under Treasury Green Book guidance, to show a benefit for this specific project and not just for the overall scheme. This seems to us to be perverse and means that any difficult project within a scheme is almost guaranteed an unsatisfactory outcome. It seems particularly perverse if this project is the one giving most benefit to the overall scheme.**
- 55.1.3 **If the quoted GVA for the overall link is realistic, an additional £0.6bn to provide a tunnel of 4.5km under the whole of the WHS compared to the proposed 2.9km one (resulting in the widely criticised east and west portal locations) would seem reasonable.**

Highways England response

- 55.1.4 Under HMT Green Book guidance, GVA improvements in a local area do not directly translate into national-level welfare benefits that can be included in a cost-benefit analysis. GVA records activity in the measured economy at a local level, and may incorporate the effects of moving economic activity from one part of the country to another. This is an important consequence of a scheme, but not one that can be used directly to justify additional public expenditure.
- 55.1.5 The present DCO is concerned with the Amesbury to Berwick Down scheme. It is not seeking consent to deliver other sections of the planned A303 corridor upgrade, so benefits delivered by those cannot be used to justify expenditure for the present scheme.
- 55.1.6 The locations of the eastern and western portals for the tunnel in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost. Further detail of a longer tunnel alternative can be found in Highways England's response to Written Question AL.1.29 [REP2-024].

Key Issue

- 55.1.7 **We suspect HE's failure to carry forward the F010 surface route as an alternative to a tunnel results from time rather than cost constraints, since it would have taken an extra year.**

Highways England response

- 55.1.8 A full options appraisal was carried out for the A303 scheme (further details are provided in the Applicants Response to Examiners Question AL1.4 [REP2-024]).
- 55.1.9 The Decision to not take forward F010 is detailed in Section 4.5 of the Scheme Assessment Report (SAR [REP1-023]), which sets out that route F010:
- would increase the length of the A303 route by 3.7km more than D061 and D062 (Table 4.1 [REP1-023]), therefore having a longer average journey time between A36 and A338 and having a lower average journey time saving than D061 and D062
 - would likely result in higher NOx emissions than D061 and D062 (Paragraph 4.5.30 of the SAR [REP1-023])
 - have a lower Benefit Cost Ratio (0.3) than D061 (0.5) and 062 (0.6) (Paragraph 4.5.12 of the SAR [REP1-023])
 - was assessed to have potential to deliver fewer in-service accident benefits than D061 and D062 due to its longer travel distances (Paragraph 4.5.24 of the SAR [REP1-023])
 - would require the construction of two significant viaducts over the River Till and River Avon (Paragraph 4.5.25 of the SAR [REP1-023])
 - have impacts on the rural landscape that were predicted to be higher (Very Large Adverse) compared to D061 and D062 (Moderate Adverse) (Paragraph 4.5.31 of the SAR [REP1-023])
 - was assessed as having a Very Large Adverse effect on biodiversity due to its direct impacts on internationally and nationally designated sites compared to a Large Adverse effect for the other options which it was possible to reduce with mitigation measures (Paragraph 4.5.33 of the SAR [REP1-023])
 - performed weakest against the Client Scheme Requirements compared to D061 and D062 (Table 4-2 of the SAR [REP1-023]).
- 55.1.10 Paragraph 4.5.32 of the SAR [REP1-023] states that the F010 route would have a large beneficial effect for the historic environment but, as noted above, there were a number of significant areas where the F010 route performed worse than the D061 and D062 routes and it was following consideration of all these areas that the F010 route was ruled out. Time constraints were not a factor.

Key Issue

- 55.1.11 **We would like to see a comparison of an extended tunnel and surface routes in the Stonehenge/Salisbury corridor, both wholly outside the WHS. Besides F010 these should include simply upgrading the A338 or A345, Salisbury ringroad and A36.**

Highways England response

- 55.1.12 A full options appraisal was carried out for the A303 scheme as set out in the Technical Appraisal Report [REP1-031]. This included a comparison of a wide range of corridor and route options in the Stonehenge/Salisbury corridor both within and wholly outside the WHS, including extended tunnel and surface routes. Chapter 22 in the TAR [REP1-031] summarises the results of the appraisal, including why tunnel options were preferred to the F010 route and other alternatives. The alternative of upgrading the A338 or A345, Salisbury ringroad and A36 was not appraised as an option in its own right, but the corridor described by such an alternative is closely represented by the southern parts of corridor F and by parts of corridor G, as described in Chapter 5 of the TAR [REP1-031]. Routes this far to the south of the WHS were discounted because they would not perform well in delivering the Scheme objectives.

55.2 Cultural Heritage

Key Issue

- 55.2.1 **We feel Highways England (HE) has put insufficient emphasis on the views of ICOMOS, the Stonehenge & Avebury WHS Co-ordination Unit and the archaeological community.**

Highways England response

- 55.2.2 The recommendations of the UNESCO/ICOMOS missions carried out in 2015, 2017 and 2018 and the subsequent decisions of the World Heritage Committee have been considered carefully and integrated into the Scheme's design where practicable. The UNESCO/ICOMOS recommendations and World Heritage Committee decisions have informed the development of the Scheme and its design responds to these including: the route alignment selected as the preferred route avoiding the winter solstice sunset alignment and the bisecting of the Diamond Group; setting the road in deep retained cuttings to minimise landtake; determining the length of the tunnel to avoid the Scheduled Monument known as the Avenue (NHLE 1010140) at its eastern end and a Bowl barrow south of the A303 and north west of Normanton Gorse (NHLE 1010832) at its western end – the bored tunnel length has been extended to 3km in length; the further addition of 200m of canopy at the western portal and 85m of canopy at the eastern portal to further extend the tunnel (to almost 3.3km) to aid landscape integration; the optimisation of the positions of the tunnel portals at the head of dry valleys in

the landscape; in order to reduce the length of cutting (in the western part of the WHS), the addition of a 150m wide green bridge to maintain physical and visual connectivity between the northern and southern parts of the WHS and the monuments in those parts; and the removal of the surface A303 into a tunnel and approach cuttings to reduce noise and improve the tranquillity of the WHS. In order to minimise light spill, measures have included: no lighting of the new Longbarrow junction or the approach cuttings; and new directional lighting at Countess junction replacing the existing non-directional lighting. Additionally, lighting of the portals would be designed to minimise light spill out in to the WHS landscape and lighting under the 150m wide green bridge will only operate during daylight hours. To minimise the visibility of new infrastructure within the WHS, signage and other highways installations will sit completely within the approach cuttings and not extend above them. Further information on the missions, including how Highways England has considered the recommendations of UNESCO/ ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.

- 55.2.3 In addition, the impact of the Scheme in terms of the inscription of the WHS has been assessed in Section 12.5 of the HIA, Appendix 6.1 to the ES, [APP-195]. This concludes that the Scheme would not impact upon the continuing relevance and application of the WHS inscription criteria.
- 55.2.4 Heritage has been a key consideration during route selection and consultation, being one of the Scheme's objectives to help conserve and enhance the WHS. Highways England has engaged regularly with key heritage stakeholders, throughout the Scheme's development, including through the Heritage Monitoring Advisory Group (HMAG) - which includes Wiltshire Council Archaeology Service (WCAS), Historic England, National Trust, and English Heritage - and through the Scientific Committee of eminent archaeological experts. Their involvement will continue up to and through construction, and is secured as part of a draft Detailed Archaeology Mitigation Strategy (DAMS) submitted at Deadline 2 [REP2-038], which is being developed in consultation with WCAS and the HMAG, and with inputs from the Scientific Committee, and which is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. Information on engagement with archaeological and other heritage experts can be found in the ES Chapter 6, Cultural Heritage [APP-044] and the Consultation Report [APP-026]. In 2016, the Stakeholder Strategy Board (SSB) was set up. In recognition of the scheme's unique heritage context, membership of the SSB includes the Department for Transport (DfT), Department for Digital, Culture, Media and Sport (DCMS), Historic England, English Heritage Trust, The National Trust and the WHS Partnership Panel Chair, as well as Wiltshire Council as host authority for the scheme.
- 55.2.5 The WHS Partnership Panel, WHS Committees, the Avebury and Stonehenge Archaeological and Historical Research Group and the WHS Coordination Unit have been consulted throughout the Scheme development. They were involved in and responded to the public

consultations held on route options in early 2017 before the preferred route was chosen and in 2018 following preferred route announcement. They were also consulted during the development of the Heritage Impact Assessment – attending an extraordinary meeting on 30 July 2018 to discuss ongoing matters following the 2018 statutory consultation and the developing HIA.

Key Issue

- 55.2.6 **We feel the uniqueness of the WHS and the UK’s obligations under the World Heritage Convention make arbitrary cost and time constraints inappropriate and believe HE should report to the Secretary of State that they cannot deliver a solution acceptable to ICOMOS and the archaeological community unless they are relaxed. We feel you should flag this in your report although we are not asking you to judge Government policy.**

Highways England response

- 55.2.7 The uniqueness of the site is recognised by its listing as a World Heritage Site. The World Heritage Convention, and the framework pursuant to which it has been implemented in the UK, operate to ensure the appropriate level of protection for such heritage. The protection and conservation of World Heritage Sites is integrated into the comprehensive UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets – namely, the UK's National Policy Statements, NPPF, Planning Act 2008 provision, and the established approach to assessment of impacts on heritage generally and the balancing of factors in decision making. As a result, great weight is given to harm to World Heritage Sites. The application by the Secretary of State of the planning balance envisaged by this framework, and in particular the National Policy Statement for National Networks (NPSNN), is in accordance with the World Heritage Convention. The NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294] demonstrates that the Scheme complies with the requirements of the NPSNN with respect to the WHS. (See response to Written Question G.1.1 [REP2-021] for further detail in this respect).
- 55.2.8 Whilst great weight is given with respect to World Heritage Sites, there are other factors that will be relevant to the decision whether to grant development consent. The relevant tests for the Examining Authority and Secretary of State in determining whether to grant consent for the Scheme are set out in section 104 of the Planning Act 2008, and, as a result of those provisions, the decision maker must decide the application in accordance with the National Policy Statement for National Networks (NPSNN). That requirement is subject to certain exceptions, including under section 104(7) which requires that the application should be determined in accordance with the NPSNN unless the adverse impact of the proposed development would

- outweigh its benefits. This requires a balancing exercise to be undertaken of the adverse and beneficial impacts of the Scheme.
- 55.2.9 Another exception makes the requirements of the World Heritage Convention relevant to the decision to grant consent. Other prescribed matters and any other important and relevant matters will also be relevant to the decision, including conformity with local planning policy and the WHS Management Plan.
- 55.2.10 There is no requirement in the NPSNN, the World Heritage Convention, local planning policy, the WHS Management Plan or ICOMOS guidance to avoid all adverse impacts on the OUV of the WHS. With respect to the NPSNN requirements, NPSNN is concerned to avoid substantial harm to heritage assets, and includes requirements in relation to the balancing of less than substantial harm against the public benefit of the development. The Scheme's compliance with the NPSNN requirements is demonstrated in the NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294] as noted above.
- 55.2.11 The requirements of the World Heritage Convention and the Scheme's compliance with those requirements are addressed in response to Written Question G.1.1 [REP2-021]. Local planning policy compliance is addressed in Appendix B of the Case for the Scheme and NPS Accordance [APP-294].
- 55.2.12 With respect to the specific impact of the Scheme on the WHS, the Heritage Impact Assessment (HIA) submitted with the application [APP-195] assesses the impact of the proposed Scheme on the attributes of the OUV, integrity and authenticity of the WHS. It also considers the alignment of the Scheme with the vision, aims and policies of the 2015 WHS Management Plan and the criteria for the site's inscription as a WHS. The scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. Overall, the OUV of the WHS would be sustained.
- 55.2.13 It follows from this, and from the Scheme's compliance with the NPSNN policies relevant to the provisions of the WHC, that deciding in favour of the Scheme would not lead the UK to a breach of its international obligations of the WHC.
- 55.2.14 The recommendations of the UNESCO/ICOMOS missions carried out in 2015, 2017 and 2018 and the subsequent decisions of the World Heritage Committee have been considered carefully and aspects of the design have been developed to address their recommendations. The World Heritage Committee decision with regards to the Scheme not proceeding in its current form refers to the scheme as was set out at public consultation in March 2018. The Scheme design has evolved substantially since that date, as put forward in the supplementary consultation and following that, the DCO application.
- 55.2.15 UNESCO/ICOMOS recommendations and World Heritage Committee decisions have informed the development of the Scheme throughout its

development and its design responds to these including: the route alignment selected as the preferred route avoiding the winter solstice sunset alignment and the bisecting of the Diamond Group; setting the road in deep retained cuttings to minimise landtake; determining the length of the tunnel to avoid the Scheduled Monument known as the Avenue (NHLE 1010140) at its eastern end and a Bowl barrow south of the A303 and north west of Normanton Gorse (NHLE 1010832) at its western end – the bored tunnel length has been extended to 3km in length; the further addition of 200m of canopy at the western portal and 85m of canopy at the eastern portal to further extend the tunnel (to almost 3.3km) to aid landscape integration; the optimization of the positions of the tunnel portals at the head of dry valleys in the landscape; in order to reduce the length of cutting (in the western part of the WHS) the addition of a 150m wide green bridge to maintain physical and visual connectivity between the northern and southern parts of the WHS and the monuments in those parts; and the removal of the surface A303 into a tunnel and approach cuttings to reduce noise and improve the tranquillity of the WHS. In order to minimise light spill, measures have included: no lighting of the new Longbarrow junction or the approach cuttings; and new directional lighting at Countess junction replacing the existing non-directional lighting. Additionally, lighting of the portals would be designed to minimise light spill out in to the WHS landscape and lighting under the 150m wide green bridge will only operate during daylight hours. To minimise the visibility of new infrastructure within the WHS, signage and other highways installations will sit completely within the approach cuttings and not extend above them. Further information on the missions, including how Highways England has considered the recommendations of UNESCO/ ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.

- 55.2.16 The World Heritage Committee decision recommended consideration of “further design refinement, with a view to avoiding impact on the OUV of the property, including longer tunnel options”. Longer tunnel designs have been considered and discounted as they would not deliver sufficient additional benefits. See the response to Written Question AL.1.29 [REP2-024] for further detail in this respect.

Key Issue

- 55.2.17 **Also, detailed heritage and cultural impacts have only been available after the main public consultations and are still incomplete.**

Highways England response

- 55.2.18 The likely significant cultural heritage effects of the proposed Scheme were reported in the Environmental Statement Chapter 6 - Cultural Heritage [APP-044] and the Scheme’s impact on the outstanding universal value of the World Heritage Site was reported in the Heritage Impact Assessment [APP-195]. Both documents were submitted as part of the application, and have been available for the public to consider and make representations on. In

terms of further detail with respect to the findings in those assessments, archaeological evaluation and survey reports were submitted to the Examination on 12 April 2019, as promised at the Preliminary Meeting [REP1-039 – REP1-056].

- 55.2.19 The archaeological evaluation and survey reports provide the detail behind the results and baseline already reported in paragraphs 6.6.13-6.6.52 and 6.6.53-6.6.111, Appendix 6.2 and Figure 6.8 respectively of the Environmental Statement, and also incorporate the results of the confirmatory surveys and sampling on the Winterbourne Stoke Bypass, at Countess East and Amesbury Road. The results of this confirmatory survey and sampling work were reviewed against the archaeological baseline, approach to mitigation and assessment of effects presented in the Environmental Statement Chapter 6 - Cultural Heritage [APP-044] and Environmental Statement Appendix 6.2 - Archaeology Baseline Report [APP-211] and they confirm its findings. No changes to the conclusions as to the likely significant effects of the scheme were identified or were required. Whilst these reports do not result in any change to the assessments in the Environmental Statement already submitted to the Examination, there was an opportunity for members of the public to comment on information provided by the Applicant at Deadline 1, by Deadline 2a on 10 May 2019.
- 55.2.20 All archaeological evaluation programmes have been completed, and the results reported in the reports submitted on 12 April. As set out in Highways England's letter dated 19 April enclosing Deadline 1 submissions, there are three reports requested to be published by HMAG which are to be published at Deadline 3: two short technical reports relating to the Western Portal Approaches on charcoal and snails respectively, and an assessment of flint and tree throw distributions. Whilst these reports also do not change the findings of the Environmental Statement already published, there is an opportunity to comment on the Applicant's Deadline 3 submissions at a future deadline.

Key Issue

- 55.2.21 **Agreement to the scheme and its effects on archaeology should also be sought independently from HMAG's Scientific Committee.**

Highways England response

- 55.2.22 Heritage has been a key consideration during route selection and consultation, being one of the Scheme's objectives to help conserve and enhance the WHS. Highways England has engaged regularly with key heritage stakeholders throughout the Scheme's development, including in relation to archaeology through the Heritage Monitoring Advisory Group (HMAG) which includes Wiltshire Council Archaeology Services (WCAS), Historic England, National Trust, and English Heritage. A Scientific Committee of independent eminent archaeological experts advises HMAG. Their involvement will continue up to and through construction and is

secured as part of a Detailed Archaeology Mitigation Strategy (DAMS) [REP2-038], which is being developed in consultation with WCAS and the HMAG and which is itself secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. More information on engagement with archaeological and other heritage experts can be found in the ES Chapter 6, Cultural Heritage [APP-044] and the Consultation Report [APP-026].

- 55.2.23 To support the development of the scheme proposals, Highways England engaged with statutory consultees including members of HMAG throughout the development of the preliminary design. As part of this engagement a weekly design development workshop was held to enable ongoing discussion with heritage stakeholders (alongside other statutory and technical stakeholders) so specific questions and concerns related to aspects of the design could be considered in detail and potential solutions considered. More information on engagement with statutory bodies (including heritage stakeholders) can be found in Table 7-1: Ongoing engagement with statutory environmental bodies in Chapter 7 of the Consultation Report [APP-026]. Recommendations received from HMAG members included; those on the lighting of the scheme, assumptions on signage and limiting land-take within the WHS, the positioning and width of Green Bridge 4, the positioning of the tunnel portals and the need for and length of the canopies. The Scientific Committee, which advises HMAG, was consulted regarding the design options for the road within the approach to the western portal. When asked to make a decision on this, their preference was for a steep-sided retained cut to reduce land-take. This was adopted into the Scheme's preliminary design.
- 55.2.24 In terms of effects of the scheme on archaeology in relation to the outstanding universal value of the World Heritage Site, the Heritage Impact Assessment (HIA) [APP-195] was carried out in accordance with ICOMOS Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (2011) (https://www.icomos.org/world_heritage/HIA_20110201.pdf), and was overseen by the HMAG. The HIA was also carried out in accordance with the methodology set out in the HIA Scoping Report (http://assets.highwaysengland.co.uk/roads/roadprojects/A303+Stonehenge/Heritage_Impact_Assessment_Scoping_Report1.pdf), which was endorsed by HMAG and UNESCO/ICOMOS (see HIA section 3.3, paragraph 3.3.4-3.3.6).

55.3 Draft Development Consent Order

Key Issue

- 55.3.1 **The proposals for a future Rights of Way network can support the project's aim "To conserve and enhance the World Heritage Site to**

make it easier to reach and explore” and address its impact, therefore we feel principle 2 makes them an “associated development”.

Highways England response

- 55.3.2 Highways England’s views on associated development in the context of the public rights of way comprised in the Scheme are set out in its responses to the Written Questions, DCO.1.4 and DCO.1.7 [REP2-030].

55.4 Health and Wellbeing

Key Issue

- 55.4.1 **There appears to have been no assessment of the health benefits to both residents and visitors of making the WHS effectively a traffic free zone where recreation and exercise can be enjoyed in tranquillity.**

Highways England response

- 55.5 The proposed scheme entails the removal of the surface section of the A303 through much of the WHS. The relocation of much of this section of road into tunnel and deep cutting would significantly reduce road traffic noise levels in the vicinity of Stonehenge and much of this part of the WHS. The relocation will also improve access to open space and nature and accessibility to active travel having a positive outcome on human health.
- 55.5.1 The Applicant notes however that it is beyond Highways England's remit to determine whether vehicular traffic may utilise other parts of the WHS in addition to the A303, such as the Public Rights of Way network on Byways 11 and 12. As such it cannot be said that the Scheme creates a traffic-free zone within the WHS, although it does support and enable significant reduction of surface traffic within the WHS.

55.6 Traffic and Transport

Key Issue

- 55.6.1 **Supporters of the project claim benefits of £40bn Gross Value Added (GVA) for the whole of the south-west from the complete upgrade of the south-east and south-west link. These organisations acknowledge there is already a major link between the two areas through the M4/M5. The overall scheme is therefore providing a second major link not satisfying an unfulfilled need. Economic benefits need considering in this context.**

Highways England response

- 55.6.2 It is acknowledged that there is already a major link to the south west via the M4/M5 corridor. The Highways England document ‘*Improving journeys to the South West: The case for the A303/A358 corridor*’ notes one of six

objectives of a full corridor upgrade being to improve resilience by easing “*the growing pressure on the other strategic route to the south west, the M4/M5, by establishing a reliable alternative*”. This highlights that the M4/M5 corridor will remain a key route to the South West. The proposed A303 Amesbury to Berwick Down scheme will improve journey time along the A303 but also has many other objectives. These are set out in ‘The Case for the Scheme and NPS accordancy’ [APP-294].

- 55.6.3 We note the Relevant Representations submitted by Devon County Council [RR-0105], Somerset County Council on behalf of the A303/A30/A358 Improvement Partnership [RR-1626], Heart of the South West Local Enterprise Partnership (LEP) [RR-1745], and Peninsula Transport Sub-National Transport Body [RR-2275] setting out the benefits to the South West region of an upgrade to the A303/A358 corridor. In addition, Written Representations from Devon County Council [REP2-085] and Heart of the South West LEP [REP2-099] make similar statements regarding the positive contribution of an upgraded corridor to the wider economy of the South West.
- 55.6.4 Whilst the economic benefits and support noted in the referenced Relevant Representations and Written Representations make the case for a fully-dualled A303/A358 corridor, it should be noted that the economic benefits of the scheme and the information submitted as part of the Development Consent Order (DCO) application have considered the benefits accruing from the proposed A303 Amesbury to Berwick Down scheme individually. Chapter 5 of the Combined Modelling and Appraisal (ComMA) report [APP-298] summarises the method undertaken to derive economic benefits from the local transport model. This methodology followed the guidance given in the Department for Transport’s (DfT) Web-based Transport Analysis Guidance (WebTAG) unit M4 ‘Forecasting and Uncertainty’ and unit A1-1 ‘Cost-benefit analysis’. As noted in our response to question TR.1.11 of Written Questions [REP2-036], Table 5-3 of the ComMA provides a breakdown of the travel time benefits, showing that 55% of user benefits of the scheme accrue to business related purposes. This highlights that the scheme will provide a benefit to the economy of the South West region throughout the year as a result of travel time savings.

Key Issue

- 55.6.5 **The WHS Management Plan emphasises the detrimental impact of motor vehicles and the desirability of getting visitors away from the major monuments and exploring the wider setting by foot. Therefore we believe no new Byways Open to All Traffic (BOATs) should be created. In particular we see no justification for upgrading bridleway BSJA3 to Byway Open to All Traffic (BOAT) and continuing it eastwards along the existing A303.**

Highways England response

- 55.6.6 No new BOATs are proposed in the WHS. The short section of BSJA3 in question is to the west of Winterbourne Stoke, outside the WHS. Most of BSJA3 running north-westwards from the B3083 in Berwick St. James is currently a designated BOAT which then, according to the Definitive Map, links to the A303 via a short length of BSJA3A. However, BSJA3A is inaccessible/unusable and the existing de facto BOAT access on the ground is via the short section of BSJA3 which happens to be a designated bridleway. The proposed upgrade of this short section of BSJA3 is needed to preserve a continuous BOAT link via the existing BSJA3 BOAT to the old A303 and eastwards into Winterbourne Stoke.

Key Issue

- 55.6.7 **We approve the downgrading of the existing A303 route to Restricted Byway since this would facilitate north and south circuits of the central part of the WHS and give access to the Winterbourne Stoke group of tumuli. Retaining it as a BOAT would run counter to the Management Plan and if it had a grass surface (in keeping with Management Plan Policy 3g “Maintain, enhance and extend existing areas of permanent grassland where appropriate”) it would not sustain vehicle use.**

Highways England response

- 55.6.8 To prevent damage to the surface from authorised use, the existing A303 will have a bound surface, but the nature and colour are not decided. The Environmental Statement Chapter 2 [APP-040] states at para 2.3.56 d) “...The bound surface would be suitably coloured at year 1 of operation to be visually recessive and sympathetically integrated within the WHS, to a visually acceptable level...”
- 55.6.9 Within the World Heritage Site (WHS), commitments with regard to surfacing are set out at items D-CH2, D-CH3 and D-CH14 of the Outline Environmental Management Plan [APP-187] (a revised version of which is submitted at Deadline 3) which provide for, respectively, the breaking up of the redundant A303 and A360 within the WHS, and that provision of surfacing within the WHS shall be developed in consultation with National Trust, Historic England, English Heritage and Wiltshire Council.
- 55.6.10 As such, the choice of the bound surface material and colour will be established through consultation between Highways England and the relevant Stakeholders. Further information is provided in the Applicant's Deadline 2 submissions on public rights of way (REP2-040).

Key Issue

- 55.6.11 **We are very concerned about the future use of what have become known as Byways 11 and 12. Their existence prevents the removal of**

the incongruous presence of motor vehicles from the central part of the WHS, which would be a major boost for the Management Plan.

- 55.6.12 **Byway 12 is exceptionally objectionable in that it crosses the major earthwork of the Cursus; passes close to the Stonehenge circle itself; cuts through the Normanton Downs barrow complex and RSPB reserve; and passes a number of other earthworks/barrows before disgorging on the A360. All these remains are at risk from recreational off-road vehicles. Our experience of Putwell Hill and Pindale in the Peak District is that the humps and hollows resulting from buried ancient monuments are an irresistible attraction to many off-roaders. If left unaltered, both these Byways will encourage vehicular approach to Stonehenge itself and the concomitant parking and unofficial camping. We believe the right to use mechanically propelled vehicles on them should be removed.**
- 55.6.13 **We appreciate that under s136 of the Planning Act 2008, a right of way cannot be extinguished by the project unless there is an alternative; or one will be provided; or there is no need for an alternative. However s136 does not say that the alternative has to be a right of way with an identical status to one extinguished. Alternatives to Byways 11 and 12 exist through the normal tarmac road network – Byway 11 via the minor C42 road running alongside the river Avon, either north east to the Countess roundabout or south west to the A360 via Middle Woodford; Byway 12 via the diversionary routes already defined for traffic barred from using the tunnel. Recreational motor vehicle users claim forcing them on to the tarmac road network decreases their safety. Nevertheless they use this network extensively to link BOATs.**

Highways England response

- 55.6.14 Highways England wish to ensure that the Scheme is integrated within the existing byway network and, where the opportunity exists, create legacy benefits for non-motorised users in accordance with its Strategic Business Plan and Roads Investment Strategy, which are aligned with Government policy to encourage walking, cycling & horse-riding through national and local policies and plans. It is not necessary to change the status of byways AMES 11 and AMES 12 to integrate the Scheme in to the network. Changing the status of the existing BOATs is therefore beyond the scope of the Scheme and is a matter for Wiltshire Council to consider as the local highway authority.

Key Issue

- 55.6.15 **We definitely do not want to re-instate a link between them and risk possible damage to as yet undetected archaeological remains.**

Highways England response

- 55.6.16 A link to the south of the existing A303 between Byways 12 and 11 (AMES12 and AMES11 respectively) was originally proposed as it had been previously determined that mechanically propelled vehicles should not be allowed to use the public right of way along the de-trunked A303 through the World Heritage Site (WHS). This aligns with the desire to remove the sight and sound of traffic caused by the existing A303 as far as possible. The removal of the link from the Scheme proposals was one of three changes put forward for supplementary consultation, the feedback from which is summarised in Chapter 6 of the Consultation Report [APP-026].
- 55.6.17 Following analysis of the consultation feedback, and ongoing engagement particularly with heritage bodies and Wiltshire Council, Highways England confirmed that it would no longer propose a new link between Byways 11 and 12. The removal of this proposed link avoids having an additional route open to vehicular traffic within the WHS, which would have adversely affected the setting of the Normanton Down barrow group and increased disturbance of nesting Stone Curlew in the Normanton Down RSPB Reserve. The removal of this proposed link also avoids changes to the tranquillity of the WHS at this location. This change will help achieve Highways England's objective to remove the sight and sound of traffic from much of the WHS landscape, a key aspiration also of the WHS Management Plan.

Key Issue

- 55.6.18 **Byway 11 cuts through the Normanton Down barrows and would become a dead-end at the line of the old A303. We feel this would result in two way traffic for sightseeing.**

Highways England response

- 55.6.19 The Scheme's proposal to not provide a link between Byways 12 and 11 (AMES12 and AMES11 respectively), will consequently necessitate two-way movements on Byway 11. A turning area is therefore proposed on Byway 11 which will allow users of mechanically propelled vehicles to turn and travel south. Non-motorised users will be able to continue onto the former A303.

56 Paul Garwood (REP2-191)

56.1 Cultural Heritage

Key Issue

- 56.1.1 **The proposal to keep the western tunnel portal and a greatly widened road for a kilometre within the WHS is out of keeping with both the UNESCO statement of Outstanding Universal Value (OUV) for the WHS (see Section 3) and current management and research strategies (see Section 4).**

Highways England response

The locations of the eastern and western portals and their approach roads in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. By removing the sight and sound of traffic from the vicinity of Stonehenge, the Scheme presents an opportunity to deliver benefits for the WHS. In determining the route and developing the design for approval Highways England has been working closely with the UK statutory and scheme-relevant heritage bodies (Historic England, Wiltshire Council Archaeology Service, the National Trust and English Heritage Trust). It will continue to work with these bodies as the detailed design is developed and, subject to approval, the Scheme is built. The Scheme is assessed in the Heritage Impact Assessment [APP-195] to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on three of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained.

Key Issue

- 56.1.2 **The close proximity of the Scheme road to the Winterbourne Stoke round barrow group (near Longbarrow roundabout) betrays a lack of understanding of the significance of such elite funerary complexes in the Stonehenge landscape and more widely (see Section 4).**

Highways England response

- 56.1.3 Archaeological considerations have been afforded the highest priority throughout the development of the Scheme, informing the choice of preferred route and influencing the design of the Scheme, geared towards

delivering its objective to 'help conserve and enhance the WHS' (please see the Environmental Statement (ES) Chapter 2 paragraph 2.1.4 [AP—040]).

- 56.1.4 All heritage assets (whether designated or not) and Asset Groups that contribute to the Outstanding Universal Value (OUV) of the World Heritage Site (WHS) have been assigned a Very High value in Environmental Statement Chapter 6 Cultural Heritage [APP-044] and the Heritage Impact Assessment (HIA) [APP-195]. The setting of heritage assets and Asset Groups and their inter-connections (physically and visually) are all considered as part of the ES Appendix 6.9 - Cultural Heritage Setting Assessment [APP-218] and the HIA [APP-195, Sections 6.9 and 6.10] alongside other factors [APP-199; APP-200; APP-201; APP-202; APP-203 and APP-204].
- 56.1.5 With reference to AG12 Winterbourne Stoke Crossroads Barrows, Highways England state that both the A303 and the A360, including the existing Longbarrow Roundabout, will be removed from immediately adjacent to the asset group. The A303 will move 150m to the south and be built in cutting to remove the sight and sound of traffic from immediately adjacent to the asset group. The benefits of this are demonstrated by the photomontages and CGIs presented in the ES Chapter 6, Appendix 6.9 [APP-218] (Figure 4, Figure 5 and Figure 7).

Key Issue

- 56.1.6 **It is evident that interference with the spatial and visual settings and experiential properties of Early Bronze Age barrow groups risks seriously compromising their significant part in the OUV of the WHS.**

Highways England response

- 56.1.7 The spatial and visual settings and experiential properties of the Early Bronze Age barrow groups are part of the attributes that convey the OUV of the WHS. The effects of the Scheme on the attributes of OUV and the integrity and authenticity of the WHS are set out in sections 11 and 12 of the Heritage Impact Assessment (HIA) [APP-195] and are summarised as follows.
- 56.1.8 The Scheme will bring substantial benefits to large parts of the WHS, in particular the tunnel section where Very Large Beneficial effects will be experienced by Stonehenge itself (Attribute 1) and Large Beneficial effects will be experienced by its solstitial alignment (Attribute 4). Slight Beneficial effects will be experienced in relation to the siting of monuments in relation to each other (Attribute 5), within the landscape without parallel (Attribute 6), and with regards to the influence that the monuments and their landscape setting have on architects, artists, historians, archaeologists and others (Attribute 7). Slight Adverse effects will be experienced on physical archaeological remains (Attribute 2). There will be Slight Adverse effects upon the siting of monuments in relation to the landscape (Attribute 3) due to

the positioning of new cuttings within the WHS (western and eastern approach roads and portals), which avoid known archaeological remains that contribute to the OUV of the WHS but introduce new severance and impacts on the setting of assets and Asset Groups.

- 56.1.9 The OUV of the WHS would be sustained overall by the construction of the Scheme, which would create opportunities for greater public access, appreciation and enjoyment of the WHS, through increased connectivity between key monuments and monument groups north and south of the existing A303. The Scheme would thus enable beneficial opportunities for the transmission of OUV and increasing the public's awareness, understanding and perception of the OUV of the WHS in a local, regional, national and international context.

Key Issue

- 56.1.10 **Although the A303 scheme provides an opportunity to make the barrow group more accessible and improve its immediate setting by distancing the road network by c.100--300 m from the current road corridors (A303 to the south, and A360 to the west), other aspects of the scheme will intrude on the monument complex in highly damaging ways (see Figs. 2, 3).**

Highways England response

- 56.1.11 The Applicant considers that the removal of the existing surface A303 and the existing Longbarrow Roundabout, with the placing of the new A303 in deep cutting 150m south of its present alignment, together with the downgrading of the existing A360 and A303 to restricted byways, will bring substantial benefits to the setting of the Winterbourne Stoke barrow group through the removal of existing severance and visual and noise intrusion. The effects of the Scheme on the Winterbourne Stoke Barrow Group are assessed as Moderate beneficial overall (ES Ch 6 Table 6.11, Asset Group AG12 [APP-044]). The benefits of this are demonstrated by the photomontages and CGIs presented in the ES Chapter 6, Appendix 6.9 [APP-218] (Figure 4, Figure 5 and Figure 7).
- 56.1.12 The constructed Scheme will improve the visitor experience by increasing landscape tranquillity within the WHS as set out in APP-045 paragraph 7.9.53 and improving the visual connectivity of the many heritage features within the WHS. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole and the OUV of the WHS would be sustained. Further information can be found in the ES Chapter 6, Cultural Heritage [APP-044] and ES Appendix 6.1, Heritage Impact Assessment [APP-195].

Key Issue

- 56.1.13 **Potential public benefits that the scheme could provide during operation are thus outweighed and indeed compromised:**
- 56.1.14 **Appreciation of the visual orientation of the linear barrow array, and its directional development from northeast to southwest (see Figs. 4, 5), would be seriously affected by the line of the huge new A303 cutting and four-lane carriageway just 100m beyond the Early Neolithic long barrow at the southwest end of the funerary complex.**

Highways England response

- 56.1.15 The Applicant considers that the removal of the existing surface A303 and the existing Longbarrow Roundabout, with the placing of the new A303 in deep cutting 150m south of its present alignment, together with the downgrading of the existing A360 and A303 to restricted byways, will bring substantial benefits to the setting of the Winterbourne Stoke barrow group through the removal of existing severance and visual and noise intrusion. The A303 will move 150m to the south and be built in cutting to remove the sight and sound of traffic from immediately adjacent to the asset group. The benefits of this are demonstrated by the photomontages and CGIs presented in the ES Chapter 6, Appendix 6.9 [APP-218] (Figure 4, Figure 5 and Figure 7). This change will particularly benefit appreciation of the visual orientation of the linear barrow array, and its directional development from northeast to southwest.
- 56.1.16 The constructed Scheme will improve the visitor experience by increasing landscape tranquillity and improving the visual connectivity of the many heritage features within the WHS. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole and the OUV of the WHS would be sustained. Further information can be found in the ES Chapter 6, Cultural Heritage [APP-044] and ES Appendix 6.1, Heritage Impact Assessment [APP-195].
- 56.1.17 The design has been carefully chosen in order to improve the setting of many heritage assets and asset groups in the central part of the WHS including the Winterbourne Stoke barrow group; remove the intrusive sight and sound of traffic from the existing A303 as far as possible within the WHS; and design a scheme that is minimally intrusive in both the western and eastern parts of the WHS, including in key views from assets groups that contribute to the OUV of the WHS.

Key Issue

- 56.1.18 **Potential public benefits that the scheme could provide during operation are thus outweighed and indeed compromised:**
- 56.1.19 **The presence of a huge road junction, which starts to expand the A303 road line just c.250 m to the southwest of the long barrow, comprising**

multiple intersections, slip roads, two roundabouts, and a flyover, would have an overbearing visual presence in the landscape. This would adversely affecting vistas to the west and southwest of the Winterbourne Stoke Crossroads barrows in ways that cannot be mitigated, and are unrecoverable .

Highways England response

- 56.1.20 The new Longbarrow junction would be constructed approximately 600m west of the existing Longbarrow roundabout. The junction would consist of two roundabouts connected by a short length of dual carriageway, carried over the A303 (which will be in deep cutting at this point) on a new green bridge with earth bunds on each side, to help mitigate visual impact and to provide ecological connectivity. **The roundabouts and approach roads would be set below existing ground level [APP-040, para. 2.3.10]**; there would be no 'flyover'. The careful siting within the landform together with proposed woodland planting and hedgerows adjacent to the A360 slip roads (as shown indicatively on the Environmental Masterplan, figure 2.5E [APP-059]) would reduce the visual impact of the new junction in views from the WHS. This is also in the context of the Scheme proposing to remove the vehicles on part of the A360, Longbarrow roundabout and its lighting columns which are in closer proximity to the Winterbourne Stoke Group than the Scheme. The proposed A303 alignment, new Longbarrow junction and approach roads will not be lit.
- 56.1.21 The A360 approach roads to the new junction would re-join the existing alignment some 900m north, and 800m south, of the existing Longbarrow roundabout. Approximately 1.7km of the existing A360 would be downgraded to a restricted byway.
- 56.1.22 The existing Longbarrow roundabout and approximately 430m of the existing A303 west of the roundabout would be removed and the land restored to chalk grassland (as shown indicatively on the Environmental Masterplan, figure 2.5E [APP-059]).
- 56.1.23 At its closest point, the realigned A360 would be approximately 80m from the north-western extent of the Winterbourne Stoke barrow group (see Works Plans, sheet 16 [PP-008]). The realigned section of the A360 (north) would be set approximately 3m below existing ground level (see Engineering Section drawings, sheet 5 [APP-011]) and would be hedged (as shown indicatively on the Environmental Masterplan, figure 2.5E [APP-059]) to assist in blending the new infrastructure into the landscape. The land between the realigned A360 (north) and the existing A360 would be returned to agriculture.
- 56.1.24 In terms of planting and landscaping, please note that under requirement 8 of Schedule 2 of the draft development consent order [REP2-003] Highways England will be required to submit a detailed landscaping scheme.

- 56.1.25 With regard to the vistas to the west and south-west of the Winterbourne Stoke barrow group, the new Longbarrow junction has been sited to minimise its visibility from the WHS by being set below existing ground levels. The junction layout and design have been carefully considered to integrate the new infrastructure, with the connecting carriageway carried on Green Bridge 3 set within 2 metre high bunding [APP-059], and provided with landscape mitigation in the form of hedgerow and woodland planting which, when mature (at year 15), would help conceal traffic using the junction.
- 56.1.26 The Applicant therefore considers that the removal of the existing surface A303 and the existing Longbarrow Roundabout and sections of the A360 adjacent to Winterbourne Stoke barrow group, along with the placing of the new A303 in deep cutting 150m south of its present alignment, together with the downgrading of the existing A360 and A303 to restricted byways, will bring substantial benefits to the setting of the Winterbourne Stoke barrow group through the removal of existing severance and visual and noise intrusion.

Key Issue

- 56.1.27 **Potential public benefits that the scheme could provide during operation are thus outweighed and indeed compromised:**
- 56.1.28 **The widening and deep cutting of the A303 would permanently change the terrain of the WHS Stonehenge landscape and create a fissure between the Winterbourne Stoke Crossroads barrows and the wider funerary landscape. This would separate the long barrow from rest of the Early Neolithic barrow cluster to the south, and physically and visually divide the Early Bronze Age funerary complex from the barrow groups and wider sacred landscape to the southeast.**

Highways England response

- 56.1.29 With reference to AG12 Winterbourne Stoke Crossroads Barrows, Highways England state that both the A303 and the A360, including the existing Longbarrow Roundabout, will be removed from immediately adjacent to the asset group. The A303 will move 150m to the south and be built in cutting to remove the sight and sound of traffic from immediately adjacent to the asset group. The benefits of this are clearly demonstrated by the photomontages and CGIs presented in the ES Chapter 6, Appendix 6.9 [APP-218] (Figure 4, Figure 5 and Figure 7).
- 56.1.30 With regards to AG13 Diamond Group to the south, the A360 currently bisects the group and the A303 additionally severs the group from AG12 Winterbourne Stoke Crossroads Barrows to the north. The scheme design removes traffic and severance from within the asset group by realigning the A360 and Longbarrow junction further to the west. Green Bridge 4 maintains visual and physical landscape connectivity with AG12 Winterbourne Stoke

Crossroads Barrows to the north and access between the two groups via new NMU routes, and this combined with the essential chalk grassland mitigation, improves the visitor's ability to appreciate the setting, in the context of reduced views and sounds of traffic.

- 56.1.31 Regarding AG19 Normanton Down Barrows, the scheme would remove the existing A303 surface road to the north of the asset group, which severs its relationship with Stonehenge as well as many other asset groups to the north of the A303, including AG12 Winterbourne Stoke Crossroads Barrows. The scheme would restore the setting of much of the AG19 Normanton Down Barrows, its sense of place, and visitors' ability to appreciate them within a seamless landscape, noting that long distance views from the northern end of the asset group will include minor intrusion from the western approach cutting and Green Bridge 4. Amongst other benefits of the restored setting of AG19 Normanton Down Barrows would be the enhanced access, enabling an uninterrupted traverse between Stonehenge and the Normanton Down Barrows along Byways 11 and 12. The removal of the visual and audible impacts of traffic would be beneficial to the setting of the asset group as a whole. Views from numerous individual monuments within the asset group would be improved, and compromised sightlines restored. These include key views, including those between the Sun Barrow and Stonehenge, and between Stonehenge and the core of the Normanton Down asset group. From the core of the group, traffic would not be visible, while traffic noise would be significantly reduced.

Key Issue

- 56.1.32 **Two major geophysical survey projects have been mounted within the WHS since 2010: the Stonehenge Hidden Landscapes Project (SHLP), and the Stonehenge Landscapes EMI (SLE) project (see Section 3). These have produced new datasets of unprecedented scale and detail, revealing thousands of new features, including new monuments, with major implications for how we understand the properties and potential of subsurface cultural heritage assets (see Sections 3---5).**
- 56.1.33 **The SLE project excavations have also revealed the presence of feature types not recognised or investigated before within the WHS , both anthropogenic and natural, some of exceptional importance for interpretations of the prehistoric landscapes in the environs of Stonehenge.**
- 56.1.34 **The A303 evaluation process does not appear to have taken account of the methodological and research implications of these geophysical and geoarchaeological projects, despite their significance for the scheme (Sections 4---6).**
- 56.1.35 **Existing research frameworks for the WHS do not fully reflect current knowledge of the richness and complexity of subsurface evidence, while future technological advances will inevitably generate new kinds**

of evidence. In this light, the A303 evaluation process does not seem to be comprehensive using even current techniques, or compliant with present WHS research and management strategies.

- 56.1.36 **Consequently, understanding the significance of new geophysical data and their implications for understanding landscapes such as the Stonehenge WHS is an on-going process, and present knowledge and interpretative assumptions will inevitably change. Approaches to both geophysical evaluation of the A303 route, and consideration of the evidence sets provided by SHLP, for example, do not appear to reflect these current conditions of enquiry.**
- 56.1.37 **Integration of multiple survey methods, which recover entirely different kinds of data (i.e. what is 'visible' in one is very often not evident in another), should be a condition of all present and future geophysical survey projects, and fundamentally so where there is any possibility of ground disturbance. It does not appear that assessment of the subsurface evidence along the A303 route has involved (let alone integrated) all currently available geophysical survey methods, such as magnetometry, earth resistance, GPR, and EMI.**
- 56.1.38 **(As the SHLP demonstrates, the development and application of new geophysical survey techniques, and the enhancement of existing systems, is a continuous process with unknown future potential. The outcomes of technical innovation in this area cannot be anticipated and may produce new technologies (e.g. gravimetry experiments during the SHLP) that allow for data capture in unprecedented ways. Destruction of parts of the WHS in this context will deny future researchers access to potentially significant data that are currently unrecognised/unrecoverable.**
- 56.1.39 **Except for basic survey results provided by the SHLP (noted in Highways England 2018a, 23), the A303 evaluation process does not appear to have taken account of the methodological and research implications of these projects, despite their significance for the scheme.**

Highways England response

- 56.1.40 The A303 evaluation process draws from and integrates with an extensive archaeological baseline. These studies provide the context in which field work undertaken for the present assessment needs to be understood. Those that fall within the study area were utilised (and thus provide the context for the field work specifically undertaken to inform this assessment). Results from major research projects within the Stonehenge landscape including the geophysical survey of the Stonehenge Hidden Landscape Project (SHLP) (2010-16) and a series of high resolution electromagnetic induction (EMI) surveys undertaken by the University of Ghent and the University of Birmingham (2012-15) were reviewed and formed the basis of the

assessment for cultural heritage, please see section 6.6.12 of ES Chapter on cultural heritage [APP-044], alongside detailed magnetometer and GPR surveys undertaken by both Historic England and the Arup Atkins Joint Venture (AAJV) (at Stage 2 of the project) within the WHS. Geophysical survey data was kindly released to the project from the Stonehenge Hidden Landscapes Project (SHLP) team for the section above the tunnel along with an interpretation report of the results by SHLP staff.

- 56.1.41 The Archaeological Evaluation Strategy Report and its accompanying Overarching Written Scheme of Investigation (including proposals for extensive geophysical surveys) were approved by the Heritage Monitoring and Advisory Group (HMAG) as well as the Scientific Committee (which included a geophysical survey expert and member of the SHLP - Professor Vince Gaffney). The full Scheme boundary has been covered by non-intrusive archaeological geophysical survey (including detailed magnetometer survey and multi-channel GPR survey of the western approach cutting in the WHS, as well as targeted earth resistance and GPR survey as part of the survey programme of areas outside the WHS boundary during Stage 3 of the project) and this and the results of historic surveys allow a robust assessment of likely impacts.
- 56.1.42 The A303 project team met with staff from the Stonehenge Landscapes EMI (SLE) project when they presented the results of their work to the Heritage Monitoring and Advisory Group (HMAG). Although staff from the SLE project was asked, at the meeting, to release their results to both HMAG and the A303 Project Team, unfortunately they were unwilling to do so. It should be noted that all of the area covered by the SLE project lies to the north of the A303 and does not fall within the Scheme order limits, other than a small area to the west of Stonehenge Cottages and King Barrow ridge.
- 56.1.43 Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction, to avoid, as far as is practicable, previously unknown archaeological remains being uncovered during construction. The Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] submitted at Deadline 2, is being developed in consultation with Wiltshire Council Archaeology Service, the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust, and English Heritage) and with inputs from the Scientific Committee, and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003].
- 56.1.44 The archaeological results and the archive of finds and reports would be available for study in the future, enabling knowledge of the ancient landscape to be re-evaluated as knowledge of our past and scientific techniques evolve.
- 56.1.45 In terms of the possibility of future technological innovation, the Applicant has identified in detail the extensive problems that are currently caused or exacerbated by the existing A303, and has further identified why the Scheme

is vital in addressing those problems to the benefit of the region including the WHS itself. It is an unpersuasive position to assert that the Scheme should be prevented from being progressed in the face of a speculative argument that future technology may discover more information in this area of the WHS. This is particularly the case having regard to the comprehensiveness of the assessment undertaken and the mitigation measures in place in the Detailed Archaeological Mitigation Strategy (DAMS) submitted at Deadline 2 of this Examination [REP2-038]. The application documents, in particular the Case for the Scheme [APP-294], have set out the need for the Scheme; it is neither appropriate nor a feasible approach to delay or prevent a development on the basis that there could potentially be better technologies in future. Taking that approach, no infrastructure would ever be delivered, despite the need for it. In any event, were future technologies to be developed, the Applicant has built into the Scheme via the DAMS the ability to allow for archaeological remains that are excavated as part of the Scheme works to be preserved in anticipation of further analysis.

Key Issue

- 56.1.46 **It is recommended that the A303 scheme minimises damage to the WHS by moving the western tunnel portal to a point outside the WHS, that evaluations of scheme proposals should involve wider and more in---depth consultation with archaeological researchers, and that the full range of geophysical and archaeological methods currently available are used for evaluation purposes.**

Highways England response

- 56.1.47 Extensive consultation with HMAG and the Scientific Committee of independent archaeological experts in the Stonehenge landscape has been undertaken. The Applicant further considers that the range of geophysical and archaeological methods that have been implemented in designing the Scheme have been robust, thorough and comprehensive. For further detail, please see the Applicant's response to issue 56.1.32 above.
- 56.1.48 The locations of the eastern and western portals in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost. For further details, please see the Applicant's response to the First Written Question item AL.1.29.

Key Issue

- 56.1.49 **...where proposed ground works would permanently reconfigure the landscape and destroy all subsurface evidence in the areas affected: c.10 ha of the WHS from the western tunnel portal to the edge of the WHS, and at least 20 ha in the area of the proposed Longbarrow**

Junction and A360 road realignments. It is not clear at present what full archaeological ‘mitigation’ might amount to, but determining a DAMS based only on conventional programmes of (mainly) magnetometer survey, topsoil sampling (with dry sieving), and evaluation trenching conducted (cf. Highways England 2018b) seems inadequate in the light of the geophysical and geoarchaeological research outlined above.

Highways England response

- 56.1.50 The Deadline 2 Submission Draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] sets out the structured, iterative detailed archaeological mitigation strategy. The DAMS is being developed in consultation with the Heritage Monitoring Advisory Group (which includes Wiltshire Council) and the Scientific Committee. It will be finalised prior to the end of the Examination, and will be a certified document, and is secured by Requirement 5 of Schedule 2 of the draft development consent order [REP2-003]. The DAMS is rooted in a heritage research-led framework [REP2-038; Section 2].

Key Issue

- 56.1.51 **Moreover, a key lesson from recent developments in archaeological field methods is that current knowledge does not reflect the richness, complexity and value of subsurface evidence, and that investigative techniques will be augmented in the future by new methods that will continue to generate greater and unprecedented new data.**

Highways England response

- 56.1.52 The preferred route was carefully chosen to avoid known archaeological remains. A comprehensive programme of archaeological evaluation surveys (see ES Chapter 6 Cultural Heritage, paragraphs 6.6.13 – 6.6.52 and REP1-039 – REP1-056), covering the entire red line boundary of the scheme, has informed the scheme being designed in a way that has limited archaeological impacts where this is practicable. Examples of how the design has been developed to limit impacts on archaeology include the choice of a northern bypass of Winterbourne Stoke, the reduced footprint and land take for Rollestone Corner, and the design and placement of the western and eastern tunnel portals and approaches in areas that have been shown to have limited archaeological remains within their footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Table 6.9. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction, to avoid, as far as is practicable, previously unknown archaeological remains being uncovered during construction. The Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] submitted at Deadline 2, is being developed in consultation with Wiltshire Council Archaeology Service, the Heritage Monitoring Advisory

Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust, and English Heritage) and with inputs from the Scientific Committee, and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. The archaeological results and the archive of finds and reports would be available for study in the future, enabling knowledge of the ancient landscape to be re-evaluated as knowledge of our past and scientific techniques evolve.

- 56.1.53 In terms of the possibility of future innovation in investigative techniques, the Applicant has identified in detail the extensive problems that are currently caused or exacerbated by the existing A303, and has further identified why the Scheme is vital in addressing those problems to the benefit of the region including the WHS itself. It is an unpersuasive position to assert that the Scheme should be prevented from being progressed in the face of a speculative argument that future innovations may lead to the discovery of more information in this area of the WHS. This is particularly the case having regard to the comprehensiveness of the assessment undertaken and the mitigation measures in place in the Detailed Archaeological Mitigation Strategy (DAMS) submitted at Deadline 2 of this Examination [REP2-038]. The application documents, in particular the Case for the Scheme [APP-294], have set out the need for the Scheme; it is neither appropriate nor a feasible approach to delay or prevent a development on the basis that there could potentially be better technologies in future. Taking that approach, no infrastructure would ever be delivered, despite the need for it. In any event, were future technologies to be developed, the Applicant has built into the Scheme via the DAMS the ability to allow for archaeological remains that are excavated as part of the Scheme works to be preserved in anticipation of further analysis.

Key Issue

- 56.1.54 **Wilful destruction of sources of evidence within the Stonehenge WHS area is clearly out of keeping with both UNESCO's OUV statement and current WHS management and research strategies.**

Highways England response

- 56.1.55 The preferred route was carefully chosen to minimise effects on archaeology, and a comprehensive programme of archaeological evaluation surveys has informed the Scheme design to limit direct physical impacts as far as practicable, including limiting impacts on archaeological remains that contribute to the OUV of the WHS. The design has been carefully chosen in order to preserve archaeological remains along the 2 mile section of tunnel, improve the setting of many heritage assets and asset groups in the central part of the WHS including the Avenue, Stonehenge itself and the Winterbourne Stoke Crossroads Barrows; remove the intrusive sight and sound of traffic from the existing A303 as far as possible within the WHS; and design a scheme that is minimally intrusive in both the western and

eastern parts of the WHS, including in key views from assets groups that contribute to the OUV of the WHS. Examples of how the design has been developed to limit impacts on archaeology include, but are not limited to, the choice of a northern bypass of Winterbourne Stoke, the reduced footprint and land take for Rolleston Corner, and the design and placement of the western and eastern tunnel portals and portal approaches in areas that have been shown to have limited archaeological remains within their footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044]. Section 6.8, Table 6.9. The cultural heritage assessment, reported in ES Chapter 6, identifies the effects on known archaeological features whilst recognising the benefits that the tunnel will deliver for the WHS landscape as a whole. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction. The Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] submitted at Deadline 2 is being developed in consultation with Wiltshire Council Archaeology Service, the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust, and English Heritage) and with inputs from the Scientific Committee, and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003].

- 56.1.56 UNESCO's World Heritage Committee has been fully consulted on the Scheme, details of which are set out in the Consultation Report [APP-026] chapters 2 and 3, and UNESCO/ICOMOS recommendations have informed the development of the Scheme. The Scheme is assessed in the Heritage Impact Assessment [APP-195] to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on 3 of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained.

Key Issue

- 56.1.57 **Should the Scheme be approved in any form, the western tunnel portal should be moved at least**
- 56.1.58 **1.5 kms further west (as strongly advocated by the WHC/ICOMOS Advisory Mission; 2018, section 3.5), to ensure that there is no damage to intact subsurface deposits and features within the WHS.**

Highways England response

- 56.1.59 Alternative designs for the Scheme, including locating the western portal yet further west have been fully assessed and rejected. The Applicant refers to the response provided above for issue 56.1.46.

Key Issue

- 56.1.60 **Archaeological and heritage evaluations of the A303 scheme should involve far wider and more in--- depth consultation with archaeological researchers active in the WHS, and with those involved in the development and innovation of relevant field investigation techniques and methodologies.**

Highways England response

- 56.1.61 Highways England has engaged extensively with a very wide pool of consultees throughout the life of the Scheme to date and will continue to do so in the future.
- 56.1.62 Highways England has engaged regularly with key heritage stakeholders, including through the Heritage Monitoring Advisory Group (HMAG; which includes Wiltshire County Archaeology Services (WCAS), Historic England, National Trust, and English Heritage), and the Scientific Committee of eminent archaeological experts. Highways England have also consulted with the Avebury and Stonehenge Archaeological and Historical Research Group, the WHS Partnership Panel, the WHS Committees and the WHS Coordination Unit. HMAG and the Scientific Committee will continue to be consulted up to and through construction as set out in the draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] which is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. More information on engagement with archaeological and other heritage experts, including the parties of the Heritage Monitoring Advisory Group (HMAG), and the Scientific Committee of eminent archaeological experts, can be found in the ES Chapter 6, Cultural Heritage [APP-044] and the Consultation Report [APP-026].

Key Issue

- 56.1.63 **The full range of geophysical and archaeological methods that are currently available (of the kinds identified in Sections 3---5) should be used for evaluation purposes within the Stonehenge WHS (and indeed in all landscape settings where nationally significant archaeological evidence may be affected by development plans).**

Highways England response

- 56.1.64 A comprehensive programme of archaeological evaluations, the scope of which was agreed with the Heritage Monitoring Advisory Group (HMAG) and endorsed by the Scientific Committee, has been completed within the

scheme red line boundary, which includes land to be acquired temporarily and permanently, both within and outside of the WHS. The cultural heritage assessment, reported in Chapter 6 of the ES [APP-044], provides detail of the archaeological evaluation surveys and assessments that have been undertaken to inform the design of the scheme and on which the cultural heritage assessment is based.

- 56.1.65 The Archaeological Evaluation Strategy Report and its accompanying Overarching Written Scheme of Investigation (including proposals for extensive geophysical surveys) were approved by the Heritage Monitoring and Advisory Group (HMAG) as well as the Scientific Committee (which included a geophysical survey expert and member of the SHLP - Professor Vince Gaffney). The full Scheme boundary has been covered by non-intrusive archaeological geophysical survey (including detailed magnetometer survey and multi-channel GPR survey of the western approach cutting in the WHS, as well as targeted earth resistance and GPR survey as part of the survey programme of all areas outside the WHS boundary during Stage 3 of the project) and this and the results of historic surveys allow a robust assessment of likely significant impacts. Please also see the Applicant's response above, for issue 56.1.32.

57 Paul Gossage (REP2-167)

57.1 Cultural Heritage

Key Issue

- 57.1.1 ... although the current BM dig site is 20m away, it is logical that there is likely to be significant archaeology in the vicinity of the current site. In other words, further down towards the [Countess] roundabout ...

Highways England response

- 57.1.2 The Scheme would have no adverse impact on Blick Mead. Where it passes by Blick Mead, the Scheme has been kept within the current highway boundary at the level of the existing A303 and would not impinge upon the Blick Mead site.
- 57.1.3 Appendix 10.1 Preliminary GI Report [APP-273] notes at paragraph 5.4.2 that, 'Alluvium in the River Avon has, in general, been found to comprise soft peat overlying silty and clayey deposits. The peaty clay or peat layers were only encountered in the 1965 historical ground investigation [...] the larger part of the peaty deposits is likely to have been removed during the construction of the A303 works at and around Countess Roundabout in the late 1960s. This suggestion appears to be supported by the lack of findings of peaty deposits in the post-1960s ground investigations carried out in the same area'. It is likely that such removal will also have removed archaeological remains associated with the peaty material.

Key Issue

- 57.1.4 **EH say “There is no evidence that the proposed tunnel will damage the Mesolithic site of Blick Mead”. This is also untrue, and I am sure that the BM team will be giving an absolute abundance of scientific evidence to refute this ridiculously false claim.**

Highways England response

- 57.1.5 The Scheme would have no adverse impact on Blick Mead. Where it passes by Blick Mead, the scheme has been kept within the current highway boundary at the level of the existing A303 and would not impinge upon the Blick Mead site.
- 57.1.6 Appendix 10.1 Preliminary GI Report [APP-273] notes at paragraph 5.4.2 that, 'Alluvium in the River Avon has, in general, been found to comprise soft peat overlying silty and clayey deposits. The peaty clay or peat layers were only encountered in the 1965 historical ground investigation [...] the larger part of the peaty deposits is likely to have been removed during the construction of the A303 works at and around Countess Roundabout in the late 1960s. This suggestion appears to be supported by the lack of findings of peaty deposits in the post-1960s ground investigations carried out in the

same area". It is likely that such removal will also have removed archaeological remains associated with the peaty material.

- 57.1.7 The archaeological site at Blick Mead would be screened from the Scheme by the natural landform and the dense vegetation along the northern boundary of the park to the west of the proposed new grade separated Countess junction. It is not considered that the Scheme would impact upon the setting of the Blick Mead archaeological site. Any impact would not extend far into the Amesbury Abbey RPG due to screening provided by the dense vegetation that covers the majority of the northern part of the asset. The settings of the majority of assets, including the Blick Mead archaeological site, within the park would be unchanged as a result of the Scheme [APP-218, para. 3.4.10].
- 57.1.8 The implications of the Scheme for the Blick Mead site have also considered potential impacts on groundwater levels and flows at the site, including the influence of highway drainage on water levels, concluding that the drainage may be contributing some overland flow to the Blick Mead site, though only during times of heavy rainfall. The assessment shows that there will not be any adverse effects on spring flows at Blick Mead. However, given the interest in the site, both from members of the public and heritage bodies, hydrological monitoring at Blick Mead will continue and will include monitoring of the small-scale groundwater environment, including in relation to water levels and water quality at shallow depths. Further information can be found in ES Chapter 11, Appendix 4, Annex 3 Blick Mead Tiered Assessment [APP-282].

Key Issue

- 57.1.9 ... **EH are prepared to allow significant damage at the western portal too. Mike Parker Pearson says on YouTube that this area has "the densest concentration of Neolithic burial mounds in Britain." and it will be "severely damaged" even though "it is a special sacred landscape, developed over thousands of years which is unique in world terms and should be protected".**

Highways England response

- 57.1.10 The removal of the existing A303 surface road from the WHS landscape will result in extensive benefits for the World Heritage Site (WHS) including beneficial effects to many heritage assets within the WHS. The potential impacts and effects of the Scheme on inter-relationships between typological monument groups including the burial monuments in the area of the Western Portal were considered under 'Typological groupings in the Stonehenge landscape', paras. 6.9.39 & 6.9.44 - 6.9.47 and assessed in Section 9.3 Impacts and effects on long barrow groupings in the HIA [APP-195].
- 57.1.11 The preferred route for the Scheme was selected to avoid known archaeological remains, important sites and monuments. Subsequent design

development at the western tunnel approach, including mitigation measures to limit or avoid impacts, has been informed by a comprehensive programme of archaeological evaluation surveys, which have confirmed the limited nature of the archaeological remains within the construction footprint for the Western Portal and its approach cutting. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044] Section 6.8, Table 6.9. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction. The Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] identifies areas to be protected in-situ, will be developed further in consultation with Wiltshire Council Archaeology Service and the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust, and English Heritage), and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003].

Key Issue

- 57.1.12 **Similarly, Julian Richards says the tunnel will emerge “right into the heart of an unspoilt and incredibly significant area” which will be a “complete disaster” so he “objects really strongly” and says “future generations will say...what have you done to this absolutely *incredible landscape!*”**

Highways England response

- 57.1.13 With reference to paragraph 2.1.4 of Environmental Statement Chapter 2: The Scheme [APP-040], the objectives for the Scheme include to “help conserve and enhance the World Heritage Site and make it easier to reach and explore”.
- 57.1.14 The priorities of the World Heritage Site Management Plan (2015) include the reduction of the dominance and negative impacts of roads and traffic and ensure any improvements to the A303 support this (WHS Management plan page 11).
- 57.1.15 The location and design of the tunnel portals have been optimised in terms of the natural topography of the area, impact within the WHS and the extent of benefit that will be secured by one of the key aims of the scheme which is to remove the sight and sound of the A303 traffic from much of the WHS landscape.
- 57.1.16 The location of the western portal has been located to avoid impact on a scheduled barrow (NHLE No. 1010832 – Bowl barrow south of the A303 and north west of Normanton Gorse) that contributes to the OUV of the WHS; and a 200m cut-and-cover extension, or canopy, was added for improvement in landscape and visual connectivity and tranquillity within the WHS. At the eastern end a cut-and-cover extension has been added to suit

topography for improvement in landscape and visual connectivity and tranquillity within the WHS.

- 57.1.17 Additionally, once emerged from the eastern tunnel the alignment of the proposed Scheme would be in very close proximity to the alignment of the existing A303 and would not directly impact the Nile Clumps, as shown indicatively on the Environmental Masterplan [APP-052].

Key Issue

- 57.1.18 **[HE] are even prepared to sacrifice important archaeological sites to the east and west of the WHS, despite UNESCO saying that the benefits of a tunnel cannot be offset against the damage that would be caused elsewhere.**

Highways England response

- 57.1.19 The recommendations of the UNESCO/ICOMOS missions carried out in 2015, 2017 and 2018 and the subsequent decisions of the World Heritage Committee have been considered carefully and aspects of the design have been altered to address their recommendations.
- 57.1.20 UNESCO/ICOMOS recommendations and World Heritage Committee decisions have informed the development of the Scheme throughout its development and its design responds to these including: the route alignment selected as the preferred route avoiding the winter solstice sunset alignment and the bisecting of the Diamond Group; setting the road in deep retained cuttings to minimise land take; determining the length of the tunnel to avoid the Scheduled Monument known as the Avenue (NHLE 1010140) at its eastern end and a Bowl barrow south of the A303 and north west of Normanton Gorse (NHLE 1010832) at its western end – the tunnel length has been extended to 2 miles (or 3km) in length; the further addition of 200m of canopy at the western portal and 85m of canopy at the eastern portal to further extend the tunnel (to almost 3.3km) to aid landscape integration; the optimization of the positions of the tunnel portals at the head of dry valleys in the landscape in order to reduce the length of cutting (and minimise the length of the culvert part of the tunnel in the western approaches); the addition of the 150m long land bridge to maintain physical and visual connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group and the removal of the surface A303 into a tunnel and approach cuttings to reduce noise and improve the tranquillity of the WHS. In order to minimise light spill measures have included no lighting of the new Longbarrow junction or the approach cuttings, new directional lighting at Countess junction replacing the existing non-directional lighting, lighting of the portals would be designed to minimise light spill out in to the WHS landscape and lighting under the land bridge will only operate during daylight hours. To minimise the visibility of new infrastructure within the WHS, signage and other highways installations will sit completely within the approach cuttings and not extend above them. Further information on the

missions, including how Highways England has considered the recommendations of UNESCO/ ICOMOS, can be found in the Consultation Report [APP-026], Chapters 2 and 3.

- 57.1.21 The Scheme design submitted for development consent has evolved substantially since the last UNESCO/ICOMOS mission was carried out in early 2018 and following submission of the DCO, UNESCO has been notified of the application. It is expected that The State of Conservation Report (SOCR) prepared by the Department for Digital, Culture, Media & Sport will be considered at the next meeting of UNESCO's World Heritage Committee, scheduled for summer 2019.
- 57.1.22 The World Heritage Committee decision recommended consideration of "further design refinement, with a view to avoiding impact on the OUV of the property, including longer tunnel options". The locations of the eastern and western portals in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost.

57.2 Design

Key Issue

- 57.2.1 **In reference to English Heritage's statement relating to distance of the project from Blick Mead:**
- 57.2.2 **EH's 700m figure is wrong. It is an exaggeration of the true figure by 40%.**

Highways England response

- 57.2.3 Highways England notes this comment and considers that English Heritage will respond regarding any possible inaccuracies in its statement. However Highways England also notes that that the Land between the Blick Mead site and the Scheme is heavily wooded which provides visual screening of Blick Mead. The road would be at grade as it passes the Blick Mead site to the north, as is the existing A303. Blick Mead's current setting, as it is experienced today, is characterised by the wooded parkland landscape of Amesbury which restricts views in and out. This setting, and its relationship to the existing road, would not change through the construction of the Scheme. The flyover as it crosses over the current Countess Roundabout is located c.470m to the east-north-east and is visually screened from the site by woodland.

Key Issue

- 57.2.4 **In reference to English Heritage's statement relating to Blick Mead:**

- 57.2.5 ... *“any infrastructure needed to improve the Countess roundabout are well away from the site (BM)”*. This is completely untrue ...
- 57.2.6 ... [The] slip road will merge with the two westbound lanes at about 20m from the BM dig site.

Highways England response

- 57.2.7 Again, Highways England notes this comment and considers that English Heritage will respond in respect of its Statement. However Highways England considers it would be helpful to refer to previous information it has provided regarding the Scheme's effect on Blick Mead:
- 57.2.8 The Scheme would have no adverse impact on Blick Mead. Where it passes by Blick Mead, the scheme has been kept within the current highway boundary at the level of the existing A303 and would not touch the Blick Mead site.
- 57.2.9 Groundwater modelling indicates no impact on Blick Mead (Abbey Pond) or the River Avon (see Blick Mead Tiered Assessment presented, ES Appendix 11.4 – Groundwater Risk Assessment, Annex 3 [APP-282]). The ES therefore reports No change and a Neutral Effect on the Blick Mead archaeological site (Appendix 6.8 – Cultural Heritage - Summary of non-significant effects [APP-217, page 5]).
- 57.2.10 It is not considered that the Scheme would impact upon the setting of the Blick Mead archaeological site. The Setting Assessment found that “There would be an impact on the northern boundary and part of the eastern boundary of Amesbury Abbey RPG as a result of the Scheme. However, that impact would not extend far into the RPG due to screening provided by the dense vegetation that covers the majority of the northern part of the asset. The settings of the majority of assets [including the Blick Mead archaeological site] within the park would be unchanged as a result of the Scheme” [APP-218, para. 3.4.10].
- 57.2.11 The Setting Assessment further found that “The Scheme would run from west to east to the north of the northern boundary of the park, taking much the same route as the current A303 apart from the approach to the eastern tunnel portal to the north of Vespasian’s Camp in the north-west corner of the park. Here, the new road would run in cutting (Amesbury cutting), climbing gently to the east towards the proposed new grade-separated Countess junction in the location of the present Countess roundabout. The junction would comprise a flyover (Countess Flyover) across the centre of the current roundabout with bridges over the carriageways of Countess Road and ramps (Countess eastern and western diverges) to the east and west. The flyover would be provided with acoustic fencing to both sides. The majority of the park [including the Blick Mead archaeological site] would be screened from the Scheme by the natural landform and the dense vegetation along the northern boundary of the park to the west of the proposed new grade separated Countess junction” [APP-218, pp. 127-128].

Key Issue

- 57.2.12 ... the construction of the new road would require a wide corridor of construction access etc parallel with the side, and I am sure that would need to be more than 20m.

Highways England response

- 57.2.13 The construction of the new road will be carried out within The Order limits as defined by Article 2 of Part 1 of the draft development consent order [REP2-003] and shown by the red line on the Land Plans [APP-005]. It is within these limits that authorised development must be constructed, including those works required to facilitate it, or as incidental to it. Highways England has included sufficient land within the Order limits to construct the Scheme, including land required temporarily for the purposes of construction.

57.3 Flood risk, groundwater protection, geology and land contamination

Key Issue

- 57.3.1 ... the construction of the road and flyover and two extra feeder lanes (in and out of the roundabout) would dry out BM. They are near BM, and slightly lower height/contour wise, so would gradually suck away the moisture from BM and dry it out. And there is plenty of scientific evidence to prove that if any site dries out, then all carbon dating is lost.

Highways England response

- 57.3.2 The Scheme's potential impacts on groundwater levels and flows have been assessed and the assessment has shown that there will not be any adverse effect on groundwater levels at Blick Mead, or the preservation of its archaeological remains. Further information can be found in ES Chapter 11, Appendix 4, Annex 3, Blick Mead Tiered Assessment [APP-282], which was completed in accordance with Historic England's guidance. However, given the interest in the site, both from members of the public and heritage bodies, hydrological monitoring at Blick Mead is continuing and includes monitoring of water levels and springs at shallow depths.

Key Issue

- 57.3.3 With regard to Highways England's assessment of water table issues and potential impact on the Site:
- 57.3.4 ... David Jacques said at the Salisbury Racecourse hearing in April that Highways England are not doing this to the archaeological standard that EH should be insisting upon ...

Highways England response

- 57.3.5 The Scheme would have no adverse impact on Blick Mead. Where it passes by Blick Mead, the scheme has been kept within the current highway boundary at the level of the existing A303 and would not touch the Blick Mead site. As there is no direct physical impact from the scheme, a full programme of archaeological assessment is not required. In addition, the scheme's potential impacts on groundwater levels and flows (including consideration of surface rainwater run-off to outfalls in the area of Blick Mead) have been assessed and the assessment shows there would not be any adverse effect on spring flows and the overall water regime at Blick Mead. Further information can be found in ES Appendix 6.8, Table 1.2 [APP-217], and ES Appendix 11.4, Annex 3, Blick Mead Tiered Assessment [APP-282].
- 57.3.6 Regarding the drilling of boreholes, the applicant does not believe that the installation of its groundwater monitoring equipment, the location of which was shared with Professor David Jacques (Professorial Research Fellow in Archaeology, School of Humanities, The University of Buckingham who leads the archaeological work being undertaken at Blick Mead), has caused any damage to the Blick Mead site. Based on evidence provided by Professor Jacques' archaeological team to date, Highways England can confirm that none of the small diameter tubes were installed at Blick Mead in ground previously excavated. Highways England, and its consultants, have adhered to best practice guidelines in carrying out the work. A senior archaeologist was present on site, conforming to Chartered Institute for Archaeologists' (CIfA) Standard and Guidance, and due care has been exercised at all times. The applicant is committed to working with Professor Jacques to continue water monitoring at Blick Mead as part of his ongoing work.

58 Suzanne Keene (REP2-169 and REP2-170)

58.1 General and cross-topic questions

Key Issue

- 58.1.1 **The proposal does not comply with local, national and international policy and legislation.**

Highways England response

- 58.1.2 The Scheme, including the full EIA, is fully compliant with the relevant overarching and topic specific local, national, and international legislation and policy. The overarching legislative and policy context of the EIA is set out in Environmental Statement (ES) Chapter 1, Introduction [APP-039]. The topic specific legislative and policy context is set out in the Legislative and Policy Framework sections of each ES topic chapter [APP-043 to APP-053]. This includes, but is not limited to:

- The World Heritage Convention, as set out in ES Chapter 6, Cultural Heritage [APP-044], Section 6.2, Legislative and Policy Framework, and Heritage Impact Assessment (HIA) [APP-195], Chapter 4, Planning Policy Context. Details of the engagement with UNESCO's World Heritage Committee and international specialists are provided in the Consultation Report [APP-026], Chapters 2 and 3 and details of how the Scheme complies with this convention are set out in response to the ExA's Written Question G.1.1 in the Response to the Examining Authority's Written Questions - 8.10.1 General and cross-topic questions (G.1) [REP2-021];
- The Planning Act 2008, as set out in ES Chapter 1 [APP-039], Section 1.3, Legislative and Policy Framework;
- Relevant national planning policy and guidance is set out in the Legislative and Policy Framework sections of each ES topic chapter [APP-043 to APP-053] and the Scheme's compliance with the National Policy Statement for National Networks (NPSNN) is set out in the Case for the Scheme and NPS accordancy [APP-294];
- Local Plan policy for the World Heritage Site (WHS), as set out in ES Chapter 6, Cultural Heritage [APP-044], Section 6.2, Legislative and Policy Framework, and Heritage Impact Assessment (HIA) [APP-195], Chapter 4, Planning Policy Context;
- The WHS Management Plan, as set out in HIA [APP-195], Chapter 4, and in further detail in Section 12.3, Alignment with WHS Management Plan vision, aims and policies; and
- The Environmental Impact Assessment Directive (now 2011/92/EU rather than 85/337/EEC), compliance with which is expressed through

compliance with the Infrastructure Planning (EIA Regulations) 2017, compliance with which is set out in ES Chapter 1 [APP-039], Section 1.3, Legislative and Policy Framework.

Key Issue

- 58.1.3 **Public opinion, as expressed in Highways England’s consultations and in the Relevant Representations, is overwhelmingly against the proposal.**

Highways England response

- 58.1.4 The views of all those who have an interest in the Scheme will be considered during the Examination, as well as information and evidence presented during the hearings which are open to the public and interested parties. The final decision on the Scheme will be made by the Secretary of State for Transport.

Key Issue

- 58.1.5 **The benefits claimed by Highways England are few, misleading and are overwhelmed by very serious damage that would be created to landscape and archaeological evidence.**

Highways England response

- 58.1.6 The benefits and opportunities of the Scheme are presented in the Case for the Scheme [APP-294, pp. VII - IX]. Specific cultural heritage benefits comprise:
- “The removal of the A303 and its traffic will greatly improve the setting of Stonehenge. Visitors will be able see the stone circle and appreciate its connection to the rest of the WHS without the sight and sound of traffic intruding on their experience. This will help to protect and enhance the WHS and maintain its Outstanding Universal Value.
 - The removal of the A303 will allow the reconnection of The Avenue, which is currently severed by the existing road.
 - The existing road as it passes through the WHS will be altered for use by primarily NMUs.
 - The Scheme will improve access to and within the WHS.
 - Knowledge gained from any archaeological excavation within the WHS will be made publically available through close collaboration with key heritage stakeholders.”
- 58.1.7 The Scheme restores the tranquillity of the WHS landscape, re-unites the site and reconnects The Avenue, reconnects the WHS with local communities, creates the opportunity to attract significantly more people to visit and explore the wider WHS landscape, and will share educational

learning and community outreach opportunities from archaeological investigations, adding to the understanding of the WHS. These benefits are further detailed in the Case for the Scheme, Cultural heritage - benefits and opportunities [APP-294, section 5.4].

- 58.1.8 The protection and conservation of World Heritage Sites is integrated into the comprehensive UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets – namely, the UK's national policy statements, NPPF, Planning Act 2008 provision, and the established approach to assessment of impacts on heritage generally and the balancing of factors in decision making. As a result, great weight is given to harm to World Heritage Sites. The application by the Secretary of State of the planning balance envisaged by this framework and in particular the NPSNN is in accordance with the 1972 World Heritage Convention. [APP-294, para. 7.2.2].
- 58.1.9 The design of the scheme strikes an appropriate balance between delivering the Scheme requirements and minimising harm to designated heritage assets in this archaeologically and historically important location. The limited harm to designated heritage assets reported in the ES confirms that this is a successful balance which enables the conclusion to be drawn that the Scheme benefits outweigh this limited harm [APP-294, p. A-95].
- 58.1.10 Highways England therefore submit that the scheme provides substantial benefits for cultural heritage.

Key Issue

- 58.1.11 **Moreover, there is no analysis of the risks that the tunnel would create, some of which could be catastrophic.**

Highways England response

- 58.1.12 It is assumed for the purposes of this response that the written representation is concerned about safety risks of the proposed tunnel.
- 58.1.13 The safety risks that have been identified in connection with the tunnel element of the Scheme have been fully assessed in the Scheme application documentation for instance in section 6 of the Design and Access Statement [APP-295]. As set out in Highways England design principle 1 (Good road design makes roads safe and useful) safety is fundamental to good road design. The Scheme has been formulated to improve safety along this stretch of road and therefore clearly demonstrates compliance with this principle.
- 58.1.14 Highways England has been working with the Emergency Services throughout the design of the Scheme. Representatives from the Emergency Services have played an important role at the Tunnel Design Safety and Consultation Group (TDSCG) meetings to help shape key aspects of the Scheme's design and operational requirements. The Emergency Services

have been involved in many aspects of the design which include identifying appropriate emergency response plans that will need to be developed during the detailed design to address potential incidents within the tunnel and on the road. They have also supported the Scheme through their input to safety and design assessments that have informed the initial development of the Scheme. The engagement will continue through the detailed design, the construction and the operational stages of the Scheme.

- 58.1.15 The tunnel will include a range of design features to meet the safety requirements of relevant tunnel design codes and to support an effective response to incidents, as explained in section 6.2.3 of the Design and Access Statement [APP-295].
- 58.1.16 Section 4.6 in Chapter 4 of the ES [APP-042] sets out the approach taken to the consideration of major accidents and disasters (collectively referred to as 'Major Events'). Table 4.6 identifies major events shortlisted for further consideration, and includes tunnel failure or fire and bomb/vehicle attack either on people or infrastructure and concludes that no increased risk is anticipated.

Key Issue

- 58.1.17 **The idea of Stonehenge set in Salisbury Plain is part of the national consciousness of being British.**

Highways England response

- 58.1.18 The iconic status of Stonehenge will be unchanged by the Scheme. The removal of the existing A303 surface road from the WHS landscape will result in extensive benefits for the WHS, including significant reductions in traffic noise, as set out in ES Chapter 9 [APP-047], Section 9.9, and illustrated in Figure 9.4 [APP-167], and reduction of visual intrusion, as set out in ES Chapter 7 [APP-045], Section 7.9. The cultural heritage assessment for the scheme can be found in the ES, Chapter 6 [APP-044], Section 6.9. Detailed consideration of the assessment of the Scheme in the context of the OUV of the WHS can be found in ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195]. The Scheme has avoided direct physical impacts on scheduled monuments and listed buildings as summarised in ES Appendix 6.1, HIA [APP-195]. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst the scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on 3 of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the Scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained.

Key Issue

- 58.1.19 **Responses from the public to Statutory Consultation were generally made in objection to the Scheme. Most major organisations making representations, some in support or guardedly neutral, also expressed concerns about aspects of it and about the lack of necessary or statutory information.**

Highways England response

- 58.1.20 Consultation was undertaken in accordance with the Statement of Community Consultation, which was subject to consultation with the Local Planning Authority and Planning Act 2008 statutory requirements. Information about the scheme proposals was available online, at public events and local deposit locations. Staff were on hand at exhibitions to talk through the proposals. The material published for statutory consultation was based on the information available at that time and was sufficient to satisfy the purpose of gaining feedback on the scheme proposals and for that feedback to be taken into consideration as part of the continuing development of the scheme up to the time of submitting the DCO application. In deciding to accept the application, the Planning Inspectorate will have had regard to the adequacy of the consultation undertaken by the Applicant, and to the adequacy of consultation responses received from nine local authorities, who confirmed that they considered the consultation had been carried out adequately, in accordance with the relevant statutory requirements.
- 58.1.21 Details of the approach, engagement and outcomes, including analysis, of the consultation is presented in the Consultation Report [APP-026].
- 58.1.22 The views of all those who have an interest in the Scheme will be considered during the Examination, as well as information and evidence presented during the hearings which are open to the public and interested parties. The final decision on the Scheme will be made by the Secretary of State for Transport.

Key Issue

- 58.1.23 **Many representations included negative terms: damage - 1311; destr (-oy, -uction) - 477; irreparable - 433. A number of representations expressed incredulity and even horror that such serious damage to the Stonehenge landscape could even be contemplated. Several fishing and rivers organisations oppose the scheme or are very doubtful because of probable damage to the chalk streams and rivers.**

Highways England response

- 58.1.24 The removal of the existing A303 surface road from the WHS landscape will result in extensive benefits for the World Heritage Site (WHS) including beneficial effects to many heritage assets within the WHS. The cultural

heritage assessment for the Scheme can be found in the ES, Chapter 6 [APP-044). Detailed consideration of the assessment of the scheme in the context of the OUV of the WHS can be found in ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195].

- 58.1.25 Table 3 in the HIA shows the effects that the Scheme would have on the WHS in relation to its Attributes of OUV, Integrity and Authenticity. The Table also shows how the Scheme would benefit the WHS in comparison with the effects of the existing A303. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained.
- 58.1.26 The preferred route was carefully chosen to minimise effects on archaeology, and a comprehensive programme of archaeological evaluation surveys has informed the Scheme design to limit direct physical impacts as far as practicable, including limiting impacts on archaeological remains that contribute to the OUV of the WHS. The design has been carefully chosen in order to preserve archaeological remains along the 2 mile section of tunnel, improve the setting of many heritage assets and asset groups in much of the WHS including The Avenue, Stonehenge itself and the Winterbourne Stoke barrow group; remove the intrusive sight and sound of traffic from the existing A303 as far as possible within the WHS; and design a scheme that is minimally intrusive in both the western and eastern parts of the WHS, including in key views from assets groups that contribute to the OUV of the WHS.
- 58.1.27 The Scheme's objectives include the aim of improving biodiversity along the route. This is being achieved in a number of ways, including removing the A303 and connecting habitats within much of the WHS and the creation of new chalk grassland adjacent to the Parsonage Down NNR. Full details of the biodiversity gains can be found in the ES Chapter 8 [APP-046], Sections 8, 8.8.14 – 8.8.21, 8.9.65 – 8.9.66, and Table 8.14, Habitat losses and gains associated with the Scheme. There is likely to be a moderately beneficial residual effect for water quality in the River Avon as a result of improved treatment and prevention of pollution from road run-off, compared with the current situation, as summarised in ES Chapter 11, Road Drainage and the Water Environment [APP-049], Table 11.10. The Environment Agency agree that this benefit is likely, which is recorded in the Statement of Common Ground (SOCG) being developed with the Environment Agency (See REP2-012 for a draft of the SOCG.) While further enhancement/ restoration of the chalk stream habitat falls outside of the scope of the Scheme and its DCO, Highways England is working with the relevant stakeholders to identify opportunities for legacy benefits like this to be pursued by other means.

Key Issue

- 58.1.28 **Many Representations say that it is a public benefit to be able to view Stonehenge from the road.**

Highways England response

- 58.1.29 The tunnel is a fundamental part of the Scheme, designed to bring substantial benefits to the WHS. This inevitably means losing the view of Stonehenge from the A303, but the experience for visitors to the WHS would be considerably enhanced, and access would be readily and freely available via the new public right of way to be created along the old A303 through the WHS, accessible from Winterbourne Stoke, Amesbury and connecting rights of way, as well as via the Stonehenge visitor centre. Non-motorised visitors will continue to have free access by using the new and existing public rights of way that cross the WHS landscape as shown on sheets 5 to 9 of the Rights of Way and Access Plans [APP-009] and via the National Trust's right to roam policy.

Key Issue

- 58.1.30 **Many Representations say that it is a public benefit to be able to view Stonehenge from the road.**

Highways England response

- 58.1.31 The tunnel is a fundamental part of the Scheme, designed to bring substantial benefits to the WHS. This inevitably means losing the view of Stonehenge from the A303, but the experience for visitors to the WHS would be considerably enhanced, and access would be readily and freely available via the new public right of way to be created along the old A303 through the WHS, accessible from Winterbourne Stoke, Amesbury and connecting rights of way, as well as via the Stonehenge visitor centre. Non-motorised visitors will continue to have free access by using the new and existing public rights of way that cross the WHS landscape as shown on sheets 5 to 9 of the Rights of Way and Access Plans [APP-009] and via the National Trust's right to roam policy.

Key Issue

- 58.1.32 **The only risks that Highways England considers are economic ones. Already a totally avoidable mistake has been made that has damaged the Blick Mead site, before the main work has even begun.**

Highways England response

- 58.1.33 Highways England in its approach to investigation and preparation of its project application has taken into account a wide range of considerations and risks as for example demonstrated in the Consultation Report and the Environmental Statement. The Scheme is assessed to have no adverse impact on Blick Mead. Where it passes by Blick Mead, the Scheme has been kept within the current highway boundary at the level of the existing A303 and would not touch the Blick Mead site. As there is no direct physical impact from the Scheme, a full programme of archaeological assessment is

not considered to be required. In addition, the scheme's potential impacts on groundwater levels and flows (including consideration of surface rainwater run-off to outfalls in the area of Blick Mead) have been assessed and the assessment shows there would not be any adverse effect on spring flows and the overall water regime at Blick Mead. Further information can be found in ES Appendix 6.8, Table 1.2 [APP-217], and ES Appendix 11.4, Annex 3, Blick Mead Tiered Assessment [APP-282].

- 58.1.34 Regarding the drilling of boreholes, the applicant does not believe that the installation of its groundwater monitoring equipment, the location of which was shared with Professor David Jacques (Professorial Research Fellow in Archaeology, School of Humanities, The University of Buckingham who leads the archaeological work being undertaken at Blick Mead), has caused any damage to the Blick Mead site. Based on evidence provided by Professor Jacques' archaeological team to date, Highways England can confirm that none of the small diameter tubes were installed at Blick Mead in ground previously excavated. Highways England, and its consultants, have adhered to best practice guidelines in carrying out the work. A senior archaeologist was present on site, conforming to Chartered Institute for Archaeologists' (CIfA) Standard and Guidance, and due care has been exercised at all times. The applicant is committed to working with Professor Jacques to continue water monitoring at Blick Mead as part of his ongoing work.

58.2 Cultural Heritage

Key Issue

- 58.2.1 **The perceived importance of Stonehenge in its remote setting is not confined to the specifics of archaeology. Many Relevant Representations use terms denoting cultural or spiritual values³: cultural, 134; also sacred, 156; druids, 39; even ceremonial was used by 11 respondents⁴.**

Highways England response

- 58.2.2 The utmost care and consideration have been given to the impact of the Scheme on the WHS. Through the Applicant's public consultations and engagement, we have gained a wide range of diverse views. We have had full regard to consultation responses and taken these on board in developing a solution which is both sensitive to and will deliver extensive benefits to the area.
- 58.2.3 For instance, during preparation of the HIA consideration was given to cultural and spiritual aspects as part of the intangible cultural heritage of the WHS. Consultation was undertaken with members of the Druid Order and the Amesbury Druids in April 2018. These consultations involved walking in the WHS landscape to allow members of the Druid orders to highlight significant places of ritual or memory, and describe their relationship with

monuments and the landscape (see HIA section 6.16 [APP-195]). Consideration of cultural aspects included the significance of Stonehenge and its landscape in contemporary culture such as popular and historical fictions, advertising and pop culture, as well as more traditional artistic depictions, literature, poetry and music.

- 58.2.4 Furthermore, the Outline Environmental Management Plan (OEMP) [APP-187], a revised version of which is being submitted at Deadline 3 of this examination, sets out that construction of the scheme must be suspended (save for tunnelling related activities) during the winter and summer solstices, compliance with which is secured by paragraph 4 of Schedule 2 to the draft development consent order [REP2-003].

Key Issue

- 58.2.5 **The benefits claimed for the proposal focus on the experience of the monument itself. Yet there is intense public interest in the UK and internationally in the emerging archaeology of Stonehenge's surrounding landscape¹¹.**

Highways England response

- 58.2.6 The benefits of the Scheme associated with removal of the sight and sound of traffic from a large part of the WHS, the opportunity for reconnection of The Avenue, and the provision of a c.150m green bridge, are considered in the context of the whole WHS and the many scheduled monuments within it, not just the Stonehenge monument. The Heritage Impact Assessment, as set out in ES Appendix 6.1 [APP-044], Section 12.4, concludes that the scheme will deliver significant beneficial effects for the setting of many scheduled monuments within the WHS, as well as Stonehenge, whilst sustaining the OUV of the WHS. The removal of the A303 from the WHS has been a long-standing aspiration and commitment for the WHS since its inscription in 1986 and through successive WHS Management Plans, including the latest Management Plan for the WHS published in 2015.

Key Issue

- 58.2.7 **The archaeological evidence that was beneath the present A303 cannot be restored.**

Highways England response

- 58.2.8 In terms of archaeological evidence impacted by the present A303, the 1960s construction of the Amesbury Bypass and the widening of the existing road west of King Barrows Ridge towards Stonehenge Bottom resulted in severance and likely loss of remains affecting the Avenue ditches and other scheduled monuments, as well as ditches forming parts of prehistoric field systems. Archaeological investigation and recording in connection with the 1960s road works in this part of the WHS also recorded Neolithic pit groups

and other remains before their destruction. At the western boundary of the WHS, Bronze Age settlement remains were also excavated and recorded archaeologically prior to construction of the present Longbarrow Roundabout in the late 1960s. The impact of the section of the existing A303 between Longbarrow roundabout and Stonehenge Bottom is perhaps less well understood as this section of road was originally built as a turnpike in the 18th century; however, excavation in connection with removal of the A344 past Stonehenge in 2011-12 revealed relatively good archaeological survival beneath the highway formation levels, including the Avenue ditches.

- 58.2.9 With regard to the Scheme, a Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038], submitted at Deadline 2 of this examination, is being developed in consultation with Wiltshire Council Archaeology Service and the Heritage Monitoring Advisory Group (HMAG - which comprises Wiltshire Council Archaeology Service, Historic England, National Trust, and English Heritage), and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. The DAMS requires that a comprehensive publication and dissemination programme be developed in parallel with the strategy for Public Archaeology and Community Engagement, to deliver a lasting legacy from the archaeological investigation and recording works undertaken for the Scheme. The publication and dissemination programme will be developed in consultation with the HMAG and the public archaeology strategy will link to the work of Highways England's A303 Benefits and Legacy Forum and Benefits Steering Group, which will look to work with partner organisations to develop the Scheme legacy and benefits as the Scheme develops, tying in to the priorities set out within the 2015 WHS Management Plan (see section 8.2, Outline Publication and Dissemination Proposals, and Appendix F, Public Archaeology and Community Engagement Strategy of the DAMS).
- 58.2.10 In summary, while the construction of the existing A303 likely resulted in some archaeological loss, as evidenced in the mitigation investigations in the 1960s, the mitigation that has been built into the design of the Scheme via the DAMS includes comprehensive archaeological mitigation measures including provision for public archaeology and community engagement.

Key Issue

- 58.2.11 **The Planning Inspectorate required Highways England to take certain measures in assessing heritage assets, including setting out how value is determined in assessing known and potential buried archaeological resources as well as landscape character, and how setting influences value: "The ES assessment methodology should take this into account in establishing the value of assets and should not be limited by the approach set out in DMRB. In particular the Inspectorate considers that the value criteria presented in Table 6.5 of the Scoping Report should be amended to better reflect the value of assets such as the OUV19." It is not clear that this has been done.**

Highways England response

- 58.2.12 The methodology applied in the ES for determining the value of heritage assets is set out in section 6.3 of the ES [APP-044]. The assessment of impacts on cultural heritage assets has been undertaken in accordance with the methodology described in DMRB Volume 11, Section 3, Part 2 (HA208/07). The overall approach to the assessment of the significance of effects is in line with DMRB Volume 11, Section 2, Part 5 (HA205/08). This provides guidance on the assessment and management of environmental effects, including advice on determining the magnitude of impacts and the significance of effects. In applying the guidance in DMRB, reference has been made to the definition of 'significance' ('value' in DMRB) in relation of heritage assets, as set out in NPSNN (para. 5.122). However the approach has not been limited to that set out in the DMRB. With regard to the assessment of setting and the way in which setting contributes to the significance (value) of a heritage asset, reference has also been made to the principles set out in the NPPF 2018 and advice provided in NPSNN and Historic England's good practice advice guide GPA3: The Setting of Heritage Assets, 2nd edition.
- 58.2.13 With regard to OUV, the value of heritage assets has been considered in terms of their contribution to the attributes of OUV derived from the Statement of Outstanding Universal Value (SoOUV), as set out in the 2015 Management Plan. In line with the NPPF and NPSNN approach, it is acknowledged that the WHS, Scheduled Monuments and Grade I and II* Listed Buildings are of the highest significance – and of National importance (High value); however, DMRB allows a distinction for internationally important cultural heritage assets to be of Very High value. All those assets that contribute to the OUV of the WHS are therefore assessed as of Very High value in the EIA and HIA. The approach to assessing the value of assets is set out in ES Chapter 6, Cultural Heritage Section 3 [APP-044] and Table 6.2, Criteria for determining the value of heritage assets [APP-044].
- 58.2.14 The evaluation criteria applied in the ES therefore take account of the requirements of the NPS and current Historic England guidance, as relevant, and reflect the contribution made by assets to the OUV of the WHS, as relevant.
- 58.2.15 The evaluation method used in the ES is also compatible with that applied in the HIA (Es Appendix 6.1 [APP-195]), which follows the method set out in appendix 3a of the ICOMOS Guidance (ICOMOS 2011): the value of heritage assets is assessed in relation to statutory designations (international, national and local), but linked to the components identified in the SoOUV (see HIA section 5.6).

Key Issue

- 58.2.16 **Mitigation of ill effects is mentioned many times in Highways England's proposal yet it is not possible to mitigate destroyed archaeology, lost**

opportunities for future investigations and the sheer size and scale of tunnel portals and cuttings and interchanges.

Highways England response

- 58.2.17 The principles of archaeological mitigation are outlined in Appendix 6.11 of the ES, Outline Archaeological Mitigation Strategy (OAMS) [APP-220], which has been informed by a comprehensive programme of archaeological evaluation. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction. The OAMS also identifies areas to be protected in-situ. A Detailed Archaeological Mitigation Strategy (DAMS), submitted at deadline 2 of this examination [REP2-038] is being developed in consultation with Wiltshire Council Archaeology Service and the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust, and English Heritage), and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003].
- 58.2.18 With regard to future investigations of the WHS, the Scheme will enable beneficial opportunities for transmission of OUV and for increasing the public's awareness, understanding and perception of the OUV of the WHS in a local, regional, national and international context. The DAMS (secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]) requires that a comprehensive publication and dissemination programme be developed in parallel with the strategy for Public Archaeology and Community Engagement, to deliver a lasting legacy from the archaeological investigation and recording works undertaken for the Scheme. The publication and dissemination programme will be developed in consultation with the Heritage Monitoring and Advisory Group (HMAG) and the public archaeology strategy will link to the work of Highways England's A303 Benefits and Legacy Forum and Benefits Steering Group, which will look to work with partner organisations to develop the Scheme legacy and benefits as the Scheme develops, tying in to the priorities set out within the 2015 WHS Management Plan (see section 8.2, Outline Publication and Dissemination Proposals, and Appendix F, Public Archaeology and Community Engagement Strategy of the DAMS).

Key Issue

- 58.2.19 **Hasty excavation during pre construction surveys is no way to systematically research this unparalleled landscape. Highways England's own proposal documents admit: "Archaeological technology is rapidly developing and both non destructive surveys and sample excavations will be carried out ... [but] Archaeologists contributing to the consultations on this project argue that any disturbance of the ground within the WHS, and indeed large areas around it, will destroy evidence of the history and use of the monument"**^{20,21}.

Highways England response

- 58.2.20 The Applicant does not accept that any element of the Scheme preparation and design, including archaeological excavations, has been hasty or otherwise insufficient. The Applicant has conducted a full and thorough assessment, and will continue to do so in the future where the Scheme design and construction programme requires it. As noted in ES Chapter 6, Cultural Heritage [APP-044], "A comprehensive programme of archaeological field work has been undertaken to inform the assessment, both inside and outside the WHS. The scope of the field work programme within the WHS has been developed in consultation with HMAG and the Scientific Committee to reflect approaches employed by current academic research projects in the WHS. Outside the WHS, a similarly detailed approach combining detailed geophysical survey, sampling of artefacts in the plough zone and targeted trial trenching has been employed to ensure a consistent approach across the Scheme [...] The comprehensive programme of archaeological fieldwork has included detailed geophysical survey across the area defined by the Scheme boundary, surface artefact collection procedures including test pitting with accompanying sieving and sieving samples of the topsoil from intrusive trial trenching, as well as extensive trial trenching of the Scheme main line footprint and land take for landscaping and excavated material deposition" [APP-044, paras. 6.6.13 - 6.6.14].
- 58.2.21 The results of the 2018 archaeological evaluation surveys, confirmatory surveys and sampling work have been incorporated into the detail of mitigation and areas for preservation in situ, set out in the draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] as submitted at Deadline 2. The draft DAMS has been prepared in consultation with the HMAG, who will continue to be consulted as the DAMS is finalised prior to the end of the Examination.
- 58.2.22 The DAMS and accompanying Overarching Written Scheme of Investigation (OWSI) will set out the scope, guiding principles and methods for the planning and implementation of essential archaeological mitigation. A draft of the DAMS was submitted at Deadline 2. The DAMS will be developed further during Examination in consultation with HMAG/WCAS and the final DAMS will be a certified document, implementation of which will be secured by paragraph 5 of Schedule 2 to the DCO [REP2-003].

58.3 Design

Key Issue

- 58.3.1 **I oppose the proposed construction of the tunnel for the A303 and the design and siting of the interchanges.**

Highways England response

58.3.2 The Scheme is part of the Government's programme of improvements along the A303/A358 corridor designed to upgrade the route to a high-quality dual carriageway, in recognition of the problems along the corridor and the need to improve connectivity to the South West. It brings forward a number of benefits and meets a number of traffic, economic and environmental needs. This is set out in the Case for the Scheme [APP-294]. The proposed tunnel solution is the best solution that has been identified from an exhaustive appraisal of options. This is set out in Chapter 3 of the Environmental Statement [APP-041].

Key Issue

58.3.3 **The tunnel's design life is only 120 years. Highways England has decided that the cost and measures for decommissioning are out of scope for their proposal²². Yet the tunnel is scarcely likely to last as long as Stonehenge. Would it last 500 years? Less? Longer? What engineering measures will be necessary to ensure the tunnel does not collapse, if it is no longer needed? What would happen to Stonehenge if it did collapsed? What if transport needs change so greatly that it becomes redundant?**

Highways England response

58.3.4 It is highly unlikely that the Scheme would be demolished after its design working life as the road would have become an integral part of nationally important infrastructure. Aspects of theoretical decommissioning are considered in Heritage Impact Assessment (HIA) (Environmental Statement Appendix 6.1 – Heritage Impact Assessment [APP-195]) Section 9.2, Impacts and effects of Scheme: overview: Theoretical decommissioning (paragraphs 9.2.14 to 9.2.25). Paragraph 9.2.16 explains how the tunnel and associated road infrastructure (both surface and underground components) may, theoretically, be decommissioned at some point in the future. During the detailed design stage, the Construction (Design and Management) (CDM) Regulations require the designer to consider decommissioning during the design of the scheme (CDM Regulation 9 (2) and Regulation 9 (3)). At present, there is insufficient information on the manner of any future decommissioning (given this is anticipated to be at least 120 years in the future), and both engineering and design technologies available and the regulatory environment will evolve over time. Paragraph 9.2.22 states that the hypothetical decommissioning of the Scheme might have a slight adverse short term impact upon the Outstanding Universal Value (OUV) of the World Heritage Site (WHS). Paragraph 9.2.24 states that in the long term, it is not anticipated that hypothetical decommissioning of the Scheme would have any additional significant long-term adverse impact upon the OUV of the WHS.

58.3.5

- 58.3.6 Chapter 2 of the Environmental Statement (para 2.6) [APP-040] also refers to decommissioning of the scheme. It states that ‘in the event of the Scheme needing to be demolished, this would conform to the statutory process at that time, including EIA as appropriate. Demolition of the Scheme is not therefore considered further in this ES. Consideration is however given, where relevant, to dismantling and replacing particular elements of the Scheme once they reach the end of their design life, if significant effects are likely’.

Key Issue

- 58.3.7 **There is the potential for a truly catastrophic event. There could be an explosion in the tunnel, possibly one large enough to cause its collapse. This could be unintentional but the possibility of an intentional attack on the tunnel cannot be ruled out, in pursuit of worldwide publicity.**

Highways England response

- 58.3.8 Highways England has been working closely with the emergency services on the design of the tunnel and its future operation. This includes contingency planning arrangements for any foreseeable scenario that could unfold in the future, as is Highways England's standard practice for protecting and maintaining parts of the network where there is sensitive infrastructure. The potential for the Scheme to be vulnerable to major incidents and disasters, including terrorism, is considered through the assessment of major events, as set out in the Environmental Statement, in section 4.6 of Chapter 4, Environmental Assessment Methodology [APP-042].

58.4 Landscape and Visual

Key Issue

- 58.4.1 **The whole Stonehenge landscape has a cultural, visual and spiritual value for many people which would be destroyed by the enormity of the tunnel portals and the interchanges.**

Highways England response

- 58.4.2 The removal of the existing A303 surface road from a large part of the WHS landscape will result in extensive benefits for the WHS, including significant reductions in (a) traffic noise, as set out in ES Chapter 9 [APP-047], Section 9.9, and illustrated in Figure 9.4 [APP-167], and (b) visual intrusion, as set out in ES Chapter 7 [APP-045], Section 7.9. The cultural heritage assessment for the Scheme can be found in the ES, Chapter 6 [APP-044]. The Heritage Impact Assessment (HIA) (ES Appendix 6.1, [APP-195]) concludes that the Scheme will have an overall slight beneficial effect on the WHS and will sustain its OUV, as set out in Section 12.4. The scheme is being pursued to address the congestion on the A303 which itself is currently

damaging to the Outstanding Universal Value of the WHS. Reducing the damaging effects of the A303 on the WHS has been a long-standing aspiration and commitment for the WHS since its inscription in 1986 and through successive WHS Management Plans, including the latest Management Plan for the WHS published in 2015. Placing the A303 in a 2-mile long tunnel will transform and enhance the WHS landscape in that area. The Scheme will improve the visitor experience by transforming the WHS landscape in that area and reconnecting the two halves of the WHS, which are currently severed by the surface road. Connectivity into and through the WHS will be improved through the placement of the road in bored tunnel and the provision of new and enhanced public rights of way across the landscape, notably the new byway on the line of the old A303, linking Winterbourne Stoke with Amesbury via the WHS.

Key Issue

- 58.4.3 **Many artists have depicted Stonehenge set within its remote, brooding landscape, including Constable, Turner and William Turner of Oxford in paintings such as Stonehenge at Sunset, Stonehenge at Daybreak and Stonehenge - Twilight 7. Many show a road or roads nearby (see Images 2-4 below). The Environmental Statement (ES) review Influences on Artists does not discuss these wider views.**

Highways England response

- 58.4.4 The Environmental Statement does refer to artists views within the Heritage Impact Assessment [APP-195] including an assessment of the impact of the Scheme in relation to the landscape reminiscent of that depicted by Turner and Constable, e.g. paragraph 6.16.16, 9.4.38, pages 323, 352 of APP-195.
- 58.4.5 APP-202, Highways England 6.3 Environmental Statement Appendix 6.1 Annex 7 - Influences of the monuments and landscape of the Stonehenge part of the World Heritage Site on artists, considers artists' views in more detail, but given the scale of the field, notes that only a sample are presented in the report [APP-202, p.1]. Turnpike roads are specifically noted in APP-202, p. 15. A number of the illustrated examples reference roads, including:
- William Stukeley, 1740 (Viewpoint 1) – A direct view of Stonehenge from the union of the Avenues. From Stonehenge, a temple restor'd to the British Druids. View from north-east.
 - John Constable and David Lucas, 1855 (Viewpoint 2) – Mezzotint published in English Landscape Scenery, ed. H G Bohn.
 - William Stukeley, 1740 (Viewpoint 3) – Prospect of Stonehenge from the East. From Stonehenge, a temple restor'd to the British Druids. View looking west.
- 58.4.6 Whilst the paintings included within the Written Question do illustrate Stonehenge, the tracks or routes depicted within them are not comparable to

the present day situation and the influence of the A303 which negatively impacts the setting of multiple attributes of OUV, including Stonehenge, as set out in paragraph 2.2.23 of the Stonehenge and Avebury World Heritage Site Management Plan

59 Wiltshire Ramblers (REP2-148)

59.1 Design

Key Issue

- 59.1.1 **We support the second option for the tunnel entrances which requires large ventilation holes to be cut into the roof of the tunnel at its entrances. Clearly there would be a need to keep the public away from these holes, and from the new A303 and tunnel entrances themselves, but surely these could be fenced off, leaving the old A303 unfenced?**

Highways England response

- 59.1.2 The fully grassed-over canopy option has been chosen because this option blends into the surrounding WHS landscape more effectively. The ventilation outlets would create additional features detrimental to the WHS landscape.
- 59.1.3 The fencing along the old A303 through the WHS will be retained or replaced as detailed in the above response.

59.2 Traffic and Transport

Key Issue

- 59.2.1 **It is proposed that a new footpath and cycle track will run along the north side of the existing A303 from Winterbourne Stoke to the south side of the new junction, and continue on into the World Heritage Site (WHS). This appears to start some way east of Winterbourne Stoke. Neither does it link with WSTO4 where it joins the existing A303, and appears to rely on the existing A303 to cross the River Till. We would like it to begin at the junction of the existing A303 and WSTO4, and to cross the River Till on its own footbridge north of the existing A303. We would also like it to be available to horse riders.**

Highways England response

- 59.2.2 Between its junction with byway WSTO4 and the start of the new segregated bridleway, the existing A303 will have a 30mph speed limit and, as such, will be safe for use by horse riders alongside motorists. While the precise proposals in this area will be confirmed during the detailed design process if development consent for the Scheme is granted, it is envisaged that pedestrians and cyclists will use a shared path alongside this section of the old A303 before joining the new bridleway (shown as reference 'Z' on Sheet 4 of the Rights of Way and Access Plans [APP-009]). With the Scheme in place, the existing (old) A303 would principally be used only by low levels of local traffic accessing Winterbourne Stoke, Berwick St James and Shrewton.

Key Issue

- 59.2.3 **It is proposed that, when the tunnel has been constructed, the present A303 in the central section would become a “green byway”, effectively a bridleway, but “fenced to keep users within the boundaries of the byway”. We have always thought that one of the objectives of the whole scheme was to enable visitors to the WHS to roam freely around the site, and that one of its by-products would be to allow visitors simply to walk across the old A303 to view the archaeological sites to the south, so we do not understand the need for the fencing.**

Highways England response

- 59.2.4 Replacement of the existing A303 with a restricted byway (not bridleway) will allow the provision of new and enhanced public rights of way that will greatly increase connectivity between the currently severed halves of the WHS to allow more opportunities for people to enjoy the landscape. In addition, the Scheme’s proposal will transform the WHS landscape around Stonehenge and enable people to access and connect between much of the prehistoric landscape.
- 59.2.5 Where necessary, fencing along the old A303 through the WHS will be retained or replaced to ensure: a) users of the restricted byway cannot access adjacent private land, b) non-pedestrian users cannot enter open access land, and c) to provide a buffer zone to the western section of the new road in cutting. The Outline Environmental Management Plan (OEMP) [APP-187], (an updated version of which will be submitted at Deadline 3), reference D-CH14, would require National Trust, Historic England, English Heritage and Wiltshire Council to be consulted on proposals for fencing within the WHS.

Key Issue

- 59.2.6 **To make up for the stopping up of byways AMES1 & 2, it is proposed that a new link would be created between AMES1 and Allington Lane south of the A303 along a private lane. Presumably this would be open to motorised vehicles as well as pedestrians etc.? Going west, it would cross bridleway AMES29, which itself terminates at the approach road to a bridge for traffic across the A303 in Solstice park. As such, if one was walking up either AMES1 or Allington Lane expecting to cross the A303, it would require a considerable diversion to the west to do so. We request that a footbridge be built over the A303 where Allington Lane/AMES2 crosses it at present. We believe that the need to maintain this crossing point is considerably strengthened by the fact that military staff are housed in married quarters at Boscombe Down and many will cycle over to Bulford Camp and back. Officers will also rent accommodation in the locality and similarly commute in. Demand may further increase with the Army Re-Basing Programme, which we understand involves the withdrawal of some 7,000 Army personnel from Germany and their rehousing on Salisbury Plain and its environs.**

Highways England response

- 59.2.7 The intention is that the link along the existing private track between AMES1 and Allington Track will be an unclassified road with a tarmac surface similar to the Allington Track, and open to all traffic.
- 59.2.8 Instead of using AMES2 and BULF12 to reach Bulford, access would be from Amesbury Road (north of A303). The Amesbury Road and Allington Track junction/access closures on the A303 are proposed for reasons of safety, and to improve the current arrangement, which has the potential to place slow and fast-moving vehicles in dangerous conflict with each other. An alternative reasonably convenient safe crossing point on the A303 trunk road would be available a short distance to the west, via the Solstice Park junction.
- 59.2.9 Additional infrastructure to cater for future development should be addressed through the planning process for those developments.
- 59.2.10 The distance from Bulford Camp to Boscombe Down entrance is approximately 2.9Km via Amesbury Road (AMES1) and 4.9Km via Solstice Park junction, so the detour is 2km.
- 59.2.11 The distance from the A3028 cross-roads in Bulford village to Boscombe Down entrance is approximately 3.6Km via Amesbury Road (AMES1) and approximately 2.7Km via Solstice Park junction. The latter route has a recently-constructed segregated cycle route from A3028 to Solstice Park junction. Existing cyclists or walkers travelling to and from Bulford village to Boscombe Down are not likely to be using the AMES1 route as the other route is shorter and had good quality off-road cycle and pedestrian links.
- 59.2.12 Recent surveys identified an average of fewer than 3 people a day using AMES1 (Amesbury Road) on foot and cycles over a 38 day period from 25th March 2019 as follows:

	Southbound	Northbound
Pedestrians	32	36
Cyclists	10	24

- There were no movements (motorised and non-motorised) observed on 5 of the 38 days.
 - There were five or fewer one-way movements (motorised and non-motorised) recorded on 18 of the 38 days.
 - Sunday 14th April was the busiest day with 16 one-way movements.
- 59.2.13 It is therefore not appropriate to provide a bridge for this level of use. The scheduled monuments adjacent to the A303 and both AMES1 and Allington Track would also limit what could be constructed.

Key Issue

- 59.2.14 **We request that all public rights of way (for walkers as a minimum) be kept open during the construction phase, or at least that reasonable, convenient and non-lengthy diversions be offered as alternatives, with reasonable notice of any temporary closures.**

Highways England response

- 59.2.15 The Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) sets out in Table 3.2b under MW-G32 an obligation to co-ordinate activities and under MW-TRA1, MW-TRA2 and MW-TRA10 a requirement to implement traffic management measures and develop a Traffic Management Plan in consultation with Wiltshire Council. In particular item TRA10 states that where separate routes used by pedestrians and other NMUs are affected, the main works contractor shall provide (and identify within the TMP) alternative appropriate and accessible routes within the traffic management scheme being implemented. The specific right of way affected will be scheduled with appropriate nomenclature and diversion routes suitably signposted throughout the works.

60 Blick Mead Archaeology Team (REP2-062 to REP2-064)

60.1 Alternatives

Key Issue

i. The First Advisory Mission – October 2015U

NESCO and ICOMOS were invited to send a joint Advisory Mission to the WHS in October 2015, by way of initiating an early consultation process before the tunnel scheme was even designed. The report sets out the ICOMOS recommendations at that early stage, advising in effect a cautionary approach and inviting the UK Government to call upon UNESCO’s expert advisory missions throughout the scheme. In addition it advised that a Scientific Committee (of experts in the heritage assets of the WHS) be established to monitor the development of the Scheme and to exercise quality control.

ii. The Second Advisory Mission – Jan/Feb 2017

In January 2017, the DfT opened its “Options” consultation process (a precursor to the full public consultation in 2018). This was quickly followed by the second advisory mission of UNESCO/ICOMOS in Jan/Feb 2017. Amongst other findings, it concluded that:

- The alternative F010 route would have less impact on the OUV of the WHS than the tunnel options (D061 and D062) then under consideration, which would cause “considerable damage to the OUV of the WH property, through adverse effects on the archaeological remains, on their landscape attributes, and on setting and visibility.”
- Highways England’s decision-making processes “do not give enough weight to the heritage priority required for a WH property...as required by the obligations of the State Party under the WHC”.
- The State Party “should be encouraged to further explore the F010 route option, as an alternative that will bring significant benefits to the whole WH property and the wider Stonehenge landscape.”
- Its previous recommendation about setting up a Heritage Monitoring and Advisory Group (HMAG) had only been partially implemented, and it regretted that the proposed Scientific Committee, to ensure proactive participation of academics and representatives of learned societies, had not yet been created.

iii. ICOMOS-UK, the UK national committee of ICOMOS, submitted a deeply critical response to the “Options” consultation. Its position was

that it was prepared to approve the tunnel scheme in principle, but only if (a) all options for re-routing around the WHS had been adequately investigated and put through an informed consultation process before being rejected, and (b) the proposed tunnel were long enough that all its cuttings for the portals would fall outside the WHS, i.e. the “long” tunnel scheme. It considered the reasons given for excluding F010 were not substantial, and that the decision to exclude it from consultation should be reconsidered. In particular, it criticised:

- That the WHS had been given lower priority in the assessment of route options than an Area of Outstanding Natural Beauty, and an existing commercial lease of the former RAF Boscombe Down airfield;
- The apparent view that the inevitable destruction of or damage to archaeology in the areas of the portals would be mitigated by perceived benefits to the central part of the WHS – this showed fundamental misunderstanding of the obligation to sustain the OUV of the whole WHS, not just part of it.

iv. **The Decision of the UNESCO World Heritage Committee at its 41st session, in Krakow, July 2017**

The WH Committee re-iterated its view that the tunnel scheme would cause unjustifiable damage to the WHS, and that it should be reconsidered.

v. **The Third Advisory Mission – March 2018**

Despite welcoming some small improvements to the original scheme, [the report of the Mission] concluded it should not proceed in its current form, and urged surface routes outside the WHS should be reconsidered. More specifically, the mission found that:

- a. If the tunnel option is pursued, the proposed length of 3.0km would not be adequate to protect the integrity and conserve the OUV of the WHS;
- b. If the tunnel option is pursued, the western portal should be re-located outside the western boundary of the WHS to avoid dual carriageways in this part of the WHS;
- c. If the tunnel option is pursued, the eastern portal should be relocated well to the East of the Countess Roundabout, and outside the WHS, to protect the OUV of the property;
- d. In considering route options, HE should have given greater weight to avoiding impact on the WHS, in view of the obligations of the State Party under the WHC;
- e. The appropriate test is not whether there is net benefit to the WHS, but rather how adverse impact on OUV can be avoided;

- f. **Proposed surface routes outside the WHS should be reconsidered on the basis that the OUV should have at least equal priority to other environmental considerations, such as impacts on an Area of Outstanding Natural Beauty and on Special Areas of Conservation.**
- vi. **The Decision of the UNESCO World Heritage Committee at its 42nd session, in Bahrain, July 2018**

The WH Committee decision was that the UK should address the findings and implement the recommendations of the March 2018 Advisory Mission, and continue to seek an optimal solution for the widening of the A303 with a view to avoiding adverse impact on the OUV of the property.

- vii. **Highways England's digest of UNESCO advice/decisions in its Consultation Report, October 2018**

At section 3.10 of the consultation report, Highways England has made a heroic effort to interpret the conclusions of UNESCO as favourably as possible, to avoid the conclusion that the Scheme places the UK in breach of the WHC. [however] UNESCO has consistently stated that it does not approve a scheme that will involve the excavation of two 4-lane wide tunnel portals and a 1.1km long and 40m wide dual-carriageway inside the WHS boundaries. The implication is that if the Scheme is developed as currently proposed, UNESCO will hold the UK to be in substantial breach of its obligations under the WHC, and thus in breach of the requirements of the Planning Act 2008.

Highways England response

- 60.1.1 The recommendations of the UNESCO/ICOMOS missions carried out in 2015, 2017 and 2018 and the subsequent decisions of the World Heritage Committee have been considered carefully and have informed the development of the Scheme and its design where practicable. This has included: the route alignment selected as the preferred route avoiding the winter solstice sunset alignment and the bisecting of the Diamond Group; setting the road in deep retained cuttings to minimise landtake; determining the length of bored tunnel to avoid the Scheduled Monument known as The Avenue (NHLE 1010140) at its eastern end and a Bowl barrow south of the A303 and north west of Normanton Gorse (NHLE 1010832) at its western end; the further addition of 200m of canopy at the western portal and 85m of canopy at the eastern portal to further extend the tunnel (to c. 3.3km) to aid landscape integration; the optimization of the positions of the tunnel portals at the head of dry valleys in the landscape; the careful positioning of the new Longbarrow junction away from the western boundary of the WHS; the addition of a 150 metre wide green bridge in the west of the WHS to improve physical and visual connectivity between its northern and southern parts and the monuments within it; and the removal of the surface A303 into a tunnel

and approach cuttings to reduce noise and improve the tranquillity of the WHS. Additionally, in order to minimise light spill, measures include no lighting of the new Longbarrow junction or the approach cuttings and new directional lighting at Countess junction to replace the existing non-directional lighting. Lighting in the portals would be designed to minimise light spill outside the tunnel and lighting under the land bridge would only operate during daylight hours. To minimise the visibility of new infrastructure within the WHS, signage and other highways installations would sit completely within the approach cuttings and not extend above them. Further information on the missions, including how Highways England has considered the recommendations of UNESCO/ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3. This includes reference to the Scheme's design being informed by advice provided by the Heritage Monitoring Advisory Group (Historic England, Wiltshire Council Archaeology Service, English Heritage Trust and National Trust) and a Scientific Committee (of eminent archaeological experts), both of which were set up in response to UNESCO/ICOMOS recommendations.

- 60.1.2 The last UNESCO/ICOMOS mission was carried out in early 2018 and the subsequent World Heritage Committee decision refers to the proposals as were set out at public consultation in March 2018. The Scheme design has evolved substantially since then, as put forward in the supplementary consultation and, following that, the DCO application. Additionally, UNESCO/ICOMOS had not seen the Heritage Impact Assessment (HIA) [APP-195] (submitted as part of the application) which assesses the impact of the proposed Scheme on the Attributes that convey the OUV of the WHS, their Integrity and Authenticity, as well as the alignment of the Scheme with the vision, aims and policies of the 2015 WHS Management Plan and the criteria for the site's inscription as a WHS. The HIA concludes that the overall effect on the OUV of the WHS would be slight beneficial and the OUV would be sustained by the construction of the Scheme.
- 60.1.3 Following submission of the DCO, UNESCO has been notified of the application. It is expected that The State of Conservation Report (SOCR) prepared by the Department for Digital, Culture, Media & Sport and submitted to UNESCO in February 2019 [REP1-015], will be considered at the next meeting of the World Heritage Committee, scheduled for 30 June – 10 July 2019. The SOCR explains the practical difficulties of extending the tunnel length and that benefits of any possible extensions would not justify the costs.
- 60.1.4 With respect to the reference to the recommendations to create the Scientific Committee, following the establishment of HMAG after the first advisory mission, a Scientific Committee of eminent archaeological experts was established following the second mission.
- 60.1.5 In terms of the consideration of alternate routes, as detailed in the response to the Examining Authority's Written Question AL.1.4 [REP2-024] the

Scheme Assessment Report (SAR), [REP1-023] and Technical Appraisal Report (TAR), [REP1-031] were compiled by the Applicant to describe and explain the process of options appraisal which led to the identification of the preferred route. This process followed Highways England's Project Control Framework (PCF) which is an established staged process starting with problem and opportunities identification (Stage 0), options identification (Stage 1) (see Chapter 5, Page 72, TAR [REP1-031]), and options appraisal (Stage 2) (see Chapter 6, page 98, SAR [REP1-023]). The TAR and SAR include the results of the WebTAG (online Transport Appraisal Guidance) process, which is a Department for Transport process used to inform Government funding decisions.

- 60.1.6 In terms of longer tunnel options, in determining the optimum length of tunnel, along with considerations of cost, the location and design of the tunnel portals have been optimised in terms of the natural topography of the area, impact within the WHS and the extent of benefit that will be secured by one of the key aims of the scheme which is to remove the sight and sound of the A303 traffic from much of the WHS landscape. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost. The Written Question AL.1.29 [REP2-024] provides further detail in this respect.
- 60.1.7 In relation to alternative surface routes (including the F010 route), a full range of corridors and routes outside the WHS were identified and appraised during the course of the Scheme's development. All have been discounted as they would not be as successful as the proposed scheme in delivering the Scheme objectives. Further information can be found in the Technical Appraisal Report [REP1-031]. The Written Questions AL.1.10-12 and AL.1.15 [REP2-024] also provide relevant information.
- 60.1.8 The consideration of alternatives has been fully cognisant of the World Heritage Convention obligations and UK policy requirements with respect to the WHS, and appropriate weight has therefore been given to protecting the OUV of the WHS in considering those alternatives and selecting the scheme (for example see the consideration of alternatives in Chapter 3 of the Environmental Statement [APP-041] and with respect to the longer tunnel options see the response to Written Question AL.1.29 [REP2-024]).
- 60.1.9 In terms of the "appropriate test" and the suggestion that all harm to the WHS should be avoided, the relevant tests for the Examining Authority and Secretary of State in determining whether to grant consent for the Scheme are set out in section 104 of the Planning Act 2008, and as a result of those provisions, the decision maker must decide the application in accordance with the National Policy Statement for National Networks (NPSNN). That requirement is subject to certain exceptions, including under section 104(7) which requires that the application should be determined in accordance with the NPSNN unless the adverse impact of the proposed development would

outweigh its benefits. This requires a balancing exercise to be undertaken of the adverse and beneficial impacts of the Scheme.

- 60.1.10 Another exception makes the requirements of the World Heritage Convention relevant to the decision to grant consent. Other prescribed matters and any other important and relevant matters will also be relevant to the decision, including conformity with local planning policy and the WHS Management Plan.
- 60.1.11 There is no requirement in the NPSNN, the World Heritage Convention, local planning policy, the WHS Management Plan or ICOMOS guidance to avoid all adverse impacts on the OUV of the WHS.
- 60.1.12 With respect to the NPSNN requirements, NPSNN is concerned to avoid substantial harm to heritage assets, and includes requirements in relation to the balancing of less than substantial harm against the public benefit of the development. The Scheme's compliance with the NPSNN requirements is demonstrated in the NPSNN accordence table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294].
- 60.1.13 The requirements of the World Heritage Convention and the Scheme's compliance with those requirements are addressed in response to Written Question G.1.1 [REP2-021].
- 60.1.14 Local planning policy compliance is addressed in Appendix B of the Case for the Scheme and NPS Accordance [APP-294].
- 60.1.15 In relation to the World Heritage Convention, in full recognition of its obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972) (the World Heritage Convention), the Government is making a substantial investment in funding a tunnel past Stonehenge to bring extensive benefits to the WHS. The DCO application has been prepared (and the consultation on it undertaken) with due regard to the obligations under the World Heritage Convention. The UK has taken the steps required by Articles 4 and 5 of the convention by putting in place the UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets – namely, the UK's national policy statements, NPPF, Planning Act 2008 provision, and established approach to assessment of impacts on heritage generally and the balancing of factors in decision making. The protection and conservation of world heritage sites is integrated into the comprehensive planning programme in the UK for nationally significant infrastructure projects (as required by the Article 5(a)), and the appropriate measures taken by the UK in legislation and policy surrounding planning decisions including the NPSNN for the protection, conservation, presentation and rehabilitation of world heritage sites (required by Article 5(d)) place great weight on their harm. It follows that the application of the planning balance envisaged in the NPSNN, by the Secretary of State, would be in accordance with Articles 4 and 5. The NPSNN accordence table in Appendix A of the Case for the Scheme and

NPS Accordance [APP-294] demonstrates that the Scheme complies with the requirements of the NPSNN with respect to the WHS.

60.1.16 The Written Question G.1.1 [REP2-021] demonstrates in further detail how the World Heritage Convention obligations are being met.

Key Issues

60.1.17 Western section - impacts

- i. **The westerly section of new road would cut through the densest concentration of Neolithic long barrows in Britain, thus compromising the integrity of this unusual and nationally important group of burial monuments belonging to the millennium prior to Stonehenge.**
- ii. **The westerly section of new road would also destroy part of a major Bronze Age settlement of national importance. Only part of this settlement is statutorily protected as a scheduled ancient monument but that part which is not scheduled is of equal value.**
- iii. **West of the western portal, the above-ground works would cut through a zone of internationally important archaeological deposits that may be related to the one or more stages in the construction and use of Stonehenge.**

Highways England Response

60.1.18 Impacts on monuments and monument groups (Asset Groups) in this part of the WHS are considered in ES Chapter 6, Cultural Heritage [APP-044] and the Heritage Impact Assessment (ES Chapter 6, Cultural Heritage, Appendix 6.1) [APP-195, including the impacts on the long barrow groupings which are set out in paragraphs 9.3.1-9.3.3]. The preferred route for the Scheme was selected to avoid known archaeological remains, important sites and monuments. Subsequent design development at the western tunnel approach, including mitigation measures to limit or avoid impacts, has been informed by a comprehensive programme of archaeological evaluation surveys, which have confirmed the limited nature of the archaeological remains within the construction footprint for the Western Portal and its approach cutting [see APP195, paragraphs 6.3.4 – 6.3.12]. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Table 6.9.

60.1.19 Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction. The draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] submitted at Deadline 2 outlines areas for preservation in situ and archaeological mitigation. This is being developed in consultation with the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology

Service, Historic England, National Trust, and English Heritage) and Wiltshire Council Archaeological Services (WCAS), and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003].

Key Issues

60.1.20 Short-term vision of Scheme

- i. **Where planning normally deals with the short term, of decades extending perhaps into a century or so going forward, and often must notice the medium-term surviving traces such as 18th- or 19th-century or even medieval buildings, planning in the Stonehenge landscape must deal with a long term, indeed a very long term of several thousands of years.**
- ii. **It follows that planning at Stonehenge must be cautious and always propose minimal intervention. There is no area in the WHS where we can say, ‘We know that it is safe to place a tunnel portal or major new surface road here because there is nothing there which is important now or will be seen as important in the future.’ Therefore the whole of the present short-tunnel option is misconceived.**
- iii. **The A303 proposal is [...] a sad and retrograde step. Instead of respecting the WHS as defining the area to be protected, it recognizes only the land which is visible from the stones themselves – a throwback to the limited ideas of a century ago! It seeks to protect archaeological remains along the 2.9 km across the WHS which lies above the line of the tunnel, but cheerfully destroys everything within (and, in places, beside) the road’s footprint along a length of over 2 km – nearly as long – of the WHS. In addition it inflicts within the WHS two enormous and deep approach cuttings to the tunnel portals.**

Highways England response

- 60.1.21 The A303 scheme offers a uniquely effective solution to the two key challenges- congestion on the A303 and the impacts of the road and traffic on the WHS.
- 60.1.22 In terms of the approach that should be taken by planning to the WHS, the significance of heritage of this nature is recognised by its listing as a world heritage site. The World Heritage Convention, and the framework pursuant to which it has been implemented in the UK, operate to ensure the appropriate level of protection for such heritage. The protection and conservation of World Heritage Sites is integrated into the comprehensive UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets – namely, the UK's national policy statements, NPPF, Planning Act 2008 provision, and the established approach to assessment of impacts on heritage generally and the balancing

of factors in decision making. As a result, great weight is given to harm to World Heritage Sites. The application by the Secretary of State of the planning balance envisaged by this framework and in particular the National Policy Statement for National Networks (NPSNN) is in accordance with the World Heritage Convention (see response to Written Question G.1.1 [REP2-021] for further detail in this respect). The need for and benefits offered by the Scheme are detailed in the Case for the Scheme [APP-294] and confirmation of its compliance with the NPSNN is contained in Appendix A.

- 60.1.23 As detailed in paragraph 8.4.1 of the Case for the Scheme [APP-294] “The Scheme demonstrates compliance with the NPSNN, including the Government’s strategic vision for the development of the national road network, wider policies for economic performance, environment, safety, technology, sustainable transport, and accessibility, as well as journey reliability and the experience of road users. Where harm is generated by the construction or operation of the Scheme, it has been demonstrated through careful and comprehensive assessment that the substantial and long lasting benefits, such as improvements to the setting of Stonehenge and biodiversity net gain, as well as the extensive transportation, economic and community benefits, will outweigh the limited harm identified.” In terms of the reference to protecting the entire area of the WHS and not simply the Stones, the elements of the WHS that would be affected by the Scheme have been assessed in the Heritage Impact Assessment [APP-195], and therefore the conclusions with respect to the impact on the WHS as a whole and its OUV are for the entire WHS. The preferred route was carefully chosen to minimise effects on archaeology, and a comprehensive programme of archaeological evaluation surveys has informed the scheme being designed in a way that has limited any direct physical impacts as far as practicable. Examples of how the design has been developed to limit these impacts on archaeology include, but are not limited to, the choice of a northern bypass of Winterbourne Stoke, the reduced footprint and land take for Rollestone Corner, and the design and placement of the western and eastern tunnel portals and portal approaches in areas that have been shown to have limited archaeological remains within their footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044] Section 6.8, Table 6.9.
- 60.1.24 Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction. The draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] submitted at Deadline 2 outlines areas for preservation in situ and archaeological mitigation. This is being developed in consultation with the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeological Services, Historic England, National Trust, and English Heritage) and Wiltshire Council Archaeological Services (WCAS), and is

secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003].

60.2 Cultural Heritage

Key Issue

60.2.1 Significance of Blick Mead as a heritage asset

- i. **There is little doubt of the consensus that Blick Mead is a site of national importance and significance, with as yet unknown further potential to enhance our knowledge of Mesolithic Britain, the least well understood period in our country's history. This is agreed by both Historic England and Highways England's own Scientific Committee. This point should be acknowledged as Common Ground.**
- ii. **The OUV of the World Heritage Site, when the property was inscribed on the WH List, related specifically to the proliferation of Neolithic and Bronze Age monuments found here. However, this does not detract from the significance of Blick Mead. Had this site and its significance been known when the WHS was first listed, there is a strong case for arguing that the OUV would equally have attached to this heritage asset.**
- iii. **[given the significance of the site, NPSNN] requires the developer to (a) ensure preservation of remains in situ (as opposed arranging for pre- destruction archaeological recording), and (b) to avoid any harm to this archaeology unless the project falls within the category of "wholly exceptional" development with clear and convincing justification for the destruction.**
- iv. **The meaning of "wholly exceptional" will no doubt be debated, but we submit that, in its simplest essence, this is simply a scheme to transform a stretch of single carriageway road into a dual-carriageway road, in an effort to improve traffic-flow and journey times. As such this is a commonplace scheme; the only thing wholly exceptional about it is that it is being proposed within the most prestigious World Heritage Site in this country, arguably in Europe.**
- v. **The assumed benefits of the scheme could in any event be realised by diverting the A303 to the south, wholly avoiding the World Heritage Site, at a fraction of the cost, but requiring a new public consultation.**

Highways England response

60.2.2 In response to the above points:

- i. **Blick Mead is recognised as of national importance in the ES (Appendix 6.3, UID 4032) [APP-212] and assigned a 'High' value accordingly (assets of OUV are assigned a value of Very High). This accords with NPS paragraph 5.124 (see Appendix A of [APP-294] Case for the scheme).**

- ii. See above.
- iii. As detailed in Annex A of the case for the scheme [APP-294], which repeats the text from the NPSNN paragraph 5.131 the actual requirement is that “**Substantial** harm to or loss of designated assets of the highest significance” should be “wholly exceptional” (Applicant’s emboldening). The text showing compliance with the NPSNN notes that only instances of less than ‘substantial harm’ occur as a result of the scheme and that these are outweighed by the Scheme benefits as per NPSNN Paragraph 5.134. With specific reference to Blick Mead, Table 6.9 of the Environmental Statement [APP-044] notes that the A303 alignment was optimised to avoid any land take and keep the new A303 at existing grade and that groundwater modelling indicates no impact.
- iv. See response to (iii) above.
- v. A full options appraisal was carried out for the A303 scheme (further details are provided in the Applicants Response to Examiners Question AL1.4 [REP2-024]. The Technical Appraisal Report [REP1-031] explains the consideration of the Scheme options.
- vi. Paragraphs 6.4.11-6.4.23 explain the development of the options to the south of the existing A303 corridor, Section 7.5 then sets out the assessment of the southern corridor options explaining their relative merits, as summarised in Table 3.1, Stage 2, of Chapter 3 of the Environmental Statement [APP-041] with route F010 shown as outperforming the other corridor F options.
- vii. The Decision to not take forward F010 is detailed in Section 4.5 of the Scheme Assessment Report (SAR [REP1-023]), which details that route F010:
 - would increase the length of the route by 3.7km more than D061 and D062 (Table 4.1 [REP1-023]), therefore having a longer average journey time between A36 and A338 and having a lower average journey time saving than D061 and D062
 - would likely result in higher NOx emissions than D061 and D062 (Paragraph 4.5.30 of the SAR [REP1-023])
 - had a lower Benefit Cost Ratio (0.3) than D061 (0.5) and 062 (0.6) (Paragraph 4.5.12 of the SAR [REP1-023])
 - was assessed to have potential to deliver fewer in-service accident benefits than D061 and D062 due to its longer travel distances (Paragraph 4.5.24 of the SAR [REP1-023])
 - would require the construction of two significant viaducts over the River Till and River Avon (Paragraph 4.5.25 of the SAR [REP1-023])

- had impacts on the rural landscape that were predicted to be higher (Very Large Adverse) compared to D061 and D062 (Moderate Adverse) (Paragraph 4.5.31 of the SAR [REP1-023])
- was assessed as having a Very Large Adverse effect on biodiversity due to its direct impacts on internationally and nationally designated sites compared to a Large Adverse effect for the other options which it was possible to reduce with mitigation measures (Paragraph 4.5.33 of the SAR [REP1-023])
- performed weakest against the Client Scheme Requirements compared to D061 and D062 (Table 4-2 of the SAR [REP1-023]). Following consideration of all the above information the F010 route was ruled out of public consultation and further assessment in Project Control Framework (PCF) Stage 2.

Key Issue

Context and significance of Blick Mead

- 60.2.3 **The datable organic material has survived due to the wet environment that it sits in. Study of the faunal remains [...] indicate the material has not moved very far since primary deposition in a seemingly homogeneous water lain deposit. Likewise, the discovery of exceptionally well preserved aurochs hoof prints underneath the 7th millennium BC platform surface [...] underscores how important the water table level is at Blick Mead in order for these fragile and ancient remains to survive into the future.**
- 60.2.4 **Further, we have only excavated a fraction of the known surveyed site, so well-preserved remains, some in situ, will be available for future study. In our view it is not enough to learn as much as we can now before it is destroyed. Improvements in science and technology going forward will yield ever more detailed and nuanced results as time goes on.**
- 60.2.5 **Until now, Mesolithic find-spots in the Stonehenge landscape have been described in isolation, but they can now start to be brought together as a result of the discoveries at Blick Mead to reveal potential patterns of use in the landscape.**
- 60.2.6 **Blick Mead is thus a nationally important heritage asset and one that has great potential to yield future discoveries which will be enhanced by new technologies and scientific methods [...]. In the near future the Mesolithic may well emerge as a starting point for understanding the better known archaeology of the Stonehenge World Heritage Site.**

Highways England response

- 60.2.7 See response above: Blick Mead is recognised as of national importance in the ES (Appendix 6.3, UID 4032) [APP-212] and assigned a 'High' value

accordingly (assets of OUV are assigned a value of Very High). This accords with NPS paragraph 5.124 (see Appendix A of APP-294 Case for the scheme).

- 60.2.8 The seasonal variation in water levels at Blick Mead has been recorded since the low levels in late 2018 through to high levels in 2019 [AS-015] and is ongoing. A low water level and high water level period have already been recorded (autumn 2018 and spring 2019) at Blick Mead [AS-022] and span the extremes of a typical twelve month period. This is sufficient as a baseline and for correlation with long term records. There is no guarantee that conditions recorded over a typical twelve months will be representative of extremes. Therefore the effects of the Scheme were assessed under a wider range of conditions than those likely to be experienced in a single year and include data from the drought of 1976 and floods of 2014. There is no prediction of significant effects of the assessed Scheme on the hydrology at Blick Mead [Chapter 11, APP-049 paragraphs 11.9.6 and 11.9.7].

Key Issue

60.2.9 Threat to WHS status

- i. **The creation of new sections of dual carriageway and slip roads (and temporary roads during works) beyond the tunnel but still within the boundary of the WHS would entail large-scale destructive development within this WHS, potentially threatening its status and integrity and setting a dangerous precedent.**
- ii. **The above-ground works would have a negative impact on the WHS, especially beyond the western portal to the western boundary of the WHS where a substantial area would be rendered archaeologically 'sterile'. This will permanently damage a major block of land within the WHS and degrade its OUV, and is contrary to the recommendations of UNESCO and other international and national parties.**
- iii. **The WHS and its OUV (Outstanding Universal Value) need to be protected. We believe that the A303 proposal places the UK in breach of Articles 3 and 4 of the 1972 World Heritage Convention. Having identified and delineated the site of Stonehenge as an archaeological site of OUV, the State Party should recognize its duty to protect, conserve and transmit to future generations this cultural heritage, doing 'all it can to this end, to the utmost of its own resources...'. We believe that Highways England's proposed scheme for a short tunnel, with its cuttings, portals and a flyover inside the WHS, would place the UK in breach of the 1972 Convention.**

Highways England response

- 60.2.10 In full recognition of its obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972) (the

World Heritage Convention) the Government is making a substantial investment in funding a tunnel past Stonehenge to bring extensive benefits to the WHS.

Article 3 of the World Heritage Convention provides that each State Party identify and delineate the different properties situated on its territory. The Applicant considers the UK has complied with that requirement. The UK has taken the steps required by Articles 4 and 5 by putting in place the UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets – namely, the UK's national policy statements, NPPF, Planning Act 2008 provision, and established approach to assessment of impacts on heritage generally and the balancing of factors in decision making. The protection and conservation of world heritage sites is integrated into the comprehensive planning programme in the UK for nationally significant infrastructure projects (as required by the Article 5(a)), and the appropriate measures taken by the UK in legislation and policy surrounding planning decisions including the NPSNN for the protection, conservation, presentation and rehabilitation of world heritage sites (required by Article 5(d)) place great weight on their harm. It follows that the application of the planning balance envisaged in the NPSNN, by the Secretary of State, would be in accordance with Articles 4 and 5. The NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294] demonstrates that the Scheme complies with the requirements of the NPSNN with respect to the WHS.

- 60.2.11 The application has been prepared (and the consultation on it undertaken) with due regard to the obligations under the World Heritage Convention.
- 60.2.12 The Heritage Impact Assessment (HIA) [APP-195] (submitted as part of the application) assesses the impact of the proposed Scheme on the Attributes that convey the OUV of the WHS, their Integrity and Authenticity, as well as the alignment of the Scheme with the vision, aims and policies of the 2015 WHS Management Plan and the criteria for the site's inscription as a WHS. The HIA concludes that the overall effect on the OUV of the WHS would be slight beneficial and the OUV will be sustained by the construction of the Scheme.
- 60.2.13 It follows from this, and from the Scheme's compliance with the NPSNN policies relevant to the provisions of the WHC, that deciding in favour of the Scheme would not lead the UK to a breach of its international obligations, of the World Heritage Convention. For further detail in this respect, please see the response to Written Question G.1.1 [REP2-021].
- 60.2.14 In terms of Highways England's intentions for the WHS, one of the fundamental objectives of the Scheme, as stated in the Case for the Scheme [APP-294], is to help conserve and enhance the World Heritage Site. The Scheme is assessed in the HIA [APP-195] to have a Slight Beneficial effect on the Outstanding Universal Value (OUV) of the WHS as a whole. This takes into account that of the seven attributes of OUV for the WHS, whilst

the Scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on three of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the Scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. Overall, the OUV of the WHS would be sustained.

60.2.15 The HIA [APP-195] considers the risk to the inscription of the site as a World Heritage property and concludes that the Scheme would not impact upon the continuing relevance and application of the WHS inscription criteria, and in fact the Scheme will bring extensive benefits to the WHS.

60.2.16 The HIA notes the criteria for inscription of the WHS:

"The inscription of the WHS is based on three criteria:

- Criterion (i): The monuments of the Stonehenge, Avebury and Associated Sites demonstrate outstanding creative and technological achievements in prehistoric times.
- Criterion (ii): The World Heritage property provides an outstanding illustration of the evolution of monument construction and of the continual use and shaping of the landscape over more than 2000 years, from the Early Neolithic to the Bronze Age. The monuments and landscape have had an unwavering influence on architects, artists, historians and archaeologists, and still retain a huge potential for future research.
- Criterion (iii): The complexes of monuments at Stonehenge and Avebury provide an exceptional insight into the funerary and ceremonial practices in Britain in the Neolithic and Bronze Age.

Together with their settings and associated sites, they form landscapes without parallel." [APP-195, para 12.5.2].

60.2.17 The HIA then reports the assessment of the Scheme's impact on those criteria, concluding that it would not impact on the inscription criteria:

"It is assessed that the Scheme would not impact upon the continuing relevance and application of the WHS inscription criteria in relation to the Stonehenge, Avebury and Associated Sites WHS. The OUV of the WHS is expressed in the SoOUV which justifies inscription of the WHS under the above criteria." [APP195, para. 12.5.3].

"Although parts of the Scheme would have a Slight Adverse effect on certain assets and Asset Groups and certain Attributes of the OUV of the WHS, none of these effects are deemed significant overall, and they would not erode the OUV of the WHS, its Integrity or Authenticity." [APP-195, para. 12.5.7].

60.2.18 In terms of the western portal, consideration has been given to the recommendations of ICOMOS and the World Heritage Committee. At Preferred Route Announcement the west portal was located north west of

Normanton Gorse at a position which gave a 2.9km tunnel length. During design development the following changes were identified as beneficial to reflect ICOMOS recommendations.

- A 100m bored extension westwards to avoid a scheduled monument: a Bowl barrow south of the A303 and north west of Normanton Gorse (NHLE 1010832).
- A cut and cover extension of 200m at the western portal to better suit the topography, enable shallower approach cuttings to the tunnel entrance and to aid landscape integration.
- A 150m long land bridge was included in the Proposed Scheme to provide physical and visual connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group.

60.2.19 The combined effect of the changes (as well as a 85m cut and cover at the eastern portal) was to increase the tunnel length from 2.90km to 3.285km, an increase of 385m or nearly ¼ mile.

60.2.20 The locations of the eastern and western portals in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost.

60.2.21 See the response to Written Question AL.1.29 [REP2-024] for further detail.

Key Issues

60.2.22 Eastern section – impacts

- i. **East of the eastern portal, the impact of the works may be deleterious to the continued preservation of deposits, especially those with preserved organic remains, within the internationally important prehistoric site of Blick Mead. Long-term evaluation of the proposal's impact on these archaeological remains (notably on changing groundwater levels and contamination by road runoff) is required before an informed decision can be made.**
- ii. **The proposed eastern portal will badly damage the visual setting of the prehistoric hill-fort of Vespasian's Camp and affect its extra-mural archaeological deposits, including remains of a likely palisade extending northwards from the hill-fort's entrance. Any works here will impinge on this and any other features immediately outside the hill-fort's entrance, its natural access point.**
- iii. **[the eastern section] would have adverse effects on the settings of the Stonehenge Avenue and would further damage the setting and integrity of a Bronze Age cemetery through which the new road cutting would pass.**

Highways England response

- i. The implications of the Scheme for the Blick Mead site have considered potential impacts on groundwater levels and flows at the site. Further information can be found in ES Chapter 11, Appendix 4, Annex 3 Blick Mead Tiered Assessment [APP-282]. There will be no change in groundwater levels and no contamination by road runoff at Blick Mead which lies beyond the zone of influence.
- ii. Between the eastern tunnel portal and the Countess junction, a combination of re-using the existing dual carriageway, moving the new road to the north of the existing alignment, and providing a cut and cover section of tunnel will mitigate potential impacts on the setting of Vespasian's Camp such that, there would be no permanent adverse effects. During construction, as a result of the construction of the main carriageway and eastern tunnel portal, there would be a slight adverse, and so non-significant, effect on Vespasian's Camp due to aural impact, as reported in ES Appendix 6.8, Table 1.1 [APP-217].

With regard to archaeological remains, the results of the archaeological evaluation at the eastern portal indicate limited archaeological remains potentially associated with Vespasian's Camp [REP1-047, 048].

Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction, in order to avoid, as far as is practicable, previously unknown archaeological remains being uncovered during construction. The draft Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] submitted at Deadline 2 identifies areas to be protected in-situ.

- iii. **ES Chapter 6 Appendix 6.9 Setting assessment [APP-218] assesses the impact of the Scheme on the setting of the Avenue (AG27):**

“The removal of the A303 surface road would have substantial beneficial impacts on the setting of the monument and its integrity as a key component of the WHS. All of the negative aspects of the A303 [...] would be addressed, either completely or in part:

- Physical severance of the monument by the A303 would be greatly reduced through the introduction of chalk grassland, with occasional access for farm vehicles.
- The visual and aural impact of the road would be removed to a very large degree. The change would be most discernible in northward-looking views from the southern section of the Avenue (i.e. where it currently approaches the A303), and in its northerly and westerly parts, whilst traversing the monument around King Barrow Ridge and Stonehenge Bottom. This represents a radical improvement on the current situation. Longitudinal eastward views of the Scheme would

continue to exist at and near the point at which the new road coincides with the Avenue;

- The removal of the A303 would make it possible to traverse the greater part of the monument length on foot as a continuum (land access permitting), except at its south-eastern extreme;

The illegible character of its eastern end would remain unchanged, as would the fragmented nature of access in this locality. The effect of the Scheme would be Large beneficial (derived from a Moderate impact on a Very High value asset)."

The effects of the Scheme during the operational phase are assessed as follows:

"The visual and aural impact of traffic would be removed to a very large degree, though traffic would remain visible in longitudinal eastward views of the Scheme. The effect of the Scheme would be Large beneficial (derived from a Moderate impact on a Very High value asset)."

In terms of the barrow cemetery (The Avenue Barrows), ES Chapter 6 Appendix 6.9 Setting assessment [APP-218] assesses the construction effects of the Scheme as follows (AG30):

"The removal of the A303 would have beneficial impacts on the setting of the group. All of the negative aspects of the A303 [...] would be addressed, either completely or in part. The removal of the present surface A303 physically reunites the monuments, though the eastern portal and its approach road would occupy a small part of the area defined for the group. "Negative aspects of the current setting not arising from the present A303 would not be addressed." The effects of the Scheme would range from Large beneficial (derived from a Moderate impact on a Very High value asset) to Moderate beneficial (derived from a Minor impact on a Very High value asset). Operational effects are assessed as follows: "The visual and aural impact of the road and traffic would be lessened, though not entirely removed. All of these benefits are tempered by the fact that the monuments' lack of surface expression reduces the importance of their visual setting. "The effect of the Scheme would be Moderate beneficial (derived from a Minor impact on a Very High value asset)."

Key Issue

60.2.23 Archaeological mitigation priorities

We should insist on 100% sample sieving of the entire ploughsoil within the road line's footprint within the WHS. The ploughsoil contains an essential part of the archaeological record and must not be simply removed and destroyed prior to road construction. Topsoil excavation should then be followed by renewed geophysical survey, followed by

trowelling of the exposed chalk surface prior to identification and excavation of sub-ploughsoil features.

Highways England response

60.2.24 A draft Detailed Archaeological Mitigation Strategy (DAMS) was submitted at Deadline 2 [REP2-038], being developed in consultation with the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeological Services, Historic England, National Trust, and English Heritage) and Wiltshire Council Archaeological Services (WCAS), and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. The DAMS and the accompanying Overarching Written Scheme of Investigation (OWSI) are being developed during the course of the Examination through continuation of regular meetings with the Heritage Monitoring Advisory Group (HMAG), in order to produce a finalised DAMS prior to close of Examination. The HMAG meetings will be informed by further engagement with the Scientific Committee during this process.

Key Issue

1. The World Heritage Convention 1972

60.2.25 **Under the Planning Act 2008, nationally-significant infrastructure projects (NSIP) for which development consent is sought must demonstrate compliance with international treaties signed by the UK. One such treaty is the World Heritage Convention 1972 (“the WHC”), which the UK ratified in 1984.**

60.2.26 **Article 3 of the WHC provides that "it is for each State Party to this Convention to identify and delineate the different properties in its territory mentioned in Articles 1 and 2". (Articles 1 and 2 define the kind of monuments, buildings or sites that can be listed under the WHC, and these include "archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view."**

60.2.27 **The Stonehenge and Avebury World Heritage Site (“the WHS”) was inscribed on the list in 1986. It is important to keep in mind that the WHS encloses an area of some 27 square kilometres. At the time of inscription, the Outstanding Universal Value (“the OUV”) of the site, in heritage terms, was attached to its proliferation of Neolithic and Bronze Age monuments and archaeology – a uniquely rich concentration even before the more recent discoveries, unparalleled in the UK and NW Europe. As such, it affords protection to far more than the iconic Stonehenge circle and its immediate surrounding area. The OUV derives from the entirety of the landscape inside the boundaries of the WHS.**

60.2.28 **Article 4 of the WHC requires that "Each State Party to this Convention recognizes the duty of ensuring the identification,**

protection, conservation, presentation and transmission to future generations of the cultural and natural heritage referred to in Articles 1 and 2 and situated on its territory, belongs primarily to that State. It will do all it can to this end, to the utmost of its own resources and, where appropriate, with any international assistance and co-operation.....which it may be able to obtain." There are no proviso's, caveats or exceptions here. On the face of it, insofar as the proposed scheme involves destruction of archaeology inside the WHS, it is in breach of Article 4 of the WHC.

2. The National Policy Statement for National Networks, 2014 (the "NPSNN")

- 60.2.29 Paragraph 5.131 provides that: "When considering the impact of a proposed development on the significance of a designated heritage asset, the Secretary of State should give great weight to the asset's conservation. The more important the asset, the greater the weight should be. Once lost, heritage assets cannot be replaced and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. Given that heritage assets are irreplaceable, harm or loss affecting any designated heritage asset should require clear and convincing justification. Substantial harm to or loss of a grade II Listed Building or a grade II Registered Park or Garden should be exceptional. Substantial harm to or loss of designated assets of the highest significance, including World Heritage Sites, Scheduled Monuments, grade I and II* Listed Buildings, Registered Battlefields, and grade I and II* Registered Parks and Gardens should be wholly exceptional."
- 60.2.30 I have highlighted the most relevant aspects of this policy statement above. The NPSNN therefore does envisage circumstances in which it might be necessary (in the cause of an infrastructure development) to cause harm or loss through alteration or destruction of a heritage asset, but affirms that any such action requires "clear and convincing justification". Any substantial harm to an asset of the highest significance, including to a WHS, should be "wholly exceptional".
- 60.2.31 If it is accepted, as it must be, that the scheme will if it proceeds cause substantial harm to a heritage asset of the highest significance, i.e. the WHS, is there clear and convincing justification for the scheme, and are the circumstances for which the scheme has been proposed wholly exceptional? These are judgments that the Examining Authority's panel must make in the course of the Examination. To assist, I offer the following observations:
- a. The circumstances said to justify the scheme are that the A303 is a major trunk road from London to SW England, and that in several sections along its length, the dual carriageway narrows to single

carriageway, which sometimes (especially at peak times) causes congestion, lengthening journey times;

- b. It is assumed that by widening the single carriageway sections of the A303, journey times to and from the SW will be cut, which will in turn lead to a boost to the economy of SW England; the assumption underpinning this justification will doubtless be examined by the Panel in any event and is not the focus of this submission;
- c. In essence however, the problem that the scheme seeks to address is rather commonplace throughout the country; it is not a “wholly exceptional” situation.
- d. Does the problem however justify the inevitable harm to the OUV of the WHS? Apart from the economic argument, the other main perceived benefit used to justify the Scheme, certainly in the eyes of Historic England, is that it will re-unite the two halves of the WHS, and will “substantially improve the ability of the public to enjoy the extraordinary archaeology of the whole Stonehenge WHS, rather than only the part to the north of the WHS” –(Historic England’s response to the public consultation, 20.4.18). As anyone who has recently visited the northern part of the WHS near Stonehenge could tell us, the idea of the public being able to wander freely at will across this landscape is somewhat fanciful. In any event, this claim only relates to the section of the WHS bordering the proposed tunnel, it does not benefit the rest of the WHS where the portals and surface roads will continue to sever the WHS.
- e. Even if the perceived benefits of faster journey times and reunification of the two halves of the WHS did amount to “clear and convincing justification”, both aims could be delivered without any risk of harm to the WHS if instead of the tunnel scheme the A303 were diverted to the south of the WHS and converted to dual carriageway along its full length. The merits of various alternative route proposals will no doubt be argued over by other Interested Parties and the Applicant in the course of the Examination. My only observation on this is the deeply ironic nature of the reasons given by the Applicant for rejecting alternative routes to the south, in particular the one designated as route option F10. In its report to UNESCO entitled “A303 Stonehenge Summary of the detailed assessment of F10”, a couple of the main reasons given for the rejection of F10 were that (1) the route was un-surveyed and could impact on unknown archaeology, and (2) it would spoil pristine countryside. One would very readily assume that such objections arise with almost any infrastructure project in this country – the difference however

is that not all infrastructure projects propose destroying swathes of land inside the UK's most prestigious WHS.

- 60.2.32 **In short we submit that the justification for the inevitable damage this scheme will cause to the WHS is hardly clear and very far from being convincing; insufficient weight has been attached to the importance of the WHS status, which should be paramount. If the panel agree that the justification has not been made out or is less than convincing, it must conclude there is a breach of the NPSNN.**

Highways England response

1. World Heritage Convention

- 60.2.33 Article 4 of the WHC places a duty on each State Party as set out in the Written Representation.
- 60.2.34 Like any legal instrument, the WHC has to be read as a whole and Article 4 must be read alongside the wording of Article 5. Article 5 sets out the specific steps a State Party must take pursuant to the duty in Article 4. Article 5 therefore establishes that how Article 4 is implemented in practice is up to each State Party. Each State Party must "endeavour", "in so far as possible", "and as appropriate for [the State Party's] country" to take the steps set out in Article 5. Article 4 does not impose any specific action or binding commitment on a State Party. It is left to the State Party to determine the extent of the obligations and the mode of their performance. There is discretion as to what steps the State Party takes and "considerable latitude" as to their precise actions.
- 60.2.35 The UK has taken the steps required by Articles 4 and 5 by putting in place the UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets – namely, the UK's national policy statements, NPPF, Planning Act 2008 provision, and established approach to assessment of impacts on heritage generally and the balancing of factors in decision making. The protection and conservation of world heritage sites is integrated into the comprehensive planning programme in the UK for nationally significant infrastructure projects (as required by the Article 5(a)), and the appropriate measures taken by the UK in legislation and policy surrounding planning decisions including the NPSNN for the protection, conservation, presentation and rehabilitation of world heritage sites (required by Article 5(d)) place great weight on their harm. It follows that the application of the planning balance envisaged in the NPSNN, by the Secretary of State, would be in accordance with Articles 4 and 5. The NPSNN accordance table in Appendix A of the Case for the Scheme and NPS Accordance [APP-294] demonstrates that the Scheme complies with the requirements of the NPSNN with respect to the WHS. The UK's compliance with the World Heritage Convention is addressed in further detail in Written Question G.1.1 [REP2-021].

2. The NPSNN

60.2.36 As noted, above, the World Heritage Convention is implemented in the UK via the NPSNN (amongst other means). As noted in the Written Representation, NPSNN is concerned to avoid substantial harm to heritage assets. It also includes requirements in relation to the balancing of less than substantial harm against the public benefit of the development. The Scheme's compliance with the NPSNN requirements is demonstrated in the NPSNN accordence table in Appendix A of the Case for the Scheme and NPS Accordence [APP-294]. Appendix A notes that there will be: no instance of 'substantial harm' or total loss of significance to a designated asset; some limited instances of less than substantial harm to the significance of heritage assets relating to negative changes to their setting; and beneficial and significant beneficial effects on designated heritage assets and Asset Groups respectively. Appendix A concludes that the beneficial effects on the setting of the WHS, the Conservation Area and designated heritage assets, together with the need for the Scheme and the wide ranging and long term benefits it will deliver, are more than sufficient to outweigh any limited adverse impacts on the setting of a small number of designated assets.

60.3 Flood risk, groundwater protection, geology and land contamination

Key Issue

60.3.1 The water table assessment that is required at Blick Mead

- i. Historic England and the Scientific Committee have explicitly stated from early 2018 that there needed to be a full and detailed assessment of the impact of the scheme on the local water table at Blick Mead over a minimum of 12 months.**
- ii. The DCO application was submitted [...] in reliance on a Tiered Assessment report in relation to Blick Mead. However, it is the expert view of Prof Brown that the Tiered Assessment report is preliminary and insufficient to properly assess the potential impact at Blick Mead, for which he has made previous recommendations.**
- iii. At the urging of both Historic England and of its own Scientific Committee, Highways England did agree to conduct a detailed assessment of the local water-table fluctuations at Blick Mead, over a minimum period of 12 months; [and] it led the Blick Mead team, the Scientific Committee, and Historic England to believe that was what it intended; [however] now the Examination procedure is underway, it has reneged on all such agreements.**
- iv. The position of the Blick Mead Project is that the results of such monitoring ought to have been ascertained before Highways England applied for the DCO, and as a result that the current**

application is premature and inadequately risk assessed in relation to a key heritage asset.

- v. **The Applicant could have delayed lodging its application until the heritage impact at Blick Mead had been fully assessed. It did not, and having set this process in motion, the statutory timeframe will expire before a full assessment can be completed. We submit that this is a sound reason for not recommending approval of this scheme.**

Highways England response

60.3.2 In response to the above:

- i. The Scheme's potential impacts on groundwater levels and flows have been assessed and the assessment has shown that there will not be any adverse effect on groundwater levels at Blick Mead, or the preservation of its archaeological remains. Supporting information can be found in ES Chapter 11, Appendix 4, Annex 3, Blick Mead Tiered Assessment [APP-282], which was completed in accordance with Historic England's guidance. Water level monitoring is ongoing and high and low seasonal levels have been recorded as detailed in AS-015.
- ii. It is the view of Highways England is that the Tiered Assessment is sufficient to properly assess the impact at Blick Mead. See also the response to 60.3.3.
- iii. Highways England's assessment of the potential implications of the Scheme for the Blick Mead site included consideration of potential impacts on groundwater levels and flows at the site, including the influence of highway drainage on water levels, concluding that the drainage may be contributing some overland flow to the Blick Mead site, though only during times of heavy rainfall. The assessment shows that there will not be any adverse effects on spring flows at Blick Mead. However, given the interest in the site, both from members of the public and heritage bodies, hydrological monitoring at Blick Mead is continuing and the data is being shared (see for example AS-015 which has monitoring until March 2019). HE did not agree to a minimum of 12 months monitoring. However, monitoring is ongoing and has captured high and low seasonal water levels. Supporting information can be found in ES Chapter 11, Appendix 4, Annex 3 Blick Mead Tiered Assessment [APP-282].
- iv. The assertion that the application was premature is refuted. A twelve month period is commonly used to define a hydrological baseline because it covers the seasonal lows and highs. A low water level and high water level period have already been recorded (autumn 2018 and spring 2019) at Blick Mead [AS-022] and span the extremes of a typical twelve month period. This is sufficient as a baseline and for correlation with long term records. There is no guarantee that conditions recorded

over a typical twelve months will be representative of extremes. Therefore the effects of the Scheme were assessed under a wider range of conditions than those likely to be experienced in a single year and include data from the drought of 1976 and floods of 2014. There is no prediction of significant effects of the assessed Scheme on the hydrology at Blick Mead [Chapter 11, APP-049 paragraphs 11.9.6 and 11.9.7]. It is Highways England's position that 12 months monitoring is not required, but that it undertook the additional monitoring without prejudice to this view. The ongoing groundwater recording and monitoring at Blick Mead [AS-015], as requested by stakeholders, reports results which are consistent with the findings of the Tiered Assessment presented in Annex 3 of Appendix 11.4 - Groundwater Risk Assessment [APP-282] and the ES.

- v. The effects at Blick Mead are fully assessed as set out in ES Chapter 11, Appendix 4, Annex 3, Blick Mead Tiered Assessment [APP-282]. There was no reason to delay the application to wait for the additional monitoring requested by stakeholders which has reported results consistent with the assessment findings.

Key Issue

The HE Tiered Assessment

- 60.3.3 **There is no dispute that the wetland sediment levels and the archaeological layers encountered constitute a wetland part of the Blick Mead site.**
- 60.3.4 **In the wetland areas archaeological and ecological artifacts were found between 67.85 m OD and 66m OD and even below 66m OD as debitage has been found in the basal sand and gravel. It follows that a watertable lowering below 67.85m OD and low levels of moisture in the unsaturated zone for any appreciable time will lessen the environmental potential of the site, which is otherwise very good as illustrated by the sometimes excellent bone preservation and preservation of some insects, pollen and plant macrofossils, and potentially DNA.**
- 60.3.5 **It is clear from simple Lidar modelling (and height above the river banks (67.8m OD) of less than 1m (e.g. surface average in pond of 68.5m OD) that the site is a flood channel but it is also the site of a spring and was in the past a permanent spring-fed pool. However, the occurrence of springs under the floodplain (including into channels) is characteristic of chalk valleys in the Salisbury Plain region. It follows that anything that reduces the discharge of this spring would reduce the saturation of the archaeological deposits. However, the exact location of the spring and its yield are not known. [...] The report in effect assumes that this is the only source of water and so if regional hydrogeological modelling shows that the scheme will not reduce**

spring discharges from the chalk aquifer then the site will be unaffected.

60.3.6 This is conceptually flawed [because] we know that the spring is not the only source of water input to the site. There are four others that need evaluation:

a. Flood-flow from the river

Because of its infrequency this is unlikely to be a major or even significant contributor to the site water balance.

b. Meteoric water (rainfall and snow)

Although not included in the conceptual model there is no likelihood of the A303 scheme increasing meteoric water supply and so it is not material to the assessment.

c. Surface water discharge (including return flow) onto the site from the adjacent slope

Given the slope into the lower part of the site formed by both the chalk and lynchets to the north it is likely that there is some lateral through flow into the site. Whilst being unlikely to significantly elevate the water table it would increase saturation in the unsaturated part of the sediment column adjacent to the slope. This is difficult to assess and is one of the reasons such sites require shallow groundwater monitoring and modelling.

It is not clear how the scheme would alter existing surface flows from the A303 as this depends upon the storm water drain layout and capacities.

d. Lateral through-flow from the surrounding floodplain and upstream

Floodplain sites receive input from upstream – in this case from floodplain to the north of the A303. It is not known how much the construction of the existing A303 impeded this flow but again this is an uncertainty in the site hydrology which could have a small but significant effect. There are also no Assessments concerning the longitudinal floodplain connectivity so it is impossible to judge any potential effects of changes to the A303 even on the existing footprint. It is also possible that the additional weight of the new road construction could further reduce any downstream shallow groundwater transfer but this is unknown without a report on the present subsurface conditions from geotechnical survey and calculation of any further compaction.

Highways England response

- 60.3.7 The conceptual model of the hydrogeology at Blick Mead is described in the Tiered Assessment (ES Chapter 11, Appendix 4, Annex 3 Blick Mead Tiered Assessment [APP-282].)
- 60.3.8 Paragraph 2.6.1 states that the Mesolithic deposits of archaeological interest are located at the base of the lower permeability superficial deposits (between 67 and 68m aOD), and immediately above the Chalk and sands and gravels aquifer. The groundwater level in the underlying aquifer is such that there will normally be upward pressure that assists in maintaining the wet conditions in the Mesolithic deposits.
- 60.3.9 Groundwater levels fluctuate in the underlying aquifer and are generally above 68m aOD, although could potentially drop below the upper level of the Mesolithic deposits layer (and towards 67.5m aOD) for a number of months in a natural drought. (paragraph 2.7.1).
- 60.3.10 It is therefore agreed that the Mesolithic deposits are usually below the water but water table lowering below 67.85m aOD would not be uncommon. Excavations at Blick Mead take place in the autumn months when groundwater levels are at their lowest and the excavations can be completed in partially dry conditions.
- 60.3.11 There is not 'a spring' at Blick Mead; the appearance of water at surface is because the water table is high enough at times to intersect ground level.
- 60.3.12 Regarding the sources of water input to the site, it is agreed that
- a. flood flow is unlikely to be a major regular contributor. However, the presence of the river is significant and a fall to lower than the river level at around 67.5m aOD is unlikely under existing conditions [APP-282 Annex 3 paragraph 3.1.1]
 - b. Paragraph 2.6.1 states that "groundwater flow in the Chalk aquifer is from north to south towards the Blick Mead archaeological site. The flow will be driven by rainfall recharge higher in the catchment". It is therefore not correct to state that meteoric water is not included in the conceptual model.
 - c. refers to discharge from the adjacent slope. Paragraph 2.6.1 states that "rainfall on the low permeability superficial deposits (containing the Mesolithic deposits) is expected to flow over-land to the River Avon (e.g. via the Blick Mead ditch). However, in part, it will infiltrate into the ground, initially overcoming any soil moisture deficit, and then providing a further mechanism for wetting of the Mesolithic deposits." Therefore it is agreed that the mechanism being described at c) is present. The Scheme will not adversely affect the flows from the A303. Road runoff outfall locations would not change and runoff catchment area would increase slightly, which is not predicted to decrease the potential contribution of runoff to

alluvial groundwater levels supporting the Blick Mead archaeological site [APP-049, ES Chapter 11, paragraph 11.9.7c].

- d. Flows from upstream and from the floodplain are illustrated in Figure 2.11 of Annex 1 [APP-282]. The presence of the existing A303 impedes overland flow from the north because it is at a higher elevation than the surrounding land. Groundwater flow beneath the road is taking place as can be seen by groundwater levels to the north and south of the road. Figure 2.11 shows the elevation of the A303 and the existing and proposed drainage arrangements from the road. Groundwater levels are lower than the road and neither the existing or proposed drainage interfere with groundwater flow. [APP-282, Annex 3, paragraph 2.5.4]
- 60.3.13 Highways England strongly disputes the comment that the hydrological/hydrogeological assessment is flawed and without substantive evidence to understand the valid evidential basis for this claim is unable to provide additional response other than the competent professional assessment undertaken and submitted alongside Highways England Examination submissions and responses.

61 Andrew Rhind Tutt (REP2-177)

61.1 General and cross-topic

Key Issue

- 61.1.1 **Suggestion that the scheme is a vanity project to increase visitor numbers and revenue for English Heritage.**

Highways England response

- 61.1.2 The Government's objectives for the Scheme are clearly set out in the Case for the Scheme and NPS Accordance [APP-294], as follows:
- Transport - To create a high quality reliable route between the South East and the South West that meets the future needs of traffic;
 - Economic Growth - to enable growth in jobs and housing by providing a free flowing and reliable connection between the South East and the South West.
 - Cultural Heritage - To help conserve and enhance the World Heritage Site and to make it easier to reach and explore; and
 - Environment and Community - To improve biodiversity and provide a positive legacy for nearby communities.
- 61.1.3 While one of the objectives aims to make the WHS easier to reach and explore for those who would like to do so, it is not an objective of the Scheme to increase visitor numbers or revenue for English Heritage.

Key Issue

- 61.1.4 **No proposals for removing the tunnel at the end of its serviceable life that ensure the chalk aquifers are sustained and the water table maintained.**
- 61.1.5 **The design lacks detail showing how the water flow will be managed at the end of the tunnel's life.**

Highways England response

- 61.1.6 Chapter 2 of the Environmental Statement (ES) [APP-040] addresses the question of potential decommissioning in Section 2.6. In the event of the tunnel needing to be decommissioned/demolished, this would conform to the statutory process at that time, including EIA as appropriate which would take into consideration any potential impacts on the chalk aquifer and water flows. Decommissioning of the tunnel has not therefore been considered further in the ES for this Scheme. However, the potential groundwater impacts of the tunnels construction and operation have been fully assessed as presented in Chapter 11 of the ES [APP-049]. All groundwater effects were found to be non-significant for the temporary and permanent construction phases and

the operational phase. The groundwater modelling for the Scheme predicts resulting groundwater level changes as being minimal in the tunnel's vicinity.

Key Issue

- 61.1.7 **Questions if there is written evidence that the lifetime costings and the removal of the tunnel at the end of its life will be committed to and funded?**

Highways England response

- 61.1.8 The Government is committed to the Scheme and its funding. Further detail on the funding of the Scheme is provided in the (updated) Funding Statement that accompanies the Application [REP2-005]. The purpose of the Funding Statement is to demonstrate that the Scheme will be adequately funded and therefore that funding is no impediment to the delivery of the scheme. As noted in para 2.1.6 of that document "the design, construction and maintenance costs for the Scheme have been validated and verified by benchmarking to other analogous projects, and through consulting with relevant global contractors, designers and cost consultants with noted experience of similar schemes, in particular the tunnelling market. Mechanical engineers, specialist tunnelling engineers and suppliers of materials, plant and labour were also consulted". The Government's funding commitment comes in the context of an estimate of costs for the Scheme submitted as part of the Application, including the profiling of future operation and maintenance costs, as explained in Appendix D of the Combined Modelling and Appraisal Report [APP-302]. In terms of the potential decommissioning of the Scheme at the end of its life, Chapter 2 of the Environmental Statement [APP-040] points out that this would conform to the statutory process at that time. The Government of the day would take costs into consideration in determining the appropriate decommissioning treatment.

61.2 Alternatives

Key Issue

- 61.2.1 **Government's 2014 announcement of the scheme predetermined the tunnel solution, negating any consideration of alternatives.**

Highways England response

- 61.2.2 While the Government's announcement in late 2014 included reference to a tunnel, this was not a predetermined solution. The development of the Scheme up to the non-statutory public consultation is set out fully in the Technical Appraisal Report [REP1-031]. The TAR reports on potential alternative solutions for this section of the A303, detailing the identification, sifting and appraisal of route options to determine which should be taken forward for the non-statutory public consultation held in early 2017. The

route options appraised included a wide range of surface routes to the north and south of the World Heritage Site; they were discounted for the reasons set out in the TAR.

Key Issue

- 61.2.3 **No evidence in the public domain about how a tunnel solution would provide better benefits than a surface dual carriageway.**

Highways England response

- 61.2.4 A full range of surface dual carriageway alternatives were identified and appraised during the course of the Scheme's development as set out in the TAR [REP1-031]. All were discounted as they would not be as successful as the proposed Scheme in delivering the Scheme objectives. The TAR explains (via Chapters 5, 6 and 7) how a southern route option (named Route F010) came to be identified as the best surface option for comparison with two tunnel route options (named as D061 and D062). The detailed comparative appraisal of the surface option with the tunnel options is then set out in Chapters 9 – 18 of the TAR. The results of the appraisal are then summarised in Chapter 20 of the TAR, showing how the tunnel solutions would provide better solutions in delivering benefits against the objectives for the Scheme. The TAR was published and has been in the public domain since early 2017, as part of the material informing the public about the choice of route options presented for the non-statutory consultation at that time. The Applicant's responses to the Examining Authority's Written Questions AL.1.11 and AL.1.12 [REP2-024] also provide further summaries (from the TAR) of the advantages and disadvantages of the D061 and D062 tunnel options in comparison with the F010 surface option.

Key Issue

- 61.2.5 **Suggestion for an alternative solution to include a southern bypass for Salisbury.**

Highways England response

- 61.2.6 This suggestion of a route passing to the south of Salisbury is equivalent to the "Corridor G" route which was considered as part of the full range of corridor options identified and appraised during the course of the Scheme's development, as set out in Chapter 5 of the TAR [REP1-031]. The Corridor G route was discounted, along with other surface route alternatives passing to the north of Salisbury, because it and they performed poorly in their appraisal against the Scheme objectives. The Applicant's response to the Examining Authority's Written Question AL.1.15 [REP2-024] also provides a further summary (from the TAR) explaining why the Corridor G route was discounted.

Key Issue

- 61.2.7 **The Countess flyover would be intrusive, noisy and visible from Amesbury Abbey, neighbouring Bowles Hatches and gardens of Abbey Mews Cottages.**

Highways England response

- 61.2.8 The potential environmental and heritage impacts of the proposed Countess flyover are considered in the relevant topic chapters of the Environmental Statement (ES), including Chapter 5 Air Quality [APP-043], Chapter 6, Cultural Heritage [APP-044], Chapter 7 Landscape and Visual [APP-045], Chapter 9, Noise and Vibration [APP-047] and Chapter 13 People and Communities [APP-051]. During construction, sensitive receptors in the vicinity of the Countess roundabout would be afforded protection through measures contained within the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3) to, for example, control noise (PW-NOI1, PW-NOI3, PW-NOI5, MW-NOI1, MW-NOI3 MW-NOI4, and MW-NOI6), dust (PW-AIR1 and MW- AIR1), and artificial lighting (MW-G29). Operational mitigation would be delivered through 1.8m high noise barriers on the north and south sides of the flyover; use of a thin surfacing system which results in lower levels of noise generation than a standard hot rolled asphalt surface, as required by reference D-NOI1 and D-NOI2 in the OEMP; and landscaping of the flyover embankments, secured through requirement 8 of the draft development consent order [REP2-003]. Compliance with the OEMP is secured by requirement 4 of the draft development consent order [REP2-003]. In terms of heritage, Paragraph 6.9.32 in ES Chapter 6 [APP-044] indicates there would be non-significant adverse effects on the settings of Amesbury Abbey Registered Park and Garden. In terms of landscape and visual assessment, Bowles Hatches is an identified receptor and Table 7.8.1 in ES Appendix 7.8 [APP-228] shows that the effect would reduce from moderate adverse during construction to neutral after 15 years of operation. In terms of noise assessment, Table 9.14 in ES Chapter 9 [APP-047] indicates that, in a worst-case scenario, there could be significant temporary noise effects at Bowles Hatches arising from construction work. Once the scheme is operational, and with the noise barriers and thin surfacing in place, Table 9.24 in ES Chapter 9 [APP-047] indicates that minor (not significant) increases in traffic noise would occur in the Amesbury Abbey area.

61.3 Cultural Heritage

Key Issue

- 61.3.1 **The construction of the tunnel portals and cutting approaches would have a serious impact on the OUV of the WHS.**

Highways England response

- 61.3.2 The Scheme design, including the removal of the existing A303 surface road from much of the WHS landscape would result in extensive benefits for the WHS, including beneficial effects to many heritage assets within the WHS. The impacts of the scheme on heritage assets, including taking into consideration the impacts of constructing the tunnel portals and cutting approaches, are set out in the ES, Chapter 6 [APP-044], particularly Tables 6.11 and 6.12. Detailed consideration of the assessment of the Scheme in the context of the OUV of the WHS can be found in ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195].
- 61.3.3 Table 3 in the HIA shows the effects that the Scheme would have on the WHS in relation to its Attributes of OUV, Integrity and Authenticity. The table also shows how the Scheme would benefit the WHS in comparison with the effects of the existing A303. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained.
- 61.3.4 The preferred route was carefully chosen to minimise effects on archaeology, and a comprehensive programme of archaeological evaluation surveys has informed the Scheme design to limit direct physical impacts as far as practicable, including limiting impacts on archaeological remains that contribute to the OUV of the WHS. The design has been carefully progressed in order to: preserve archaeological remains along the 2-mile section of tunnel; improve the setting of many heritage assets and asset groups in the WHS landscape, including The Avenue, Stonehenge itself and the Winterbourne Stoke barrow group; remove the intrusive sight and sound of traffic from the existing A303 within much of the WHS; and design a scheme that is minimally intrusive in both the western and eastern parts of the WHS, including in key views from asset groups that contribute to the OUV of the WHS. Examples of how the design has been developed to limit impacts on archaeology include, but are not limited to: the design and placement of the western and eastern tunnel portals and approaches in areas that have been shown to have limited archaeological remains within their footprint; the choice of vertical retaining walls (rather than grassed slopes) for the cutting in the western part of the WHS to minimise the Scheme's footprint; and the reduced footprint and land take for modifying the Rollestone crossroads layout. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044]. Section 6.8, Table 6.9. The cultural heritage assessment, reported in ES Chapter 6, identifies the effects on known archaeological features whilst recognising the benefits that the tunnel would deliver for the WHS.

61.4 Biodiversity, ecology and biodiversity

Key Issue

- 61.4.1 **The scheme will adversely the wider local(sic) and wildlife during construction.**

Highways England response

- 61.4.2 In terms of impacts on the local communities, the existing A303 would remain in operation throughout construction and flows on roads are not anticipated to change to any significant degree, as set out in Section 9 of the Transport Assessment [APP- 297]. Temporary traffic management measures would be put in place to ensure that traffic flows on the existing A303 and other local roads are maintained, whilst allowing safe working at the interface between the existing road network and the Scheme, as stated in ES Chapter 2 [APP- 040], paragraph 2.4.29. There would be close liaison with Wiltshire Council to agree how the measures can be best implemented to minimise any disruption through the development of a Traffic Management Plan, as required by paragraph 9 of Schedule 2 of the draft development consent order [REP2-003], with details of its content given in the Outline Environmental Management Plan [APP-187] (a revised version of which is submitted at Deadline 3) which is secured through paragraph 4 of Schedule 2 to the draft development consent order [REP2-003]. The potential construction effects of the Scheme are set out in each topic chapter of the ES [APP-043 to APP-053]. In terms of wildlife effects, ES Chapter 8, Biodiversity [APP-046], (paragraphs 8.9.6 -8.9.176), sets out the potential effects that would arise during the construction phase. In summary (paragraphs 8.9.239-8.9.241) the only significant adverse effect of the Scheme on biodiversity would be the loss of the designated non-statutory Countess Cutting County Wildlife Site (CWS) (0.7ha), whereas there would be net gain of approximately 186 ha of semi-natural habitats (Table 8.14), representing a likely significant beneficial effect from chalk grassland habitat creation and ecological network connectivity through incorporation of green bridges and habitat creation along the length of the Scheme.
- 61.4.3 The Outline Environmental Management Plan (OEMP), ES Appendix 2.2 [APP-187], (a revised version of which is submitted at Deadline 3) sets out the range of mitigation measures that will be used to limit or avoid environmental impacts during construction, compliance with which is secured by paragraph 4 of Schedule 2 of the draft development consent order [REP2-003]. The OEMP includes measures for protected and notable species (MW-BIO1), including protection for great crested newts (PW-BIO2, MW-BIO7), reptiles (PW-BIO3), breeding birds (PW-BIO4, PW-BIO5, MW-BIO8) and bats (PW-BIO7). This is in addition to the measures contained in the requirement at paragraph 6 of Schedule 2 to the draft development consent order [REP2-003], in respect of protected species.

61.5 Flood risk, groundwater protection, geology and land contamination

Key Issue

- 61.5.1 **The tunnel construction through a chalk aquifer will have a detrimental effect on the water table at Amesbury, putting at risk preserved remains at Blick Mead, and affect the River Avon which provides the wet foundations of Salisbury Cathedral.**

Highways England response

- 61.5.2 A hydrological model has been developed to inform the assessment of groundwater effects. The assessment shows there will not be any adverse effect on the spring flows at the Blick Mead site and the archaeology contained within it. Further information on the assessment of Blick Mead can be found in ES Chapter 11, Appendix 4, Annex 3, Blick Mead Tiered Assessment [APP-282]. Further information on the assessment of groundwater effects more generally can be found in ES Chapter 11, Road Drainage and Water Environment [APP-049]. All groundwater effects were found to be non-significant for the temporary and permanent construction phases and the operational phase. The groundwater modelling predicts resulting groundwater level changes as being minimal in the tunnel's vicinity and these do not extend to the River Avon, or to the River Till [APP-049, paragraph 11.9.7].

61.6 Health and Wellbeing

Key Issue

- 61.6.1 **A tunnel would completely disconnect the WHS from the public unless they pay money and visit at opening times.**

Highways England response

- 61.6.2 A principal aim of the Scheme, supporting the aims of the World Heritage Site Management Plan 2015, is to remove the A303 and the sight and sound of traffic from much of the WHS landscape, thereby re-uniting Stonehenge with its surrounding monuments in their natural chalk downland setting. Whilst the Stonehenge monument will not be visible from the A303 once the tunnel is built, there will be a significant opportunity for the public to explore the WHS and view the Stonehenge monument from the enhanced public rights of way network, notably via the restricted byway being created on the line of the existing road. Visitors will continue to have free access by using the public rights of way that cross the WHS landscape and via the National Trust's right-to-roam policy.

61.7 Noise and Vibration Effects

Key Issue

- 61.7.1 **There will be negative effects on amenity due to noise at Winterbourne Stoke.**

Highways England response

- 61.7.2 The proposed bypass for Winterbourne Stoke would significantly improve the quality of village life through the removal of through traffic and significant reduction in traffic noise through the centre of the village.
- 61.7.3 The operational traffic noise assessment carried out for the Scheme indicates that only one property on the northern edge of Winterbourne Stoke, Foredown House, would experience increased traffic noise, but over 40 other residential buildings located along and close to the existing A303 in Winterbourne Stoke would all experience moderate or major reductions in traffic noise levels. Further details of the predicted noise levels in the village can be found in the Environmental Statement, Chapter 9, Noise and Vibration [APP-047], Section 9.9.

61.8 Traffic and Transport

Key Issue

- 61.8.1 **Highways England have failed to demonstrate how a tunnel not designed to carry high-sided, slow-moving or abnormal loads will improve safety in surrounding villages.**

Highways England response

- 61.8.2 The Scheme would remove congestion from the A303 and would relieve local communities of rat running traffic that currently seeks to avoid the congestion on the A303 as described in the Transport Assessment [APP-297, Section 6.3.14]. This would inevitably improve safety in surrounding villages.
- 61.8.3 As stated in paragraph 7.3.1 of the Transport Assessment [APP-297], the Scheme would result in safety benefits through providing a safer road design than the existing road. It would also result in reduced traffic flows on parallel local routes which would improve safety in surrounding villages. Paragraph 7.3.5 of the Transport Assessment [APP-297] sets out the forecast reduction in both accidents and casualties following implementation of the Scheme.
- 61.8.4 The only motorised vehicles that would be prohibited from using the tunnel are: abnormally high-sided vehicles and motorcycles with an engine capacity below 50 cubic centimetres. The restriction on the latter is described in Part 2 of Schedule 10 to the draft development consent order [REP2-003], and shown on sheets 4, 5, 6, 7, 8 and 9 of the Traffic Regulation Measures Plans (Clearways and Prohibitions) [APP-014]. In terms of the height restriction,

standard design guidance for the UK strategic road network (DMRB Volume 6, TD 27/05) has been followed and this is to provide clearance of 5.03m for vehicles using the tunnel. For vehicles prohibited from using the tunnel, the local diversion route will be A360/B3086/The Packway/Solstice Park junction. The number of vehicles that would divert regularly is very low, as indicated in Section 6.15 of the Transport Assessment [APP-297]. Records indicate that there are approximately two abnormal vehicles registered per year as using the A303 which would be restricted from using the tunnel. No abnormal height vehicles were recorded during surveys of the local road network undertaken for this Scheme. The very low forecast use of the diversion route by abnormal height vehicles would be far outweighed by the forecast reduction in traffic using The Packway, forecast to reduce by over 4000 vehicles per day by 2041 (Transport Assessment [APP-297], Section 6.3.13 and Figure 6-3). This lower usage would inevitably serve to improve safety along The Packway.

- 61.8.5 Non-motorised users would be able to use the new byways being created along the route of the old A303 between Amesbury and Winterbourne Stoke, conveniently, with greater amenity, and more safely. The new byways are shown on the Rights of Way and Access Plans [APP-009] and described in Schedule 3 to the draft development consent order [REP2-003].

Key Issue

- 61.8.6 **Taking into consideration the experience of the Hindhead Tunnel, the proposed tunnel will be subject to regular closures for maintenance and breakdowns, creating traffic delays and consequent problems for business, local and wider communities, flora and fauna as well as animals caused by traffic having to divert from the A303.**

Highways England response

- 61.8.7 The new dual carriageway would be safer and more resilient than the existing single carriageway, leading to fewer incidents and less disruption to the local road network when incidents do happen. The experience from the Hindhead Tunnel has been reviewed and has informed the design and operational requirements of the A303 tunnel. In particular, in assessing the Scheme, Highways England has considered how the Hindhead Tunnel manages traffic through the tunnel when maintenance activities are being undertaken and during the management of incidents. Defining the key operational functions central to the safe and effective management of traffic has been a key aspect of the design for the A303 Stonehenge scheme. The twin-bore tunnel has been designed to allow one bore to be used for two-way traffic should the other bore be unavailable for maintenance works. Regular maintenance of the tunnel would be carried out overnight during periods of low traffic flows in one bore of the tunnel at a time and would not therefore require traffic to be diverted from the A303.

Key Issue

- 61.8.8 **There will still be a junction at the western boundary of the WHS.**

Highways England response

- 61.8.9 The existing Longbarrow roundabout and A360 are on the western boundary of the WHS, while the Scheme would deliver a new junction with the A360, approximately 600 metres to the west of the western boundary of the WHS. Paragraph 7.2.16 of the Transport Assessment [APP-297] explains the suitability of the design of Longbarrow junction following the Stage 1 road safety audit. The displacement of the A360 and the removal of the existing Longbarrow roundabout and its lighting would result in reduced impacts on the WHS, including an improvement for the dark skies environment in this area. This contributes to the overall beneficial effect that the Scheme would have for the OUV of the WHS as set out in the ES Chapter 6, Cultural Heritage [APP-044] and ES Appendix 6.1, Heritage Impact Assessment [APP-195].

Key Issue

- 61.8.10 **On busy days at the Stonehenge Visitor Centre, it is likely there will be tailbacks at the Longbarrow junctions affecting and also causing tailbacks on the A303 into the tunnel.**

Highways England response

- 61.8.11 Surveys have been undertaken at the Stonehenge Visitor Centre to understand the existing and predicted demand profile and ensure it is appropriately reflected in the traffic forecasts used to inform the Scheme's design. The operational performance of the Longbarrow junction design has been assessed as described in the Transport Assessment [APP-297], Section 6.7. The assessment identified and demonstrated the feasibility of refinements to improve performance for southbound traffic on the A360 at peak times, that will be addressed in the detailed design. The preliminary design was demonstrated to have capacity to operate satisfactorily with forecast traffic leaving the A303 with no tail backs onto the A303, including at peak times.

Key Issue

- 61.8.12 **The tunnel would pose a high risk safety concern from regular vehicle fires and a risk of terrorism.**

Highways England response

- 61.8.13 While the new free-flowing dual carriageway would provide a safer road than the existing, congested single carriageway, the safety risks attributable to any vehicle fires and potential terrorist activity have been fully assessed. For responding to the rare incidence of vehicle fires, the tunnel would have a

range of fire-fighting safety features, developed in consultation with the Tunnel Design Safety and Consultation Group (TDSCG), of which Dorset and Wiltshire Fire & Rescue Service is a key partner. This is likely to include: incident detection systems; a fixed fire-fighting system; fire mains and hydrant points; regular cross passages for evacuation; and a ventilation system (as required by the Outline Environmental Management Plan (OEMP) [APP-187] (a revised version of which is submitted at Deadline 3). In relation to the risk of terrorism, Highways England has been working closely with the emergency services on the design of the tunnel and its future operation. This includes identifying contingency planning arrangements for any foreseeable scenario that could unfold in the future, as is Highways England's standard practice for protecting and maintaining parts of the network where there is sensitive infrastructure. The detailed planning and procedures for such events will take place via the TDSCG as part of the subsequent design stages. The potential for the Scheme to be vulnerable to major incidents and disasters, including terrorism, is considered through the assessment of major events, as set out in the Environmental Statement, in section 4.6 of Chapter 4, Environmental Assessment Methodology [APP-042].

62 Grove Property (REP2-098)

62.1 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

- 62.1.1 **There has been no substantial engagement with Highways England to date, but my Client is keen to have meaningful dialogue over the proposed use of compulsory purchase powers and to understand the implications on the Property of the Scheme.**

Highways England response

- 62.1.2 The Applicant has made attempts to contact the landowners on several occasions to begin such negotiations. Highways England would be happy to begin the negotiation process as soon as possible.

Key Issue

- 62.1.3 **My client is therefore encouraged that the Applicant has committed to begin negotiations in Annex B of the Statement of Reasons. However, until such negotiations have been commenced to enable a legal agreement to be entered into, my client wishes to reserve the right to make further written representations during the Examination, and to appear at the Compulsory Acquisition hearing.**

Highways England response

- 62.1.4 The Applicant's Representatives will be in touch in due course to continue these discussions.

62.2 Health and Wellbeing

Key Issue

- 62.2.1 **Our client is concerned about the impact on the tenants of the site during construction and the long-term impact on the site in consequence of the proposed revised highway arrangements and the rights sought over the Property**

Highways England response

- 62.2.2 Highways England has considered the effects of the construction and new road layout within its application.
- 62.2.3 As part of the EIA process, an Outline Environmental Management Plan (OEMP) [APP-187] (an updated version of which is being submitted at Deadline 2 to the examination) has been prepared that sets out general and topic-specific principles and requirements for the control, mitigation and monitoring of potential construction impacts, including stipulating the use of

low noise and low vibration construction methods and dust management and suppression techniques for minimising impacts on receptors. This includes receptors in the vicinity of works for the Countess flyover but not limited to, Countess Farm and Travelodge (see PW-NOI1, PW-NOI3, PW-NOI4, PW-NOI5, MW-NOI1, MW-NOI3, MW-NOI4, MW-NOI5, and MW-NOI6, and PW-AIR1, MW-AIR1, and MW-AIR4 in the OEMP). Highways England's appointed contractor will be required to develop, in consultation with Wiltshire Council, and implement a detailed Construction Environmental Management Plan (CEMP) based on, and incorporating the relevant requirements of, the OEMP. The OEMP's control, mitigation and monitoring requirements (including in relation to the use/operation of construction compounds) have underpinned the assessments of effects for all environmental topics presented in the Environmental Statement. The OEMP will be secured under paragraph 4 of schedule 2 to the draft development consent order [REP2-003].

- 62.2.4 Access to the services will be retained in its current arrangement, with the current eastbound carriageway of the A303 exit from Countess roundabout becoming the new eastbound on-slip to the A303 under the new junction layout. The existing retained access points are shown as unaffected, as shown on the Rights of Way and Access Plans [APP-009], Sheet 9 of 15.
- 62.2.5 Traffic from Amesbury or Countess Services will be able to access the A303 easily and safely via slip roads from the new Countess junction. This is achieved by the Scheme being designed to the standards defined in the Design Manual for Roads and Bridges (DMRB). Further information can be found in the Design and Access Statement [APP-295], Section 3.4, paragraphs 3.4.13 and 3.4.14, and Section 6.5, paragraph 6.5.4 and 6.5.5. These works are shown on sheet 9 of the Works Plans [APP-008] and are described in Schedule 1 to the draft development consent order [REP2-003] under the description of Work No. 1H.
- 62.2.6 The rights in the designated area are for tying in utilities to the existing networks from the compound area. The extent of these works will be finalised in detailed design in liaison with Scottish and Southern Energy Networks (SSEN). SSEN are currently investigating the capacity of their network in the area to see if the amount of works in this area can be reduced. Highways England will continue to liaise with the landowner and occupiers in respect of the details of these works, taking account of the communication and notification processes set out in the draft development consent order [REP2-003], and the Outline Environmental Management Plan (OEMP) [APP-187] (being updated at Deadline 3 of the Examination).

63 Mr F W G Whiting (REP2-213)

63.1 Design

Key Issue

- 63.1.1 **Issue 2. The Construction of Green Bridge 1, the retention of the existing layby and creation of restricted access from the layby across Green Bridge 1.**
- 63.1.2 **The Construction of Green Bridge 1. The construction of Green Bridge 1 is proposed, principally to ensure that bat flight lines are maintained across the newly constructed A303. The proposed site of the green bridge is located approximately 200 meters west of the actual flight lines with other landscaping measures being put in place to “encourage” bats to adjust their flight lines and utilise the bridge. The construction of some form of green bridge is not contested. Its current location has however been selected to reduce the cost of construction; locating it where the new A303 enters a cutting rather than where the actual flight line exits. If the considerable expense of building a green bridge is to stand up to scrutiny where is the evidence that:**
- i. The bats will be persuaded to alter their flight lines to cross the green bridge.**
 - ii. That following 5 years of construction and the dumping of spoil on the bat feeding areas that there are going to be any bats left to justify the considerable expense of a green bridge. With this in mind, it may be more cost effective to consider cheaper solutions such as wires that have been utilised on other road schemes.**
- 63.1.3 **The key observation from the above is that a more cost-effective solution to the green bridge would allow better targeted investment elsewhere in the road scheme.**
- 63.1.4 **The Retention of the existing layby. HE plans see the retention of the layby to the west of Winterbourne Stoke. Justification for its retention has not been stated although believed to be as a carparking area to enable access across Green Bridge 1 to the newly created area of chalk grassland. With the declassification of the current A303, the layby will no longer be required. It is a man-made structure, not in keeping with the surrounding landscape and therefore should be re-landscaped and returned to agricultural use. The area is sizeable and would be an excellent and more cost-effective location into which to dump spoil from the tunnel; in so doing, saving other areas from being blighted. As a freely accessible site, close to Stonehenge, set within a much-improved road network and isolated out of direct observation, the layby’s retention is likely to result in considerable and enduring cost to both the public and private purses.**

- i. **The Public Cost. Likely to include:**
 - **The long-term cost of maintaining access.**
 - **The likely cost (weekly) of clearance of both rubbish and illegally dumped waste.**
 - **The likely policing cost of responding to unlawful and antisocial activity.**
 - **The likely policing and legal costs of moving unlawful encampments.**
- ii. **The Private Cost. The cost to private landowners will include the increased risk of unlawful and antisocial activity including, vandalism, theft, illegal encampments, trespass, loss of privacy, inappropriate and illicit activity, damage to crops and livestock, dumping of waste, and litter. Such activity already takes place in the vicinity of the current layby and is only likely to increase with the layby remaining easily accessible but more isolated thereby encouraging such anti-social activity.**

63.1.5 **It is recommended that the site of the exiting layby be used as a location into which to dump tunnel spoil and then returned the site to agricultural use in order that it can be managed effectively and not become a drain on both public and private resources.**

Highways England response

- 63.1.6 It is important to make clear that Green Bridge No.1 is intended to perform a number of environmental mitigation and enhancement functions, that it is not being proposed solely as mitigation for the severance of an existing bat commuting corridor by the Scheme. When considered in combination, all of these environmental mitigation and enhancement functions make Green Bridge No.1 an essential environmental component of the scheme.
- 63.1.7 With regards to bats, Green Bridge No.1 should not be viewed as compensation for loss of the existing crossing feature at that location, but rather is part of a holistic or landscape-scale package of mitigation and enhancement measures within the Scheme as a whole. If Green Bridge No.1 had been sited on the existing commuting route located at the north-western boundary of Scotland Lodge (Crossing Point 8 [APP-160]), it is anticipated that it would give rise to significant adverse effects when compared to its proposed location. These significant effects would be from the loss of mature woodland, impacts on retained archaeological features, reduced landscape integration and increased visibility. The location of Green Bridge No.1 was influenced by several factors:
- 63.1.8 **Construction footprint:** The height of the bridge soffit would need to be at least 6.45 m to allow safe clearance of high sided vehicles underneath the bridge. The proposed bridge location is at a point where the cutting depth of

the proposed A303 allows for this clearance while keeping the proposed Right of Way over the bridge at existing ground level, and hence minimises the required construction footprint.

- 63.1.9 If the bridge was located to the east of the current location (e.g. closer to Scotland Lodge), the bridge would cross over a progressively shallower cutting the closer it was moved towards the existing field boundary (where bats have been recorded). Additional landscaping fill would be required in order to raise the bridge to a suitable height to allow clearance under the structure. At the existing field boundary, the Scheme emerges from the cutting and onto an embankment. This embankment is required to cross the northward sloping ground and take the A303 over the B3083. In order for the green bridge to cross at the start of the A303 embankment it would require a much larger construction footprint to accommodate the bridge embankments. This would likely result in the permanent loss of part of the Scotland Lodge mature woodland (none of which would be lost to the Scheme as designed).
- 63.1.10 Likewise, if the bridge was to be located further west, as the proposed A303 moves into a shallower cutting, the bridge would require more land-take and fill to achieve the necessary clearance, increasing as the bridge moves west. Given the land-take requirements of the cutting, the proposed location of this green bridge represents an efficient use of land to be permanently acquired for construction of the Scheme.
- 63.1.11 **Archaeological impact:** The current bridge and associated footpath has been designed so as to avoid impacts on the archaeological features that are present directly west of the woodland at Scotland Lodge (refer to the masterplan for further details, Environmental Statement Figure 2.5 [APP-059]).
- 63.1.12 **Landscape and Visual impact:** The physical requirement of the arch-shaped bridge structure at the location of Green Bridge No.1 requires a minimum cutting / false cutting of a depth of about 12m so that the bridge does not rise high within the landscape and is well integrated within the landscape. Re-location of the bridge to the east (e.g. closer to the existing bat crossing zone near Scotland Lodge) could be integrated into the landscape with fill part of the way, but only where the Scheme remains in cutting. Where the Scheme changes onto embankment, at the existing bat crossing, the bridge would be higher in the landscape, and more visible from locations to the north and east. As a result, integrating the bridge in this location would require a much greater land take and depth of fill. This would result in an increased prominence of the bridge and contrast to the landform, such that the green bridge is more exposed and likely to require a steep gradient along the access ramps, resulting in a greater visual impact than the proposed location of Green Bridge No.1. Likewise, moving the bridge to the west would also require a higher structure within the landscape,

- increasing intrusion the visual impact as the bridge moves west, towards the scheme boundary.
- 63.1.13 **Connectivity to the adjacent SSSI:** The bridge has been located in close proximity to the SSSI that will act as a source to aid dispersal of flora and fauna species associated with chalk grassland habitats.
- 63.1.14 If the bridge was sited further to the west of the current location, it would be further from the existing fence line and the woodland at Scotland Lodge and Parsonage Down. More extensive woodland planting would be required to link the green bridge and the existing bat crossing zone. This would encroach on the grassland habitat creation, i.e. the grassland interface between the SSSI and the Scheme, reducing the connectivity.
- 63.1.15 Siting the bridge to the east of the current location, closer to the bat crossing zone, would move it further from the chalk grassland source habitat within the SSSI, reducing the connectivity for chalk grassland flora and fauna species.
- 63.1.16 The green bridges to be delivered as part of the Scheme are proposed to be in line with Natural England's recommendations regarding green bridges, with a view to ensuring they meet the relevant objectives. All of the green bridges will contribute to connectivity for wildlife. Suitable measures to ensure the effectiveness of the green bridges (e.g. the provision of habitat heterogeneity across the bridges that will provide a range of micro-climates to facilitate dispersal of fauna and flora) would be considered and reflected in both a scheme-wide Landscape and Ecology Management Plan (must be prepared as required in the OEMP [APP-187], MW-LAN1), as well as the detailed landscaping scheme required by the draft development consent order [REP2-003] landscaping requirement (requirement 8). Furthermore, the false cuttings, embankments, fencing and landscape planting are likely to deter individual species from crossing the A303 at unsafe places or heights (ES Chapter 8 Biodiversity, paragraphs 8.9.2178.9.227-228, 8.9.232, 8.9.234) [APP-046]. The combination of these measures would provide suitable mitigation for the identified biodiversity receptors within this location, including bats.
- 63.1.17 Wire links across road schemes have not been found to be effective to aid crossing by bats [Berthinussen, A. and Altringham, J. (2015). WC1060 – Development of a cost-effective method for monitoring the effectiveness of mitigation for bats crossing linear transport infrastructure. Defra-commissioned project report. BSI (2013). British Standard 42020: Biodiversity – Code of practice for planning and development. British Standards Institution so were not considered further for use in the Scheme.
- 63.1.18 As recorded in the Wiltshire Council Statement of Common Ground issued at Deadline 2, section 3.5 'Matters Under Discussion in relation to Highways Design', issue reference 3.5.2, Highways England is reviewing the status of the layby in discussions with Wiltshire Council.

- 63.1.19 Following confirmation by Wiltshire Council that the lay-by is no longer required by them for operational reasons, Highways England has given a commitment that this lay-by will be closed, filled and profiled to prevent access, top-soiled and seeded to return it to a grassed verge. This is recorded in the Wiltshire Council Statement of Common Ground [REP2-018] issued at Deadline 2, section 3.5 'Matters Under Discussion in relation to Highways Design', issue reference 3.5.2.

63.2 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

- 63.2.1 **Issue 1. HE land acquisition at Scotland Lodge Farm (SLF).**

Temporary Acquisition of Land for the Purposes of the Disposal of Spoil and Re-Landscaping. The two land parcels (03-13 and 03-14, detailed in Figure 1) are proposed to be temporarily acquired from SLF throughout the duration of the road build. The respondent takes no issue with the temporary acquisition of land parcel 03-13. It is unclear the reasons for the acquisition of land parcel 03-14 which is not being used for the disposal of spoil or for re-landscaping. In discussions with HE the reason articulated is described as “for the purposes of enabling works for the alteration and strengthening of the Esso pipeline”. The Esso pipeline only crosses land parcel 03-14 in the western most corner and well clear of any re-landscaping works. If enabling works are required in order to alter the integrity of the current Esso pipeline, it is unclear why these works cannot take place on ground where the pipeline requires strengthening rather on ground where the pipeline will remain unaltered (land parcel 03-14). It is requested that land parcel 03-14 be removed from within the “red line” of the road scheme and that it is not temporarily acquired by HE.

Highways England response

- 63.2.2 As is explained in the Statement of Reasons [APP-023], at paragraph 5.3.4, Highways England considers that the Land included in the DCO is the minimum land-take required to construct, operate, maintain and mitigate the Scheme and is therefore necessary to achieve the objectives of the Scheme. Highways England has sought to achieve a balance between minimising land take and securing sufficient land to ensure delivery of the Scheme, noting that the detailed design of the Scheme has yet to be developed. In that context, the limits of the land have been drawn as tightly as possible so as to avoid unnecessary land take. In the event that less land proves to be required in a particular area following the detailed design stage, Highways England would only seek to acquire that part of the land that is required and, in all events, will seek to minimise effects on landowners.

- 63.2.3 Some areas of land within the Order limits are needed temporarily for construction purposes and are therefore shown within the DCO application as being subject to powers of temporary possession. These areas would be returned to the landowner once they were no longer needed for the construction of the Scheme.
- 63.2.4 The rights proposed to be acquired at Scotland Lodge Farm are required in relation to the diversion works and subsequent maintenance of the Esso pipeline and are therefore required for the benefit of Esso, not for Highways England, in order to facilitate the diversion (and reinstatement) of the existing Esso pipeline from its current position to a new location which accommodates the Scheme. Rights are also required, for the benefit of Highways England, in connection with, maintenance and retention of ecological or landscape mitigation, including re-profiling.

Key Issue

- 63.2.5 **Issue 1. HE land acquisition at Scotland Lodge Farm (SLF).**

The removal of rights currently planned to be retained by HE following the handing back of temporarily acquired land at the completion of the project. Upon the completion of the road scheme, land parcels 03-13 and 03-14 will be handed back to the respondent with certain rights over this ground retained by HE. It is unclear the purpose of these retained rights, what they constitute and why they are required to be left in place? Once the road scheme has been completed there appears no logical explanation why any rights should be retained over land handed back to the respondent and therefore these should be removed from the scheme.

Highways England response

- 63.2.6 The rights proposed to be acquired at Scotland Lodge Farm are required in relation to the diversion works and subsequent maintenance of the Esso pipeline and are therefore required for the benefit of Esso, not for Highways England, in order to facilitate the diversion (and reinstatement) of the existing Esso pipeline from its current position to a new location which accommodates the Scheme. Rights are also required, for the benefit of Highways England, in connection with, maintenance and retention of ecological or landscape mitigation, including re-profiling.

63.3 Traffic and Transport

Key Issue

- 63.3.1 **Creation of restricted access from lay bye to existing agricultural land to the north of the new A303. According to HE, the access proposed across Green Bridge 1 is for the sole purpose for landowners to obtain access to agricultural land to the north of the new A303. Decoupling**

the location of the Green Bridge 1 from the provision of access to agricultural land means that there are potentially a number of other viable and more cost-effective options:

- 63.3.2 **Option 1. Access provided along the northside of the new A303.** Access could be established along the northern side of the new A303 that would begin just to the north of the new underpass (where the A303 goes across the Shrewton road). Although this would require the extension of the proposed track on the northern side of the new A303 (approx. 650 m). It would negate the creation of the proposed access from the layby to the green bridge (approx. 520 m) and provide excellent access off the existing road network. Critically, it would allow the green bridge to either be re-located to the exact flight line or for a more cost-effective bat flight line options to be considered allowing re-investment of savings elsewhere in the road scheme. A diagrammatic representation of this proposal is detailed in Figure 2.

Highways England response

- 63.3.3 As described in the above responses, Green Bridge No.1 serves more than farm access; it also accommodates a new restricted byway which continues along the north side of the new road westwards to connect with the existing byway SLAN3. This allows for the safe crossing of the A303 by walkers, cyclists, horse riders and horse-drawn carriages.
- 63.3.4 Routing the right of way over Green Bridge No.1 is preferred because the alternative via the B3083 would be a 1.3km longer detour for users of Byway SLAN3 seeking to cross the A303 and avoid the existing crossing at Yarnbury. The bridge also, as previously mentioned, provides the essential mitigation of a bat crossing for the new highway. Utilising this feature allows a multi-use function and prevents further change within the area.

Key Issue

- 63.3.5 **Creation of restricted access from lay bye to existing agricultural land to the north of the new A303.**

According to HE, the access proposed across Green Bridge 1 is for the sole purpose for landowners to obtain access to agricultural land to the north of the new A303. Decoupling the location of the Green Bridge 1 from the provision of access to agricultural land means that there are potentially a number of other viable and more cost-effective options:

- 63.3.6 **Option 2. Access provided via a crossing point:**

Where by way (SLAN3) crosses the A303. This option would see an under or overpass created where the current byway (SLAN3) crosses the A303. Because of the expense of creating an underpass for the byway, the current plan sees the byway diverted down the southern side of the A303, across Green Bridge 1 and back up the northern side

of the new A3030. This is believed to be a suboptimal solution with the risk that any person either walking, cycling or using recreational transport is likely to look at the detour of 6.2 km and with human nature as it is, opt for the most direct route that would create an unofficial crossing point and add significant danger to both those attempting a cross and road users on the A303. This potential danger would be removed by building a crossing (bridge or tunnel) for the byway (SLAN3) (resourced by the adoption of a more cost-effective scheme at the site of Green Bridge 1). This new crossing point would also allow access to the agricultural land to the north of the A303 via the 650m extension of the track detailed above (option 1) and would negate the building of circa 4.3 km of other access up and down the northern and southern side of the A303. A diagrammatic representation of this proposal is detailed in Figure 3.

Highways England response

- 63.3.7 Alternative crossing facilities have been considered for byway SLAN3 located at the west of the Scheme. In total four options were identified; an overbridge, an underpass, remain open as existing and close with restricted access/egress to/from the A303. A grade-separated crossing was identified as a preferred solution for several stakeholders. Both the underpass and overbridge options would require significant earthworks to be constructed either side of the A303. An overbridge would create visual intrusion on the sky line and have a negative impact on the setting of the scheduled monument at Yarnbury Castle and would not meet wider policy tests and was therefore discounted. The underpass option was considered not to be appropriate due to buildability constraints and impacts and also discounted as the alternative routes on the Scheme would be available with less physical and environmental intrusion. An alternative reasonably convenient safe crossing point on the A303 trunk road would be available to the east, via Green Bridge No.1, which does not have a negative impact on the setting of Yarnbury Castle.

Key Issue

- 63.3.8 **Creation of restricted access from lay bye to existing agricultural land to the north of the new A303.**

According to HE, the access proposed across Green Bridge 1 is for the sole purpose for landowners to obtain access to agricultural land to the north of the new A303. Decoupling the location of the Green Bridge 1 from the provision of access to agricultural land means that there are potentially a number of other viable and more cost-effective options:

- 63.3.9 **The point where existing access from the chicken farm crosses the A303. An alternative option would be to move the access point (tunnel or bridge), again resourced by the reconsideration of Green Bridge 1, to the point where access from the chicken farm crosses the existing**

A303. Although this option would not completely remove the risk of uses of byway (SLAN3) to take a short cut across the A303. Although not removing completely the detour that SLAN3 byway users would have to use, it would dramatically reduce it and would negate the building of track access (circa 2 km). A diagrammatic representation of this proposal is detailed in Figure 4.

- 63.3.10 **It is recommended that the design and location of Green Bridge 1 be reviewed and an alternative solution (1, 2 or 3 listed above) that removes the requirement for restricted access across Green Bridge 1 is adopted.**

Highways England response

- 63.3.11 Both the alternative options identified, an overbridge and an underpass, would require significant earthworks to be constructed and would require an ecological corridor to be created across the field between the A303 and Parsonage Down reserve, removing productive agricultural land.
- 63.3.12 An overbridge at the proposed location would not provide the same ecology benefits provided by Green Bridge No.1 as the connection would be lost between the area to the south of A303 and 03-01 on Sheet 3 of the Land Plans [APP-005]. This plot is to be acquired for essential mitigation to create species-rich chalk grassland. A bridge would also create significant visual intrusion on the sky line and a negative impact on the setting of nearby Yarnbury Castle and would not meet wider policy tests and was therefore discounted.
- 63.3.13 Although an underpass at the location suggested could be used by badger and possibly by hedgehog and polecat, the Scheme already includes a mammal tunnel nearby, which would provide connectivity for those species. An underpass large enough for farm vehicles could also be used by bats, but there are no existing connecting features that are likely to provide a commuting route for bats. An underpass would also not provide any habitat to facilitate the spread of chalk grassland plants or invertebrates. As such, an underpass at that location would, additionally to the buildability concerns expressed above, not add to the ecological connectivity already provided by the scheme.

Key Issue

- 63.3.14 **Issue 3. The adoption of restrictive access along the decommissioned A303, west of SLF.**

The HE plan sees the creation of a new byway running the length of the decommissioned A303 from the western end of the existing layby to where the decommissioned road meets the new A303. It is not disputed that access will be required along the decommissioned A303 in order to conduct essential maintenance works to the in-place infrastructure as well as allow access to the Berwick St James chicken

farm. This does not however require the creation of a new byway that is open to all traffic. Access to the Berwick St James chicken farm and for maintenance of essential infrastructure can be achieved via restricted access. The proposed creation of this new byway is challenged as:

- a. It has no logical destination and therefore is not required.
- b. Will create a circuit for vehicular use around the villages of Winterbourne Stoke and Berwick St James, potentially becoming both a public and private nuisance and danger to other network users.
- c. As with the layby (discussed above), opening additional freely accessible byways so close to Stonehenge and a much improved road network is only going to encourage activity characteristic of that currently occurring closer to Stonehenge that both the National Trust and English Heritage have been trying to prevent with the closure of byways and re-routing of roads around Stonehenge. To use this road scheme to open new byways on the fringes of the world heritage site; in effect pushing the negative implications of a demand to view Stonehenge for free, onto neighbouring landowners is not believed to be in the remit or spirit of the road build. Opening un restricted byways is likely to result in considerable and enduring cost to both the public and private purses as already identified at paragraph 3c.

63.3.15 It is recommended that the plan for the decommissioned A303 is changed to become a restricted access track, restricted to access for essential infrastructure maintenance and access for agricultural purposes only. These restrictions should be put in place from the entrance of SLF, westwards along the existing A303.

Highways England response

- 63.3.16 A key objective of the Scheme is to provide a positive legacy for communities and improve access both within and to the WHS. The new public rights of way (PRoW) proposed along the Scheme will not only maintain, but will also considerably enhance the existing PRoW network, significantly improving connectivity for users.
- 63.3.17 The proposed public rights of way, labelled reference A, B and D on sheets 1, 2 and 3 of the Rights of Way and Access Plans [APP-009] and described in Schedule 3 to the draft development consent order [REP2-003], provide a coherent link between the A303, the existing byway network (via SLAN3) and the village of Winterbourne Stoke. As an alternative route to the A303, the routes referenced A and D run parallel to the south of the proposed carriageway. The route is intended to address Highways England's requirement to provide parallel routes to new trunk roads for non-motorised users in accordance with their Cycling Strategy as set out in Interim Advice Note (IAN) 195/16.

63.3.18 The status of the existing byways around Winterbourne Stoke will remain unchanged, with the exception of a modification to BSJA3 south of the A303, which will be changed from a bridleway to a byway open to all traffic to match its existing usage. This proposed upgrade of bridleway BSJA3 is required to preserve a continuous Byway Open to All Traffic (BOAT) link to Winterbourne Stoke from Berwick St James. The remit of the Scheme is to ensure the existing byway network is well maintained rather than change the status of the byways. The Scheme also includes extensive proposals for non-motorised public rights of way to maintain and enhance the existing network. As the local highway authority with responsibility for the public rights of way in its administrative area, the management and enforcement is a matter for Wiltshire Council.

64 Stonehenge Traffic Action Group (STAG) (REP2-127)

64.1 Traffic and Transport

Key Issue

- 64.1.1 The campaign was set up in 2013 to fix the Stonehenge section of the A303 which is now over capacity by 84%. This increase has caused traffic to Rat Run through local villages as drivers follow sat navs to avoid the continued queues – and who can blame them....I wouldn't want to sit in that queue for sometimes upwards of 1 and a half hours over 7 miles. Our [Shrewton] Speed Watch team regularly register upward of 40mph. During Easter, a Speed Indicator Device (smiley face) was installed in both directions on London Road from 9th April - 24th April. It registered 78mph within the 30mph confines of the village at 22.25hrs on the 15th April. The speed device is situated at just one of the four entries to our village and the figures make good reading....in just 15 days it told us that 67,030 vehicles used the London Road entry point and that equates to 4403 per day average on just one of our roads!!! All of the traffic has to use either our High Street or Tanners Lane neither of which are suitable for this continued traffic.

Highways England response

- 64.1.2 Thank you for the information provided on your observations of rat running and speeding through Shewton.
- 64.1.3 Our assessment of the scheme impacts within the local area is noted in the Transport Assessment [APP-297] Section 6.3.11. This forecasts that by 2041 there will be a 1600 vehicle (2-way, 24hr Annual Average Daily Total) reduction on the B390 west of Shrewton, a 1650 vehicle reduction on London Road, west of Shrewton, as well as a 2450 vehicle reduction on the A360 north of Longbarrow junction. These reductions in traffic flow as a result of the scheme will help relieve traffic issues experienced in Shrewton, particularly during busy periods of the year.

65 ICOMOS-UK (REP2-195)

65.1 General and cross-topic

Key Issue

- 65.1.1 **we have also made our view clear that the limits and status of the WHS should have been identified at the start of the overall A303 project.**

Highways England response

- 65.1.2 The status of the WHS, the boundary review and the serial nature of the WHS are all factors long acknowledged by the Scheme. These are explicit in a range of key documentation, including the WHS nomination document (HBMCE 1985), the World Heritage List inscription, the Retrospective Statement of Outstanding Universal Value (SoOUV) (UNESCO 2013), the 2015 WHS Management Plan (Simmonds and Thomas 2015), and the Adopted Wiltshire Core Strategy Development Plan 2015 – 2026 (Wiltshire Council 2015).

65.1.3 **Status of WHS**

The protection and conservation of World Heritage Sites is integrated into the comprehensive UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets – namely, the UK's national policy statements, NPPF, Planning Act 2008 provision, and the established approach to assessment of impacts on heritage generally and the balancing of factors in decision making. As a result, great weight is given to harm to World Heritage Sites. The application by the Secretary of State of the planning balance envisaged by this framework and in particular the NPSNN is in accordance with the World Heritage Convention.

- 65.1.4 As explained in response to issue 65.3.4, regard has been had to the WHS status of the entire WHS since the start of the overall A303 project and during the consideration of options and the selection of the preferred route (for example see the consideration of alternatives in Chapter 3 of the Environmental Statement [APP-041] and with respect to the longer tunnel options see the response to Written Question AL.1.29 [REP2-024]).
- 65.1.5 With insufficient certainty available about any potential future changes, any application must necessarily deal with the limits of the WHS as they apply at the time it is made. Nevertheless, to the extent there would be any change to the WHS limits in future (by way of a boundary review), as asset groups beyond the WHS boundary were considered as part of the assessment of the scheme, and are considered to contribute to the OUV of the WHS, the proposed boundary review would not have an impact on the outcomes of the assessment and the development of the scheme. In undertaking its assessment, the applicant has identified those Asset Groups that may contribute to the OUV of the WHS that sit either partially outside or wholly

outside the existing boundary of the WHS. These were identified at an early stage and confirmed, in consultation with the Heritage Monitoring and Advisory Group (HMAG) and the Stonehenge and Avebury WHS Coordination Unit, in order to consider the impacts of various options. It is therefore not considered that the potential to revise the WHS boundary would impact the Scheme (see the response to Written Question CH.1.58 [REP2-025]).

65.2 Alternatives

Key Issue

65.2.1 **In our earlier response, we summarized these points and stated that we could accept in principle the idea of a tunnel for the A303, provided:**

- **All options for constructing a bypass located outside the WHS have been adequately considered via a robust and consistent methodology , and an informed consultation process;**

65.2.2 **We do not consider that these parameters have been fulfilled.**

Highways England response

65.2.3 The Scheme Assessment Report (SAR) [REP1-023] and Technical Appraisal Report (TAR) [REP1-031] were compiled by the Applicant to describe and explain the process of options appraisal which led to the identification of the preferred route. This process followed Highways England's Project Control Framework (PCF) which is an established staged process starting with problem and opportunities identification (Stage 0), options identification (Stage 1) (see Chapter 5, Page 72, TAR [REP1-031]), and options appraisal (Stage 2) (see Chapter 6, page 98, SAR [REP1-023]). The TAR and SAR include the results of the WebTAG (online Transport Appraisal Guidance) process, which is a Department for Transport process used to inform Government funding decisions.

65.2.4 The process used during PCF Stage 1 had a number of stages (referred to as 'Design Fixes', see paragraph 5.1.1 of TAR [REP1-031]) in order to sift the large number of corridor and route options identified from historical sources (see Section 1.3, page 19, TAR [REP1-031]). This process was used due to the large and complex nature of the project to ensure that all possible options were considered in a proportionate way. These stages of appraisal are described in the remainder of the TAR (Chapter 5 onwards).

65.2.5 Corridors A, F (north and south) and G represent options outside of the WHS. A detailed description of each corridor is included at Paragraph 5.2.10 to 5.2.28 of the TAR [REP1-031]. Each corridor included all the historic routes considered throughout the process. Each route within these corridors was subject to a robust and consistent method of assessment as set out in the TAR and SAR.

- 65.2.6 The SAR, prepared at PCF Stage 2, then summarises the work undertaken in Stage 0 and 1, and also describes the further work carried out in Stage 2 to select a preferred route, following further detailed appraisal. This is described in Chapter 6 (page 98) onwards [REP1-023].
- 65.2.7 The environmental aspects of the appraisal process are also summarised in Chapter 3 of the Environmental Statement [APP-041]. During Scheme development, the options were subject to public consultation as set out in Figure 2.1 of the Consultation Report [APP-026] and described in Chapter 2 of that report. This included information events in February 2016 and non-statutory consultation between January and March 2017. Statutory consultation was then undertaken between February and April 2018 and non-statutory supplementary consultation undertaken between July and August 2018.
- 65.2.8 The Applicant considers that the options appraisal undertaken is a full options appraisal and a proportionate consideration of alternatives, not only following the WebTAG and PCF processes normally used to assess road schemes, but going further during PCF Stage 1 by introducing additional stages in order to take account of the number of options requiring consideration.
- 65.2.9 Details of consultation with heritage stakeholders is provided in the Consultation Report [APP-026]. In 2016, the Stakeholder Strategy Board (SSB) was set up. In recognition of the scheme's unique heritage context, membership of the SSB includes the Department for Transport (DfT), Department for Digital, Culture, Media and Sport (DCMS), Historic England, English Heritage Trust, The National Trust and the WHS Partnership Panel Chair, as well as Wiltshire Council as host authority for the scheme. They were involved in and responded to the public consultation held on route options in early 2017 before the preferred route was chosen and were consulted during the development of the HIA. An extraordinary meeting was held on 30 July 2018 with members of WHS Partnership Panel, WHS Steering Committees for Stonehenge and Avebury, and the Avebury and Stonehenge Archaeological and Historical Research Group to discuss ongoing matters following the 2018 statutory consultation and the developing heritage impact assessment. Details of consultation with heritage stakeholders are provided in the Consultation Report [APP-026].
- 65.2.10 The statutory consultation process has met the requirements of the Planning Act 2008 as confirmed by Wiltshire Council in their Adequacy of Consultation response [AoC-008].

Key Issue

- 65.2.11 **In our earlier response, we summarized these points and stated that we could accept in principle the idea of a tunnel for the A303, provided:**

- • **The tunnel is long enough to ensure that its tunnel portals, associated approach roads and cuttings do not impact in any way on the WHS or its setting;**

65.2.12 **We do not consider that these parameters have been fulfilled.**

Highways England response

- 65.2.13 Along with considerations of cost, the location and design of the tunnel portals have been optimised in terms of the natural topography of the area, impact within the WHS and the extent of benefit that will be secured by one of the key aims of the scheme which is to remove the sight and sound of the A303 traffic from much of the WHS landscape. With accompanying mitigation, the assessments show that the preferred solution is a 2-miles (3.3km) long tunnel extending between portals located adjacent to the existing A303 to the east of The Avenue and to the west of Normanton Down.
- 65.2.14 The Preferred Route Announcement (PRA) by the Secretary of State in September 2017 was based on a 2.9km long twin bored tunnel. The western portal was located south of existing A303 and northwest of Normanton Gorse and the eastern portal to the north of A303 and east of the Avenue. Since the PRA, during the Scheme development, and in response to consultation responses, the applicant has amended the scheme to extend the tunnel. Two changes were made to the location of the western portal which resulted in a 300m extension to the tunnel:
- • the end of the bored tunnel was moved 100m west to avoid impact on a scheduled barrow (NHLE No. 1010832 – Bowl barrow south of the A303 and north west of Normanton Gorse) that contributes to the OUV of the WHS; and
 - • a 200m cut-and-cover extension, or canopy, was added for improvement in landscape and visual connectivity and tranquillity within the WHS.
- 65.2.15 At the eastern end a cut-and-cover extension of 85m has been added to suit topography for improvement in landscape and visual connectivity and tranquillity within the WHS.
- 65.2.16 Further westwards extensions of the tunnel were ruled out because of topographical and technical constraints (noted above), and because they would not deliver sufficient additional benefits to justify the additional cost. Further details in terms of the consideration of longer tunnel options is set out in response to Written Question AL.1.29 [REP2-024].
- 65.2.17 The preferred route was carefully chosen to minimise effects on archaeology, and a comprehensive programme of archaeological evaluation surveys has informed the Scheme design to limit direct physical impacts as far as practicable, including limiting impacts on archaeological remains that contribute to the OUV of the WHS. The design has been carefully chosen in

order to preserve archaeological remains along the 2 mile section of tunnel; improve the setting of many heritage assets and asset groups in the central part of the WHS including the Avenue, Stonehenge itself and the Winterbourne Stoke barrow group; remove the intrusive sight and sound of traffic from the existing A303 as far as possible within the WHS; and design a scheme that is minimally intrusive in both the western and eastern parts of the WHS, including in key views from assets groups that contribute to the OUV of the WHS. Examples of how the design has been developed to limit impacts on archaeology include, but are not limited to, the choice of a northern bypass of Winterbourne Stoke, the reduced footprint and land take for Rollestone Corner, and the design and placement of the western and eastern tunnel portals and portal approaches in areas that have been shown to have limited archaeological remains within their footprint. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044]. Section 6.8, Table 6.9. The cultural heritage assessment, reported in ES Chapter 6, identifies the effects on known archaeological features whilst recognising the benefits that the tunnel will deliver for the WHS landscape as a whole.

- 65.2.18 Highways England acknowledges that the Scheme would have some adverse effects on some of the Attributes of OUV. In arriving at an assessment of the overall effect on the OUV of the WHS as a whole, we have also taken into account the very substantial benefits arising from provision of the 3.3km tunnel. Whilst the Written Representation implies that adverse impacts, no matter how slight, should be avoided, this is not the requirement of the World Heritage Convention – further detail is provided in this respect in response to Written Question G.1.1 [REP2-021].

65.3 Cultural Heritage

Key Issue

- 65.3.1 **ICOMOS-UK has consistently suggested that the improvements to the A303 route in and near the Stonehenge WHS should safeguard the whole of the WHS and its setting;**

Highways England response

- 65.3.2 The Heritage Impact Assessment (HIA), as set out in ES Appendix 6.1, HIA [APP-195], considers the implications of the Scheme in the context of the OUV and the Authenticity and Integrity of the WHS. The HIA concludes that overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained as set out in Section 12.4 of the HIA. As explained in response to Written Question CH.1.4 [REP2-025], the conclusions with respect to the impact on the WHS as a whole and its OUV are for the entire WHS, as all elements of the WHS that would be affected by the Scheme have been assessed in the HIA.

65.3.3 The benefits of the Scheme associated with removal of the sight and sound of traffic from a large part of the WHS, the opportunity for reconnection of The Avenue, and the provision of a c.150 metre green bridge, are considered in the context of the whole WHS and the many scheduled monuments within it, not just the Stonehenge monument. The Heritage Impact Assessment, as set out in ES Appendix 6.1 [APP-195], Section 12.4, concludes that the scheme will deliver significant beneficial effects for the setting of many scheduled monuments within the WHS, as well as Stonehenge, whilst sustaining the OUV of the WHS. The removal of the A303 from the WHS has been a long-standing aspiration and commitment for the WHS since its inscription in 1986 and through successive WHS Management Plans, including the latest Management Plan for the WHS published in 2015.

Key Issue

65.3.4 **In order to achieve this, we have held the view that all assessments of tunnel options within the WHS and of alternative routes outside the WHS needed to be based on assessments of impact on the attributes of OUV; and that the optimal solution in terms of whether a bypass or a tunnel, needed to be considered at the earliest opportunity;**

Highways England response

65.3.5 Heritage has been a key consideration during route selection and consultation, being one of the Scheme's objectives to help conserve and enhance the WHS.

65.3.6 In full recognition of its obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage (UNESCO 1972) (the World Heritage Convention) the Government is making a substantial investment in funding a tunnel past Stonehenge to bring extensive benefits to the WHS. The alternatives have been considered and the application for the scheme has been prepared (and the consultation on it undertaken) with due regard to the obligations under the World Heritage Convention. The protection and conservation of World Heritage Sites, in line with the World Heritage Convention, is integrated into the comprehensive UK legal and policy framework in connection with the assessment and consideration of harm to heritage assets. As a result, great weight is given to harm to World Heritage Sites. The application by the Secretary of State of the planning balance envisaged by this framework and, in particular, the NPSNN is in accordance with the World Heritage Convention. The consideration of alternatives has been cognisant of the World Heritage Convention obligations and UK policy requirements with respect to the WHS, and appropriate weight has therefore been given to protecting the OUV of the WHS in considering those alternatives and selecting the scheme (for example see the consideration of alternatives in Chapter 3 of the

Environmental Statement [APP-041] and with respect to the longer tunnel options see the response to Written Question AL.1.29 [REP2-024]).

Options appraisal

- 65.3.7 Proposals for the improvement of the A303 between Amesbury and Berwick Down have been the subject of extensive study and consultation since 1991. The process of options identification and route selection leading to the Scheme is summarised in the Case for the Scheme [APP-294], Section 3.2 and in Chapter 3 of the ES, Assessment of Alternatives [APP-041], in compliance with the requirements of Schedule 4 of the Environmental Impact Assessment Regulations 2017. The Scheme has been developed from an extensive process of options appraisal, including the consideration of options which avoided the World Heritage Site altogether, to identify the optimum solution, representing a significant investment by the Government aimed at addressing the congestion problems on the A303 and delivering benefits for the WHS.
- 65.3.8 A full range of routes outside the WHS were identified and appraised during the course of the Scheme's development. All have been discounted as they would not be as successful as the proposed scheme in delivering the Scheme objectives or were discounted on environmental grounds.
- 65.3.9 An options appraisal was carried out in 2016 and 2017, with more than 60 route options considered, leading to a non-statutory consultation in 2017. The non-statutory public consultation explained why non-tunnel route options would not deliver the Scheme's objectives.
- 65.3.10 As part of the Technical Appraisal Report (TAR) [REP1-031], three routes (D061, D062 and F010) were subject to appraisal to assist in the determination of the route options to be taken forward to public consultation and further design development. The F010 option is shown within TAR Figure 5 [REP1-031]. This stage is also referred to as the 'Route Options Appraisal Stage'. Evaluation of the alternative options, including the F10 route, was undertaken in accordance with the Web-based Transport Appraisal Guidance's (WebTAG) Early Assessment and Sifting Tool (EAST) and included consideration of the National Policy Statement for National Networks (NPSNN).
- 65.3.11 Detailed information on the options appraisal process is set out within Chapter 3 [APP-041] of the Environmental Statement and in the Technical Appraisal report. (<https://highwaysengland.citizenspace.com/cip/a303-stonehenge/>).
- 65.3.12 **Bypass option (F010/southern surface route)**
- The F010 route option was discounted as it would not deliver the scheme objectives as well as the proposed Scheme. Route F010 would run through nearly 14 miles of largely tranquil, unspoilt countryside. This would require crossings of the Till Valley between Berwick St James and Winterbourne Stoke and of the Woodford Valley between Great Durnford and Upper

Woodford on substantial viaducts. Both are designated as Special Areas of Conservation and Sites of Special Scientific Interest. The overall environmental impact when compared against the proposed scheme would be much greater, in terms of effects on local communities, conservation areas, listed buildings, landscape, biodiversity and environmentally designated sites, and with risks of impact on an area rich in archaeology despite being outside the boundary of the World Heritage Site. There would be disbenefits for road users having to travel on a longer southern route, and southern routes would also not interact effectively with the local road network, leaving higher levels of rat-running traffic. One of the objectives of the Scheme is to improve the quality of everyday life in local communities and route F010 would not satisfy this objective. Further information can be found in the Technical Appraisal Report (<https://highwaysengland.citizenspace.com/cip/a303-stonehenge/>).

- 65.3.13 In relation to the F010 route, the TAR Appraisal Summary Table (AST) [REP1-038] states that 'overall it is considered that this 21.5km route would affect the landscape as a result of Very Large Adverse impacts identified on the Upper Avon Narrow Chalk River Valley and Large Adverse impacts identified on the Larkhill and Winterbourne Chalk Downland and Till Narrow Chalk River Valley Landscape Character Areas. This includes the introduction of a highly visual and intrusive feature as the route is elevated and aligned against the grain of the existing landscape, and at complete variance with the landform, scale and pattern of the landscape as it passes through the Upper Avon Narrow Chalk River Valley'.
- 65.3.14 At 21.5km in length, the F010 route is 8.5 km longer than the 13km proposed Scheme length. Evaluation of the impacts associated with the overall F010 footprint are considered within the TAR [REP1-031] and include the landscape issues described in (i) above along with the biodiversity and water environment issues outlined below.
- 65.3.15 Para 18.3.48 of the TAR [REP1-031] states 'Route Option F010, a proposal nearly twice as long as Route Options D061 and D062, and completely above ground, was assigned an overall assessment score of Very Large Adverse effect. This is due to the direct impacts to the River Avon SAC (encompassing the River Avon and River Till) and the River Till and River Avon System SSSIs (which overlap with the River Avon SAC).
- 65.3.16 Route Option F010 would also result in impacts to two CWS, and numerous hedgerows and woodlands. The likely direct impacts that would occur are habitat change/loss; habitat severance and/or obstructions; hydrological connectivity change/loss; wildlife road fatalities; wildlife displacement; lighting; noise and vibration and pollution. Indirect impacts, such as from lighting and reduced air quality would occur to Salisbury Plain SAC & SPA; Parsonage Down SSSI & NNR; Yarnbury Castle SSSI; Salisbury Plain SSSI; Porton Meadows SSSI; five CWS and one PRV' [REP1-031, para 18.3.49].

- 65.3.17 In relation to the F010 route, the TAR Appraisal Summary Table (AST) [REP1-038] states ‘the two new river crossing structures would result in direct adverse impacts to the River Avon SAC (including the River Till) and River Avon System SSSIs. Additionally, the scale of this 21.5km route option would result in a significant loss of priority habitats and associated biodiversity’.
- 65.3.18 In relation to water resources, the F010 route would cross 2.4km of a Source Protection Zone Category 2 [REP1-031 para18.3.55], designated to protect groundwater resources. Within this area construction may be allowed but it is not recommended as it can compromise the quality of water. The tunnel options avoid Source Protection Zones.
- 65.3.19 While acknowledging the benefits to the WHS of option F010, the TAR concluded [REP1-31 para 22.1.5] that, on balance, Route Options D061 and D062 would deliver a better fit against the relevant local and national planning, transport and economic policy objectives, than Route Option F010, thus providing better alignment with the scheme objectives.
- 65.3.20 The F010 route circumnavigates the southern side of the WHS and avoids direct physical adverse impacts on the WHS. It is noted, however, that the F010 route is directly adjacent to the WHS boundary line in its southwest corner and it is likely that direct physical impacts to the southwest corner of the WHS could not be avoided.
- 65.3.21 Although the F010 route is sited beyond the WHS boundary, the boundary was drawn at the time of inscription to follow existing roads, land boundaries and the River Avon and does not relate to the extent of significant archaeology that may contribute to the OUV of the WHS; the F010 route lies within the setting of the WHS and could directly impact as yet unidentified archaeological remains that relate to the OUV of the WHS.
- 65.3.22 **Longer bored tunnel extension to beyond the WHS boundary**
The locations of the eastern and western portals in the proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost.
- 65.3.23 The proposed tunnel length and length of any alternative tunnel design is dictated by the need to identify optimum portal locations having regard to a range of matters including environmental, technical and economic considerations.
- 65.3.24 Tunnel boring can only commence and finish when the depth of ground cover above the crown of the tunnel bore is a minimum of half the diameter of the bore or approximately 7m. For this reason, it is necessary to commence and finish the bores at the upward /downward faces of hills and

to maintain a minimum depth of cover of 7m along the entire length of the tunnel.

- 65.3.25 A minimum depth to crown level of 7m requires a depth to road level, or depth of approach cut, of minimum 16m. Locating the portal on suitable slopes has the benefit of minimising the length and depth of this approach cut to the portal. The depth of the cut can be further reduced by extending the tunnel using cut and cover construction. This enables the depth of the cut at the tunnel mouth to be reduced to 10-11 metres.
- 65.3.26 The option to extend the bored tunnel beyond the WHS boundary would position the western portal at the first viable location for commencement of the tunnel. This location can be seen on the longitudinal section on sheet 5 of the Engineering Section Drawings Plan and Profiles [APP-010] where, at chainage 5+600, the existing ground levels begin to come down to meet the proposed A303 road level. This would place the western portal immediately west of the current proposed location of Green Bridge Three. This option would have a major impact on the location and layout of Longbarrow junction which would require a total redesign in a location further from the existing A360 and closer to Winterbourne Stoke. This option would result in a total tunnel length of 4.885km.
- 65.3.27 The option to extend the bored tunnel was rejected because consideration of the balance of benefits and disbenefits would not justify the significant additional cost, estimated at £578 million, over and above the cost of the Proposed Scheme. The additional construction period above that of the Proposed Scheme is estimated at 24 months. This allows for the proportionate increases in the duration of the additional length of tunnel boring, additional cross passages, additional tunnel lining and road bed construction and additional mechanical and electrical fit out work associated with the longer tunnel (for detail refer to Highways England's response to AL.1.30).
- 65.3.28 The benefits and disbenefits are discussed below.
- 65.3.29 ***Traffic and operational issues***

Extending the bored tunnel would result in a much shorter distance between the tunnel portal and Longbarrow junction, and the location of the Longbarrow junction would have to be moved further west. In the Proposed Scheme, the maintenance cross-over points (where traffic would be able to cross the central reserve of the dual carriageway to use one bore of the tunnel as single carriageway while the other bore is closed for maintenance) are located within the junction outside the WHS. This allows the traffic to undertake the crossover manoeuvre in advance of the tunnel approach and portal area. Reducing the distance between the tunnel portal and the junction would result in disruption to smooth traffic flow close to the tunnel portal and increase the risk of collisions and incidents in this area. This relocated Longbarrow junction would need to fit between the western portal

and the River Till Viaduct. The combination of these two constraints would require the use of a compact, and consequently lower capacity, junction which would not be compliant with standards for the volumes of traffic which would be using the A303.

65.3.30 The relocated junction would also lead to complications with connectivity to the existing A360, increasing journey times and likely displacing traffic on to the local road network. The A360 itself would be retained in its current position to avoid traffic rat running via unsuitable local roads through nearby communities. This would remove the benefit to the WHS of removing traffic immediately beside the Winterbourne Stoke Crossroads Barrow Group.

65.3.31 ***Construction and Civil Engineering Issues***

The additional tunnel length would require inclusion of lay-bys and would likely include a vehicular cross-over in the tunnel, in addition to increasing the number of emergency evacuation cross-passages within the tunnel. Construction of these features would require a long break-out from the bored tunnel's primary lining. Construction of these features is a high safety risk operation for construction workers.

65.3.32 The longer tunnel will generate additional volumes of tunnel arisings requiring processing and placement.

65.3.33 ***Mechanical and Electrical Issues***

The additional tunnel length would require a proportional increase in mechanical and electrical plant to enable safe operation. An additional set of tunnel mechanical and electrical cross passages would be required.

65.3.34 The western tunnel service buildings would need to be relocated out of the tunnel. These buildings would likely be located in the proximity of the existing A360.

65.3.35 ***Heritage Issues***

This option was rejected on the basis of a balanced appraisal of operational performance, safety and maintenance, engineering and buildability, cost, environmental impacts and heritage impacts. Consequently a full Heritage Impact Assessment was not undertaken for this option. Notwithstanding this, on the basis of the information available, the following with regards to heritage and the OUV of the WHS can be identified.

65.3.36 The construction of a bored tunnel would allow the preservation of archaeological remains above the tunnel within the WHS boundary benefiting Attribute 2 (the physical remains of the Neolithic and Bronze Age ceremonial and funerary monuments and associated sites) that conveys the OUV of the WHS. Archaeological remains would also be preserved in situ over a section of the main line stretching 600m west of the WHS boundary. It would also allow the retention of the existing landform, benefiting Attribute 5 (The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other) in the western portal approaches.

- 65.3.37 As explained above, the A360 would, however, need to be retained in its current location to avoid rat running on inappropriate local roads. Retaining the A360 on its current line would remove the benefit to the WHS of removing traffic immediately beside the AG12 Winterbourne Stoke Crossroads Barrows. This would retain the existing adverse impacts from the surface A360 on the setting of the AG12 Winterbourne Stoke Crossroads Barrows, impacting Attribute 3 (The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the landscape) and Attribute 5 (The siting of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to each other) tempering the benefits of this scenario.
- 65.3.38 The Eastern Portal and its approaches would be the same as the Scheme and its slight adverse impacts on the AG31 Countess Farm Barrows would remain.
- 65.3.39 Overall, therefore, this option would not avoid all impacts on Attributes that convey the OUV of the WHS. Although archaeological remains would be preserved within the WHS in the western approaches (benefiting Attribute 2) and the landform would be retained in this location (benefiting Attribute 5), construction of the cutting would still remove archaeological remains at the eastern portal resulting in adverse impacts to Attributes 2 and 5 in this part of the WHS. The retention of the A360 on its existing alignment would also continue the adverse impacts of the surface A360 on AG12 Winterbourne Stoke Crossroads Barrows, retaining existing adverse impacts on Attributes 3 and 5 that convey the OUV of the WHS. Overall, therefore, this option is assessed as slightly more beneficial than the Scheme.

65.3.40 ***Environmental Issues***

The overall impacts compared to the Proposed Scheme would be minor beneficial. Impacts would include:

- Landscape and Visual: improvement in connectivity and tranquillity within the western section of the WHS; potential for additional or worsened impacts associated with increased alteration to landform and vegetation patterns from additional tunnel arisings placement east of Parsonage Down and from repositioning of Longbarrow junction.
- Biodiversity: reduced severance/ better habitat connectivity, within the western section of the WHS and immediately to the west, leading to increased wildlife movement in WHS. Less disturbance of existing arable habitat, but no chalk habitat creation in WHS, except along old A303 leading to marginal reduction in habitat creation.
- Public Amenity: increased appreciation of the western section of the WHS as a result of reduced severance.

Key Issue

- 65.3.41 **In our earlier response, we summarized these points and stated that we could accept in principle the idea of a tunnel for the A303, provided that construction impacts arising from a tunnel solution do not have a permanent adverse impact on the attributes of Outstanding Universal Value (OUV). We do not consider that these parameters have been fulfilled.**

Highways England response

- 65.3.42 We assume this Written Representation refers to permanent impacts as a result of the construction of the Scheme itself.
- 65.3.43 UNESCO/ICOMOS recommendations and World Heritage Committee decisions have informed the development of the Scheme throughout its development and its design responds to these including: the route alignment selected as the preferred route avoiding the winter solstice sunset alignment and the bisecting of the Diamond Group; setting the road in deep retained cuttings to minimise landtake; determining the length of the tunnel to avoid the Scheduled Monument known as the Avenue (NHLE 1010140) at its eastern end and a Bowl barrow south of the A303 and north west of Normanton Gorse (NHLE 1010832) at its western end – the tunnel length has been extended to 2 miles (or 3km) in length; the further addition of 200m of canopy at the western portal and 85m of canopy at the eastern portal to further extend the tunnel (to almost 3.3km) to aid landscape integration; the optimization of the positions of the tunnel portals at the head of dry valleys in the landscape in order to reduce the length of cutting (and minimise the length of the culvert part of the tunnel in the western approaches); the addition of the 150m long land bridge to maintain physical and visual connectivity between the Winterbourne Stoke Crossroads Barrows and the Diamond Group; and the removal of the surface A303 into a tunnel and approach cuttings to reduce noise and improve the tranquillity of the WHS. In order to minimise light spill measures have included no lighting of the new Longbarrow junction or the approach cuttings, new directional lighting at Countess junction replacing the existing non-directional lighting, lighting of the portals would be designed to minimise light spill out in to the WHS landscape and lighting under the land bridge will only operate during daylight hours. To minimise the visibility of new infrastructure within the WHS signage and other highways installations will sit completely within the approach cuttings and not extend above them. Further information on the missions, including how Highways England has considered the recommendations of UNESCO/ ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.
- 65.3.44 The Scheme design submitted for development consent has evolved substantially since the last UNESCO/ICOMOS mission was carried out in early 2018 and following submission of the DCO, UNESCO has been

notified of the application. It is expected that The State of Conservation Report (SOCR) prepared by the Department for Digital, Culture, Media & Sport will be considered at the next meeting of UNESCO's World Heritage Committee, scheduled for summer 2019.

- 65.3.45 The World Heritage Committee decision recommended consideration of “further design refinement, with a view to avoiding impact on the OUV of the property, including longer tunnel options”. Longer tunnel designs have been considered and discounted as they would not deliver sufficient additional benefits.
- 65.3.46 The removal of the existing A303 surface road from the WHS landscape will result in extensive benefits for the WHS, including significant reductions in traffic noise, as set out in ES Chapter 9 [APP-047], Section 9.9, and illustrated in Figure 9.4 [APP-167], and significant reductions in visual intrusion, as set out in ES Chapter 7 [APP-045], Section 7.9, with the removal of much of the existing A303 surface route, which has a major adverse impact currently on the OUV of the WHS; its removal being an objective of the WHS Management Plan 2015. The cultural heritage assessment for the scheme can be found in the ES, Chapter 6 [APP-044] and the assessment of the impact of the scheme on the OUV of the WHS is in the Heritage Impact Assessment (HIA) at Appendix 6.1 to the ES [APP-195]. The HIA concludes that overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole.
- 65.3.47 This takes into account that of the seven attributes of OUV for the WHS, whilst the scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on three of the attributes, a large beneficial effect on one, and a very large beneficial effect on one). This conclusion also takes into account that the scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. The OUV of the WHS would be sustained. This is set out in Section 12.4 of the HIA. The impact of the scheme in terms of the inscription of the WHS is assessed in Section 12.5 of the HIA and concludes that the Scheme would not impact upon the continuing relevance and application of the WHS inscription criteria.
- 65.3.48 The HIA assesses the impact of the proposed Scheme on the Attributes that convey the OUV of the WHS, their Integrity and Authenticity, as well as the alignment of the Scheme with the vision, aims and policies of the 2015 WHS Management Plan and the criteria for the site's inscription as a WHS. As the HIA notes [APP-195, para. 8.1.1] “Design is an iterative process, and a number of design changes have been made to avoid potentially harmful consequences. A number of adverse effects have still been identified in the final assessment, for which mitigation measures are put forward. Where such measures are proposed, it is intended that these will be secured through appropriate DCO requirements.” The design process has involved extensive consideration of heritage issues, which have influenced the design

of the Scheme. “Where possible, proportionate measures to avoid or minimise direct impacts on heritage assets have been embedded within the Scheme, taking into account that this is a WHS of OUV. Scheme design iterations have included changes made in response to cultural heritage concerns [...]” [APP-195, para. 8.2.2]. “Throughout the design process, avoidance of heritage assets by refinement of the Scheme alignment has been undertaken. These changes have been made to take account of heritage assets which were already known, and also buried archaeology which has been newly discovered during the fieldwork undertaken for this project.” [APP-195, para. 8.2.4]. Design changes to the Scheme within the WHS in response to cultural heritage concerns are set out in HIA Table 9 [APP-195].

Key Issue

- 65.3.49 **In our earlier response, we summarized these points and stated that we could accept in principle the idea of a tunnel for the A303, provided that all necessary Heritage Impact Assessments (HIAs) have been undertaken independently on the basis of a clear understanding of the attributes of OUV in line with *ICOMOS Guidance on Heritage Impact Assessments for Cultural Heritage* properties. We do not consider that these parameters have been fulfilled.**

Highways England response

- 65.3.50 A full EIA, including a cultural heritage assessment, as set out in ES Chapter 6 [APP-044], and a heritage impact assessment (HIA), as set out in ES Appendix 6.1 [APP-195], has been undertaken and is reported in the ES, which has been submitted as part of the DCO application.
- 65.3.51 The HIA has been prepared in tandem with the development of the Scheme to inform the road improvement proposals as an integral part of the iterative design process. This has enabled the development of a final Scheme which aims to assure the protection of the Outstanding Universal Value (OUV) of the WHS.
- 65.3.52 The HIA assesses the impact of the proposed Scheme on the Attributes that convey the OUV of the WHS, their Integrity and Authenticity, as well as the alignment of the Scheme with the vision, aims and policies of the 2015 WHS Management Plan and the criteria for the site’s inscription as a WHS.
- 65.3.53 The Heritage Impact Assessment (HIA) (see Environmental Statement Appendix 6.1, [APP-195]) was prepared in line with the Guidance on Heritage Impact Assessments for Cultural World Heritage Properties adopted by the International Council on Monuments and Sites (ICOMOS 2011), which aims to deliver relevant assessments. The HIA was carried out in accordance with the methodology set out in the HIA Scoping Report, which was endorsed by the Heritage Monitoring and Advisory Group and UNESCO/ICOMOS [APP-195, section 3.3, paras 3.3.4-3.3.6 and REP1-008,

Section 5.6]. The selection of the study area was guided by previous assessment work related to developments within the Stonehenge part of the WHS [APP-195, para. 5.10.9], and the scope of the HIA was discussed and agreed with Heritage Monitoring Advisory Group (HMAG) (which includes Wiltshire Council Archaeology Services (WCAS), Historic England, National Trust, and English Heritage) and the WHS Coordination Unit. The HIA was overseen by HMAG.

66 Butterfly Conservation (REP2-193)

66.1 Biodiversity, ecology and biodiversity

Key Issue

- 66.1.1 BC wishes to ensure that effects on chalk grassland and hedgerow habitats that currently support wildlife interests, and especially butterflies and moths, are fully accounted for as part of the proposed development, and follow the principles of the mitigation hierarchy to limit any adverse effects, and provide for their mitigation and compensation as appropriate. BC is satisfied that as far as the interests of butterflies and moths are concerned, the Environmental Statement provided by HE has met that test.

Highways England response

- 66.1.2 This is noted and agreed, thank you.

Key Issue

- 66.1.3 The road scheme provides a substantial opportunity for creation of chalk grassland habitats, both along the road corridor and adjacent to Parsonage Down where chalk spoil would be placed. BC's view is that, if implemented, the habitats created would make a meaningful long-term contribution to wildlife conservation and provide a lasting legacy of investment in the natural environment integrated into investment in transport infrastructure. In particular, there is potential to create an effective habitat link between the western and eastern parts of Salisbury Plain SSSI that would be difficult if not possible to achieve in any other way. BC's view is that, properly implemented, the extent of chalk grassland creation would be on a scale unparalleled elsewhere as far as we are aware, and would make a substantial and long-term contribution to the conservation of chalk grassland habitat in the UK.

Highways England response

- 66.1.4 This is noted and agreed, thank you.

Key Issue

- 66.1.5 The design principles that underpin the proposed chalk grassland habitat creation are simple, based on creation of grasslands on infertile substrates. In essence, with little or no topsoil added to the bare chalk mineral, and with appropriately source wildflower seed, diverse and beautiful landscapes of considerable value to butterflies and moths can be established in a short time. In addition, the creation of infertile grasslands rich in wildflowers and insects, costs much less to maintain than grasslands created by the standard prescription of

deep topsoil sown with amenity grass seed, providing an additional legacy of lowered maintenance costs for HE.

Highways England response

- 66.1.6 This is noted and agreed, thank you.
- 66.1.7 The principles of creation and management of this land are set out in the Outline Landscape and Ecology Management Plan ('OLEMP') [APP-267]. Under requirement 8 of the draft development consent order [REP2-003], Highways England will be required to submit a detailed landscaping scheme, which is required to be on the basis of the mitigation measures set out in the ES, which includes the OLEMP.

Key Issue

- 66.1.8 **The Examining Authority should be aware that providing the principles of habitat creation set out by HE in the OLEMP are implemented, BC is confident of similar success to that achieved on the A354 in the landscape proposals for the A303 scheme. Members of the A303 project team have visited the A354 to learn from this example, and references to the Weymouth Relief Road, its landscaping and green bridges are found in various parts of the ES.**

Highways England response

- 66.1.9 This is noted and agreed, thank you. The project team greatly valued the opportunity provided by Butterfly Conservation and Natural England to see the evidence of successful chalk grassland habitat creation on A354 Weymouth Relief Road.

66.2 Draft Development Consent Order

Key Issue

- 66.2.1 **In the event that the scheme receives confirmation of its Development Consent Order, BC would be pleased to be invited by the contractor to join the proposed independent Landscape Steering Group to provide independent advice on the development and implementation of the Landscape and Ecological Management Plan for the scheme.**

Highways England response

- 66.2.2 Highways England will continue to engage with stakeholders and the local communities and welcomes the continued involvement of Butterfly Conservation, through the Wiltshire Chalk Grassland Group, in the development and implementation of the Landscape and Ecological Management Plan for the scheme.

67 Amesbury Museum and Heritage Trust (REP2-192)

67.1 Alternatives

Key Issue

- 67.1.1 **The Trust considers that an alternative solution to the proposed tunnel exists, being a southern bypass and that this has not been offered as an alternative at consultation.**

Highways England response

- 67.1.2 A full range of southern corridors and routes outside the WHS were identified and appraised during the course of the Scheme's development. All have been discounted as they would not be as successful as the proposed Scheme in delivering the Scheme objectives. Further information can be found in the Technical Appraisal Report [REP1-031]. The Applicant's responses to the Examining Authority's Written Question AL.1.10-12 and AL.1.15 [REP2-024] also provide a further summary (from the TAR) explaining why southern routes were discounted.

67.2 Cultural Heritage

Key Issue

- 67.2.1 **The Trust remains very concerned about the adverse impact the tunnel portals and infrastructure will have on the archaeologically rich landscape.**

Highways England response

- 67.2.2 The removal of the existing A303 surface road from much of the WHS landscape would result in extensive benefits for the WHS, including beneficial effects to many heritage assets within the WHS. The impacts of the Scheme on heritage assets, including the impacts of the tunnel portals and infrastructure, are set out in the ES, Chapter 6 [APP-044], particularly in Tables 6.11 and 6.12. Detailed consideration of the assessment of the Scheme in the context of the OUV of the WHS can be found in ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195].
- 67.2.3 Table 3 in the HIA shows the effects that the Scheme would have on the WHS in relation to its Attributes of OUV, Integrity and Authenticity. The table also shows how the Scheme would benefit the WHS in comparison with the effects of the existing A303. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained.
- 67.2.4 The preferred route was carefully chosen to minimise effects on archaeology, and a comprehensive programme of archaeological evaluation

surveys has informed the Scheme design to limit direct physical impacts as far as practicable, including limiting impacts on archaeological remains that contribute to the OUV of the WHS. The design has been carefully progressed in order to: preserve archaeological remains along the 2-mile section of tunnel; improve the setting of many heritage assets and asset groups in the WHS landscape, including The Avenue, Stonehenge itself and the Winterbourne Stoke barrow group; remove the intrusive sight and sound of traffic from the existing A303 within much of the WHS; and design a scheme that is minimally intrusive in both the western and eastern parts of the WHS, including in key views from asset groups that contribute to the OUV of the WHS.

- 67.2.5 Examples of how the design has been developed to limit impacts on archaeology include, but are not limited to: the design and placement of the western and eastern tunnel portals and approaches in areas that have been shown to have limited archaeological remains within their footprint; the choice of vertical retaining walls (rather than grassed slopes) for the cutting in the western part of the WHS to minimise the Scheme's footprint; and the reduced footprint and land take for modifying the Rollestone crossroads layout. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044]. Section 6.8, Table 6.9. The cultural heritage assessment, reported in ES Chapter 6, identifies the effects on known archaeological features whilst recognising the benefits that the tunnel would deliver for the WHS.

Key Issue

- 67.2.6 **The Trust has concerns about Highways England's surveys at Blick Mead and land at the western end of the World Heritage Site.**

Highways England response

- 67.2.7 Comprehensive archaeological evaluation surveys have been undertaken in the western section of the WHS (as set out in ES Chapter 6, Cultural Heritage [APP-044], paragraphs 6.6.25 – 6.6.3) which confirm that the route will be acceptable in this location. The preferred route for the Scheme was selected to avoid known archaeological remains, important sites and monuments. Subsequent design development in the western section of the WHS has been informed by the comprehensive programme of archaeological evaluation surveys.
- 67.2.8 Examples of how the design has been developed to limit archaeological impacts include: the design and placement of the western and eastern tunnel portals and approaches in areas that have been shown to have limited archaeological remains within their footprint; the choice of vertical retaining walls (rather than grassed slopes) for the cutting in the western part of the WHS to minimise the Scheme's footprint; the provision of a 150 metre wide green bridge in the western part of the WHS; and the location of the new Longbarrow junction 600 metres to the west of the western boundary of the

WHS, enabling the existing Longbarrow roundabout at the boundary to be removed. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044], Section 6.8, Table 6.9. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of construction, in order to avoid, as far as is practicable, previously unknown archaeological remains being uncovered during construction. A Detailed Archaeological Mitigation Strategy (DAMS) [REP2-038] is being developed in consultation with Wiltshire Council Archaeology Service and the Heritage Monitoring Advisory Group (which comprises Wiltshire Council Archaeology Service, Historic England, National Trust, and English Heritage), and is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003] (A draft of the DAMS was included with Highways England's Deadline 2 submissions [REP2-038]). The DAMS identifies areas to be protected in-situ.

- 67.2.9 In addition, in relation to the Blick Mead site, the Scheme's potential impacts on groundwater levels and flows have been assessed and the assessment has shown that there will not be any adverse effect on groundwater levels at Blick Mead, or the preservation of its archaeological remains. Further information can be found in ES Chapter 11, Appendix 4, Annex 3, Blick Mead Tiered Assessment [APP-282], which was completed in accordance with Historic England's guidance. However, given the interest in the site, both from members of the public and heritage bodies, hydrological monitoring at Blick Mead is continuing and includes monitoring of water levels and springs at shallow depths.

67.3 Biodiversity, ecology and biodiversity

Key Issue

- 67.3.1 **The Trust has concerns in relation to the Habitats Directive.**

Highways England response

- 67.3.2 The principal means by which Habitats Directive (Council Directive 92/43/EEC) is transposed in England is the Conservation of Habitats and Species Regulations 2017. The consideration of the Scheme's impact on habitats and species is set out in Environmental Statement Chapter 8, Biodiversity [APP-046], and in particular for the purposes of this directive, in the Environmental Statement Appendix 8.24 - Habitat Regulations Assessment (HRA) Likely Significant Effects Report [APP-265] and Environmental Statement Appendix 8.25 - Habitat Regulations Assessment (HRA) [APP-266]. Highways England has provided sufficient information in the two HRA reports to enable the Examining Authority and Secretary of State to undertake an appropriate assessment, as required by the Regulations. Highways England does not consider that the Scheme will have

an adverse effect on the integrity of European Sites protected by the Directive.

67.4 Compulsory Acquisition, Temporary Possession and Other Land or Rights Considerations

Key Issue

- 67.4.1 **The Trust has concerns about the scheme, in that any application to alter the landscape, build on, or utilise the land gifted to facilitate such major infrastructure scheme must be with the public consent and in the public interest in accordance with restricted covenant's made in the gift of Stonehenge (referring the conveyance of the sale of the land to the Chubb's in 1915).**
- 67.4.2 **To date, we have not yet seen any response or heard how the restrictive covenants in the Dec 31st 1915 deeds will be addressed.**
- 67.4.3 **I wish to raise this matter again and point out that when the dual carriageway was built in the 1960's, the restrictive covenants were adhered to. You will note that the current dual carriageway stops well short of the 400 yard exclusion zone set out in the deed of gift. It is the covenants that lie within the 1915 conveyance and deeds that need satisfying.**
- 67.4.4 **There is also clearly an intent and expectation by the Chubb's that the then existing public's free view of the monument from the main road would be maintained in that present condition.**

Highways England response

- 67.4.5 This matter was responded to under point (ix) in Highways England's cover letter to its Deadline 1 submission [REP-001], as extracted and set out below:
- ix. An update on Highways England's position as regards the 1915 restrictive covenant attached to the relevant land sale document, in response to the query raised by Andrew Rhind Tutt.*
- 67.4.6 Stonehenge and the immediate surrounding area are in the ownership of the Department for Digital, Culture, Media & Sport (DCMS). The stone circle, together with a small parcel of adjoining land (now known as Stonehenge), was given to the Commissioners of Works, for the benefit of the nation, in 1918. English Heritage currently manages the monument on behalf of the DCMS under section 34 of the National Heritage Act 1983.
- 67.4.7 Highways England is aware of a historic Deed of Gift made on 26 October 1918 under section 2 of the Ancient Monuments Consolidation and Amendment Act 1913, conveying Stonehenge from its owners at the time, Sir Cecil Chubb and his wife Mary, to the Commissioners of Works, who thus became the owners of it, holding it for the benefit of the nation.

67.4.8 The 1918 Deed contains four covenants, the third of which seeks to restrict development at and around Stonehenge. It is expressed in these terms:

“Thirdly that no building or erection other than a pay box similar to the Pay Box now standing on the premises shall be erected on any part of the premises within four hundred yards of The Milestone marked “Amesbury 2” on the northern frontage of the premises”.

67.4.9 The fourth and final covenant imposed by the 1918 Deed required the Commissioners of Works to indemnify Sir Cecil Chubb and his wife Mary for any breach of covenants set out in the deed which had transferred Stonehenge to the Chubbs on 31 December 2015, following Sir Cecil’s purchase of the monument at auction. The 1918 Deed references the 1915 transfer and associated covenants in these terms:

*“Fourthly that the Commissioners of Works will at all times save harmless and keep indemnified the Donors and each of them their and each of their estates and effects from and against all proceedings costs claims and expenses on account of any breach or non observance of the covenants by the Donors to the like or similar effect contained in the Conveyance of the premises to the Donors dated the **thirty first day of December One thousand nine hundred and fifteen.**” (bold emphasis added)*

67.4.10 In consideration of the covenants in the 1918 Deed in response to the ExA’s request, two matters arise:

1. Enforceability of the 1918 covenants:

- a. In respect of the third restrictive covenant in the 1918 Deed, which seeks to restrict development in the vicinity of the monument, Highways England understands that the DCMS is of the view that the covenant is no longer enforceable. This is because it (along with the other covenants in the 1918 Deed) was given simply as a personal covenant; it would not be legally capable of ‘running with the land’ because it was not expressed as being granted for the benefit of the heirs to, or the successors in title of, the landowner at that time.
- b. This position is corroborated in a case decided by the Court of Appeal (Civil Division) in 1991 (*R -v- Historic Buildings and Monuments Commission for England [aka English Heritage] ex parte George Firsoff* [1991] Lexis Citation 3354) (“the HMBCE case”).
- c. The transcript of the HMBCE case states that:

“... the deed contained a number of covenants by the Commissioners with the donors ...As a practical matter it must be assumed that the covenants between the Commissioners and the donors, if they could ever have been enforced as such, can no longer, for one reason or another, be so enforced.”

- d. The HMBCE case was cited in the concluding statements of the Inspector at the public inquiry into the Highways Agency's (as was) previous proposals to improve the A303 at Stonehenge. The Inspector stated that:
- “One objector raised the issue that implementation of the published scheme would mean that access to Stonehenge would be operated on a basis which would conflict with the covenants in the Deed of Gift of Stonehenge to the nation. In response, DCMS states that those covenants are no longer enforceable, a view which has been upheld by the Court of Appeal in a decision reached in 1991. I conclude that this does not represent a basis on which the published scheme can be challenged.”*

67.4.11 Availability of the 1915 covenants:

- a. Highways England has endeavoured, without success, to locate a copy of the 1915 covenants contained in the transfer of Stonehenge to Sir Cecil Chubb and his wife on 31 December 1915. No documents held at HM Land Registry in respect of land adjoining Stonehenge would appear to reference the 1915 conveyance to the Chubbs; and the land/property comprising Stonehenge itself is not registered.
- b. Research revealing the response from English Heritage to a Freedom of Information requests received in 2018 indicates that no title land deed exists. In English Heritage's response the only document referred to in relation to the provenance of Stonehenge as a national monument is the 1918 Deed of Gift from Sir Cecil Chubb and his wife to the Commissioners of Works.
- c. Furthermore, whilst there exists a transcript/summary of the 1915 auction notes taken at the time of Sir Cecil's purchase of Stonehenge, the transcript merely notes that, as a condition of the sale, the purchaser (i.e. Sir Cecil) “would be required to ...(illegible)...to the satisfaction of the vendor's solicitors and maintain a fence on the western boundary of ...(illegible)...so as the fence exists at present”. The transcript includes no reference to any restriction or restrictive covenant on the use of the land so conveyed.

67.4.12 It will be clear from the above that Highways England's position as regards “the 1915 restrictive covenant attached to the relevant land sale document” is that there is no available information or existing evidence which would have the effect of restricting Highways England's current proposals to improve the A303 between Amesbury and Berwick Down, in the vicinity of Stonehenge.

67.5 Draft Development Consent Order

Key Issue

- 67.5.1 **The Trust has a number of concerns about information relayed to the public within the consultation periods.**

Highways England response

- 67.5.2 Consultation was undertaken in accordance with the Statement of Community Consultation, which was subject to consultation with the Local Planning Authority, and Planning Act 2008 statutory requirements. Information about the Scheme proposals was available online, at public events and local deposit locations. Staff were on hand at exhibitions to talk through the proposals. The material published for statutory consultation was based on the information available at that time and was sufficient to satisfy the purpose of gaining feedback on the Scheme proposals and for that feedback to be taken into consideration as part of the continuing development of the Scheme up to the time of submitting the DCO application. In addition to the consultation booklet, the information provided included the Preliminary Environment Information Report (PEI Report) and its non-technical summary, as well as plans of the proposals. Further details of the approach, engagement and outcomes of the consultation is presented in the Consultation Report [APP-026].
- 67.5.3 In deciding to accept the application, the Planning Inspectorate will have had regard to the adequacy of the consultation undertaken by the Applicant, and to the nine adequacy of consultation responses received from local authorities, who confirmed that they considered the consultation had been carried out adequately, in accordance with the relevant statutory requirements.

Key Issue

- 67.5.4 **The Trust has concerns about the management of the schedule planned for public meetings with UNESCO and ICOMOS representatives.**

Highways England response

- 67.5.5 The relevant UNESCO/ICOMOS reports and decisions by the World Heritage Committee requested by the Examining Authority were part of Highways England's Deadline 1 submission (REP1-008 to REP1-013), along with DCMS's 2018 and 2019 State of Conservation Reports (REP1-014 and REP1-015). It is expected that the World Heritage Committee will review the Scheme proposals during its 43rd session to be held in Baku, Azerbaijan between 30 June and 10 July 2019, and the Committee's decision, when published, can be made available to the Examining Authority for their consideration along with the other documents.
- 67.5.6 The views of all those who have an interest in the Scheme will be considered during the examination, as well as information and evidence presented during the hearings which are open to the public and interested parties, such as ICOMOS. The final decision on the Scheme will be made by the Secretary of State for Transport.

68 R P Bartosz (AS-033 and AS-034)

68.1 General and cross-topic

Key Issue

- 68.1.1 **The engineering difficulties, and cost, of future decommissioning is a burden which should not be passed on to future generations, and**
- 68.1.2 **The "sacred" setting of Stonehenge, should remain "sacred". It is our legacy to those future generations**

Highways England response

- 68.1.3 Aspects of theoretical decommissioning are considered in Heritage Impact Assessment (HIA) (Environmental Statement Appendix 6.1 – Heritage Impact Assessment [APP-195]) Section 9.2, Impacts and effects of Scheme: overview: Theoretical decommissioning (paragraphs 9.2.14 to 9.2.25). Paragraph 9.2.16 explains how the tunnel and associated road infrastructure (both surface and underground components) may, theoretically, be decommissioned at some point in the future. During the detailed design stage of the Scheme, the Construction (Design and Management) (CDM) Regulations require the designer to consider decommissioning (CDM Regulation 9 (2) and Regulation 9 (3)). At present, it is not possible to stipulate the manner of any future decommissioning (given this is anticipated to be at least 120 years in the future), and both engineering and design technologies and the regulatory environment will evolve over time. Paragraph 9.2.22 states that the hypothetical decommissioning of the Scheme might have a slight adverse short-term impact upon the Outstanding Universal Value (OUV) of the World Heritage Site (WHS). Paragraph 9.2.24 states that in the long term, it is not anticipated that hypothetical decommissioning of the Scheme would have any additional significant long-term adverse impact upon the OUV of the WHS.
- 68.1.4 Chapter 2 of the Environmental Statement (para 2.6) [APP-040] also refers to decommissioning of the scheme. It states that 'in the event of the Scheme needing to be demolished, this would conform to the statutory process at that time, including EIA as appropriate. Demolition of the Scheme is not therefore considered further in this ES. Consideration is however given, where relevant, to dismantling and replacing particular elements of the Scheme once they reach the end of their design life, if significant effects are likely'.
- 68.1.5 The removal of the existing A303 surface road from the WHS landscape will result in extensive benefits for the World Heritage Site (WHS) including beneficial effects to many heritage assets within the WHS. The cultural heritage assessment for the Scheme can be found in the ES, Chapter 6 [APP-044). Detailed consideration of the assessment of the scheme in the

context of the OUV of the WHS can be found in ES Appendix 6.1, Heritage Impact Assessment (HIA) [APP-195].

- 68.1.6 Table 3 in the HIA shows the effects that the Scheme would have on the WHS in relation to its Attributes of OUV, Integrity and Authenticity. The table also shows how the Scheme would benefit the WHS in comparison with the effects of the existing A303. Overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole. The OUV of the WHS would be sustained.
- 68.1.7 The preferred route was carefully chosen to minimise effects on archaeology, and a comprehensive programme of archaeological evaluation surveys has informed the Scheme design to limit direct physical impacts as far as practicable, including limiting impacts on archaeological remains that contribute to the OUV of the WHS. The design has been carefully chosen in order to preserve archaeological remains along the 2 mile section of tunnel, improve the setting of many heritage assets and asset groups in much of the WHS landscape, including the Avenue, Stonehenge itself and the Winterbourne Stoke barrow group; remove the intrusive sight and sound of traffic from the existing A303 as far as possible within the WHS; and design a scheme that is minimally intrusive in both the western and eastern parts of the WHS, including in key views from assets groups that contribute to the OUV of the WHS. Examples of how the design has been developed to limit impacts on archaeology include, but are not limited to: positioning the western and eastern tunnel portals and portal approaches in areas that have been shown to have limited archaeological remains within their footprint; extending the length of tunnel with canopies at the western and eastern entries; designing a retained cutting in the western part of the WHS to minimise the Scheme's footprint; including a 150 metre wide green bridge in the west of the WHS to improve the physical and visual connectivity between the northern and southern parts of the WHS; and the reduced footprint and land take for Rolleston Corner. Further information can be found in the Assessment of Alternatives, ES Chapter 3 [APP-041] and in ES Chapter 6, Cultural Heritage [APP-044]. Section 6.8, Table 6.9. The cultural heritage assessment, reported in ES Chapter 6, identifies the effects on known archaeological features whilst recognising the benefits that the tunnel will deliver for the WHS landscape as a whole.
- 68.1.8 The Scheme includes measures to facilitate the sharing and understanding of archaeological discoveries. Archaeological remains would be excavated and recorded during the preliminary works phase, in advance of the construction of the Scheme. The Detailed Archaeological Mitigation Strategy (DAMS) [and accompanying Overarching Written Scheme of Investigation (OWSI) [REP2-038] set out the scope, guiding principles and methods for the planning and implementation of essential archaeological mitigation, including the procedure to be followed to investigate and protect unforeseen cultural heritage finds made during the course of the works. A draft of the DAMS and OWSI is was submitted at Deadline 2 [REP2-038]. The DAMS

will be developed further during Examination in consultation with the Heritage Monitoring and Advisory Group (HMAG) and Wiltshire Council Archaeological Service (WCAS), with inputs from the Scientific Committee, with the intention of finalising the DAMS prior to close of Examination. The DAMS is secured by paragraph 5 of Schedule 2 of the draft development consent order [REP2-003]. The project archive of reports and archaeological finds would be deposited in a local museum once the archaeological excavations have been analysed and published.

68.2 Cultural Heritage

Key Issue

- 68.2.1 **The preferred tunnel option is considered in terms of "dominance" of engineering structures. The "dominance" of the modern portal constructions will fundamentally relegate prehistoric "engineering" to lesser status. It is not clear how this conflict with respect to OUV can be reconciled, if at all**

Highways England response

- 68.2.2 A comprehensive Heritage Impact Assessment has been prepared following ICOMOS guidelines (https://www.icomos.org/world_heritage/HIA_20110201.pdf). It has fully assessed the Scheme including the tunnel portals. The scope and approach of this assessment, which is reported in ES Appendix 6.1 [APP-195], was endorsed by UNESCO/ICOMOS in their report from their third advisory mission on the scheme early in 2018 (<https://whc.unesco.org/en/list/373/documents/>). The Applicant considers that the HIA has been carried out accurately and with a full appreciation and understanding of the importance of the WHS and its OUV. Full details of the engagement with UNESCO/ICOMOS can be found in the Consultation Report [APP-026], Chapters 2 and 3.

68.3 Landscape and Visual

Key Issue

- 68.3.1 **The overall conclusion is that the impact on outstanding Universal Value (OUV) would be significantly negative, and the author's stand is one of objection to the granting of a Development Consent Order.**
- 68.3.2 **iii) that statements made by the guardians of the World Heritage Site (WHS) appear to show a disregard for obligations of protection and enhancement, and instead hold OUV artificially to restricted points in time, namely late Neolithic and Bronze Age. It is difficult to interpret other than this position is in the interests of avoiding potential additional mitigation costs.**

Highways England response

- 68.3.3 Highways England's response to Written Question G.1.1 [REP2-021] sets out Highways England's position that the Scheme's compliance with the National Policy Statement for National Networks policies relevant to the provisions of the World Heritage Convention (WHC), that deciding in favour of the Scheme would not lead the UK to a breach of its international obligations, including specifically Articles 4, 5 and 6 of the WHC.
- 68.3.4 The removal of the existing A303 surface road from much of the WHS landscape will result in extensive benefits for the WHS, including significant reductions in traffic noise, as set out in ES Chapter 9 [APP-047], Section 9.9, and illustrated in Figure 9.4 [APP-167], and significant reductions in visual intrusion, as set out in ES Chapter 7 [APP-045], Section 7.9. The existing A303 surface route has a major adverse impact currently on the OUV of the WHS and reducing its impact is an objective of the WHS Management Plan 2015 which the Scheme would achieve. The cultural heritage assessment for the Scheme can be found in the ES, Chapter 6 [APP-044] and the assessment of the impact of the scheme on the OUV of the WHS is in the Heritage Impact Assessment (HIA) at Appendix 6.1 to the ES [APP-195].
- 68.3.5 The HIA concludes that overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole [APP-195, para 12.2.5]. This takes into account that of the seven attributes of OUV for the WHS, whilst the scheme will have a slight adverse effect on two of those attributes, it will have a beneficial effect on the remaining five (being a slight beneficial effect on 3 of the attributes, a large beneficial effect on one, and a very large beneficial effect on one).
- 68.3.6 This conclusion also takes into account that the scheme will have a slight beneficial effect on the authenticity and integrity of the WHS. The OUV of the WHS would be sustained. This is set out in Section 12.4 of the HIA. The impact of the scheme in terms of the inscription of the WHS is assessed in Section 12.5 of the HIA and concludes that the Scheme would not impact upon the continuing relevance and application of the WHS inscription criteria. Overall the Scheme would secure benefits for the WHS and would deliver on the objectives of the WHS Management Plan.

Key Issue

- 68.3.7 **In the light of these outstanding matters I consider the application for development consent is premature that there is the outstanding material consideration of a "Setting Study and Boundary Review", the brief for which has not been opened to scrutiny,**

Highways England response

- 68.3.8 All prescribed documentation for the submission and consideration of a Development Consent Order application has been submitted and accepted for Examination. The application is not therefore premature. The Applicant

considers that the material presented in the DCO Application is sufficient to assess the Scheme and that the relevant published studies have been reviewed within the submitted material, specifically the Stonehenge and Avebury World Heritage Site Management Plan.

- 68.3.9 With specific regard to setting and boundary [see REP2-025, CH.1.58], The WHS boundary review is currently being progressed by the Stonehenge and Avebury WHS Coordination Unit. The Stonehenge and Avebury WHS Coordination Unit was consulted during the preparation of the Heritage Impact Assessment (HIA) (6.3 Environmental Statement Appendix 6.1 - Heritage Impact Assessment) [APP-195] and it shared a preliminary assessment of heritage assets and asset groups that may be included in a future boundary review, including assets currently situated outside the WHS, west of the A360. As asset groups beyond the WHS boundary were considered as part of the assessment, and are considered to contribute to the OUV of the WHS, the proposed boundary review would not have an impact on the outcomes of the assessment.

Key Issue

- 68.3.10 **Obligations, at Inscription, are tied intimately to "Integrity", "Authenticity" and "Protection and Management". The application of LVIA, in this setting of a WHS, can only have the limited "benefit" of reducing the number of potential heritage assets requiring excavation before destruction. The application represents a significant failure in terms of WHS responsibilities.**

Highways England response

- 68.3.11 The Heritage Impact Assessment (HIA), as set out in ES Appendix 6.1, HIA [APP-195], considers the implications of the Scheme in the context of the OUV and the Authenticity and Integrity of the WHS. The HIA concludes that overall, the Scheme is assessed to have a Slight Beneficial effect on the OUV of the WHS as a whole [APP-195, para 12.2.5]. The OUV of the WHS would be sustained as set out in Section 12.4 of the HIA.
- 68.3.12 The LVIA (Landscape and Visual Impact Assessment), ES Chapter 7 [APP-045], outlines in paragraph 7.9.13 seq. that the Scheme responds positively to the Stonehenge and Avebury World Heritage Site Management Plan via the tunnel and cutting approaches to positively address the stated visual and aural intrusion of the existing A303. The use of LVIA brings the full benefit of landscape and visual assessment in the context of Environmental Impact Assessment and as one of many contributory materials that have supported and assisted in the development of the Scheme, meaningful engagement on the Scheme and bringing together the submitted Scheme.

Key Issue

- 68.3.13 **Significant conflict is identified at King Barrow Ridge, as observed from the centre of Stonehenge, and behind which is the site of Blick Mead. The potential impact here, in terms of current observable astronomy is not addressed anywhere within the application documents.**

Highways England response

- 68.3.14 Archaeoastronomical aspects are considered in the Heritage Impact Assessment, set out in the Environmental Statement, Chapter 6, Cultural Heritage, Appendix 6.1, Section 6.15 [APP-195] and Annex 5 [APP-200], which highlights the astronomical aspects that contribute to the Outstanding Universal Value of the WHS. These are all considered and assessed in the Heritage Impact Assessment with reference to the Scheme, including the location of the eastern portal and its entrance. With regards to Attribute 4 The design of Neolithic and Bronze Age funerary and ceremonial sites and monuments in relation to the skies and astronomy, the Heritage Impact Assessment concludes that the Scheme would result in a Large Beneficial Effect (ES Chapter 6, Cultural Heritage, Appendix 6.1, paragraphs 9.4.24-9.4.28) [APP-195].

68.4 Needs and Benefits

Key Issue

- 68.4.1 **That the applicant states that the Value for Money status is already "Low" and any further mitigation costs will reduce it to "Poor",**

Highways England response

- 68.4.2 The Scheme is part of the Government's programme of improvements along the A303/A358 corridor designed to upgrade the route to a high-quality dual carriageway, in recognition of the problems along the corridor and the need to improve connectivity to the South West. The proposed tunnel solution is the optimum solution for this section of the A303, identified from an exhaustive appraisal of options, as set out in the Technical Appraisal Report [REP1-031] and Scheme Assessment Report [REP1-021]. In terms of quantified monetary benefits (including of removing the road from much of the WHS landscape), it is acknowledged that the assessed value for money in terms of the benefit-cost ratio for the Scheme is not high. However, in addition to delivering benefits in terms of improved journey times and reduced accidents, the Scheme would deliver a wide range of non-quantified benefits as can be found summarised in The Case for the Scheme [APP-294].
- 68.4.3 To the extent the Written Representation is referring to longer tunnel options as "mitigation", the locations of the eastern and western portals in the

proposed Scheme have been identified as the optimum locations when all environmental, technical and economic considerations are taken into account. There is no evidence that the additional investment required to extend the tunnel length would deliver meaningful additional benefits to the WHS that would justify the additional cost. For further detail on this point, please see the response to Written Question AL.1.29 [REP2-024].

69 Appendix A

Evaluation Insight Paper

Post Opening Project Evaluation of Major Schemes



The **POPE** (Post Opening Project Evaluation) evidence base shows that major road investments have delivered benefits for our customers, by:

- Reducing the number of collisions;
- Delivering journey time savings and improving journey time reliability;
- Producing high value for money, as on average every £1 spent delivers approximately £3 of benefits over the life of the scheme; and,
- Achieving their objectives, with 90% of scheme objectives met.

About this Insight Paper

Evaluation has an important role in assuring the investment in major road schemes¹ in order to assess whether the expected costs and benefits have been achieved. POPE was established to provide a systematic approach for major schemes.

This demonstrates our commitment to transparency with our stakeholders and ensures we have the evidence to help us to continually learn and improve as an organisation. The evidence base generated by these evaluations is important in improving our approach to forecasting the impacts and costs for future schemes.

15 years of post opening evaluation of major schemes using the POPE method. This has generated a standardised evidence base which has been commended by the Institute for Government:

“Evaluation of roads now follows a standardised procedure which feeds back into pre-project appraisal in a transparent way”.²

85 POPE scheme evaluations are included in the sample that underpins this analysis, relating to all major schemes opening between 2002-2014.

This Insight Paper provides a programme-level overview of the POPE evaluation evidence which covers schemes delivered before the first Roads Investment Strategy.

We would like to acknowledge the work of Atkins in generating the evidence base for this summary.

DISCLAIMER:

While Highways England has made every effort to ensure the information in this document is accurate, Highways England does not guarantee the accuracy, completeness or usefulness of that information; and it cannot accept liability for any loss or damages of any kind resulting from reliance on the information or guidance this document contains.

POPE methodology

POPE studies have been undertaken for all of Highways England's major schemes since 2002, and form the mechanism whereby Highways England has:

- Assessed whether schemes have delivered the anticipated value for money;
- Validated the accuracy of the estimated scheme costs, impacts and benefits which were agreed as part of the business case for investment, and used this to improve future scheme appraisals; and,
- Promoted transparency and accountability to our stakeholders.

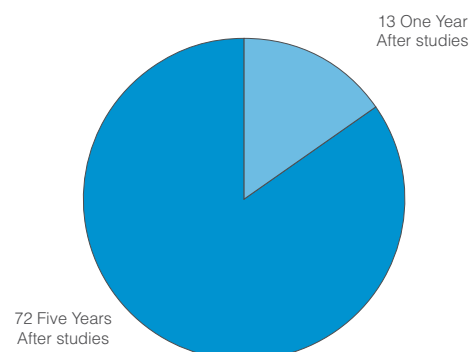
Baseline data and the forecasts used to inform the investment decision were collected prior to construction. Each scheme has been revisited at one and five years after opening and an evaluation undertaken, which covered all the impacts assessed during the scheme appraisal. The evidence observed at the time of the evaluation has then been used to re-forecast the likely benefits of the scheme over its lifetime.

Periodically a 'meta-analysis' is undertaken of all evaluations to date, to take an overview of trends across the programme as a whole. This 'Insight Paper' has drawn on the 2017 meta-analysis, focusing on programme-level findings.

Since these evaluations have been undertaken, Highways England has established an in-house [Evaluation Group](#) which will lead the generation of future insights from evaluation.

They will also be exploring ways to continue to develop the methods for evaluating schemes, in order to further enhance the evidence base.

Figure 1. Profile of evaluation evidence used in 2017 meta-analysis



Source: 2017 POPE Meta-analysis, sample 85 schemes

¹Major schemes covers improvements to the strategic road network costing more than £10m.

²The Institute for Government, 2017 What's wrong with Infrastructure Decision Making?

Scheme objectives

All Highways England major schemes have specific objectives which were defined early on in the appraisal, when scheme options were being identified.

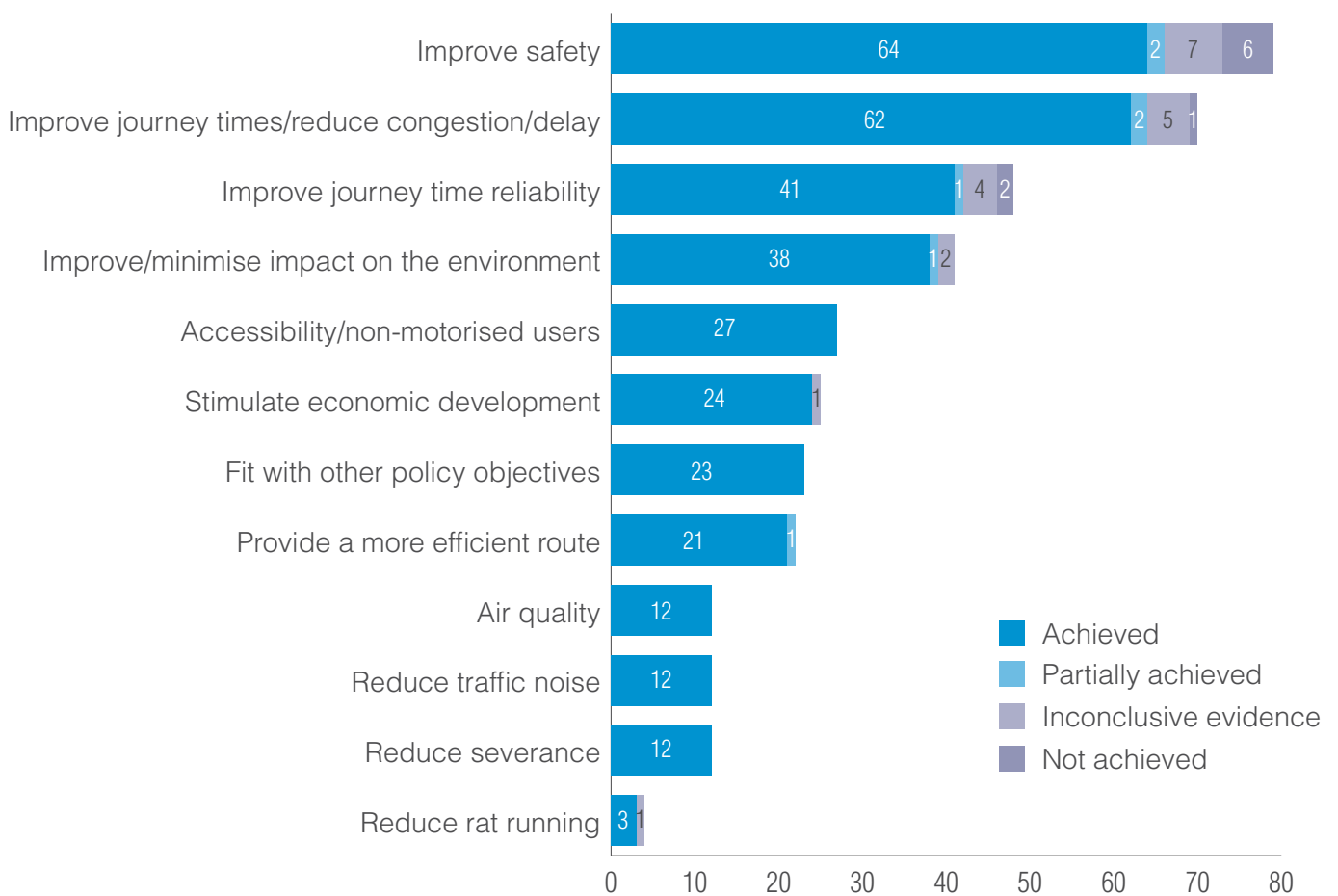
Looking across the programme, 90% of all scheme objectives have been achieved, with only 2% of these not observed to have been achieved.

The most common objective set for a scheme was to 'improve safety' (93% of schemes) and 81% of these schemes achieved this objective.

The second most common objective was to 'improve journey times/reduce congestion and/or delay' (82% of schemes) and 89% of these schemes achieved this objective.

Both of these themes (safety and journey times) are considered in more detail in this paper.

Figure 2. The extent to which scheme objectives had been achieved (by number of schemes)



Source: All schemes evaluated between 2002-2014. Most schemes will have multiple objectives (chart presents number of schemes against each objective)

Accuracy of traffic volume forecasts

Changes in background traffic levels

POPE evaluations assessed changes in traffic volumes and journey times before and at one and five years after a scheme opened. This analysis needs to be viewed in the context of changes in the national, regional and local background traffic volumes.

The national picture (Figure 3) showed that between 2000 and 2007 there was an 8% increase in the motor vehicle kilometres travelled across Great Britain. The economic downturn in 2008 saw a fall in vehicle kilometres travelled; a trend which started to reverse in 2013.

Traffic volume forecasts

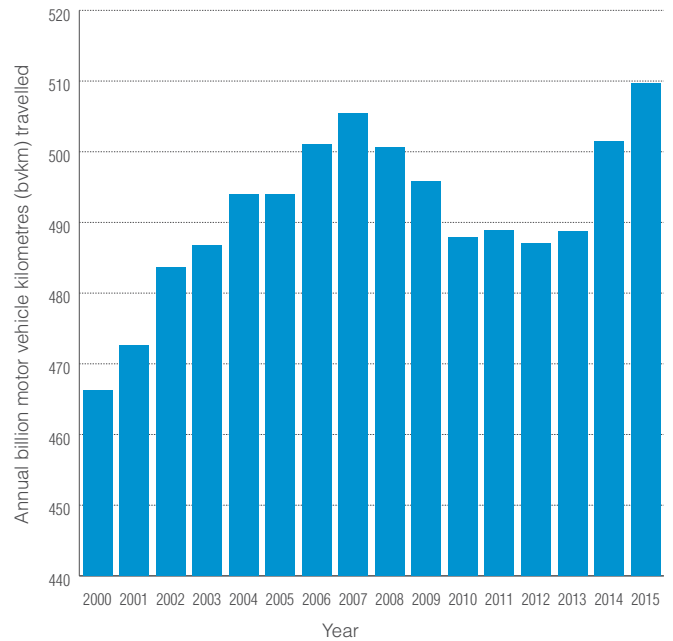
It is important to understand the accuracy of forecast traffic volumes because they are intrinsically linked with economic and environmental impacts.

Across all schemes in the analysis, the results (Figure 4) showed that:

- 78% accurately forecast pre-scheme traffic volumes;
- 59% accurately forecast post-scheme traffic volumes;
- Pre-scheme and post-scheme traffic volumes were more frequently over-predicted than under-predicted.

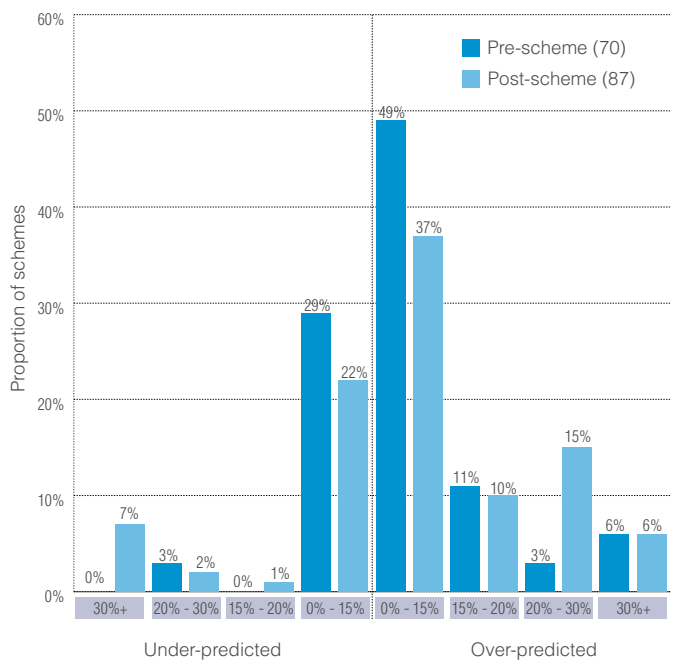
The most common reason for overestimated forecasts was due to the traffic growth assumptions not being realised (affecting 21 schemes), often for schemes appraised before the economic downturn. More recent schemes have accounted for this within their traffic growth assumptions.

Figure 3. The annual number of billion motor vehicle kilometres (BVKM) travelled from 2000 to 2015 (GB)



Source: Department for Transport, TRA0202 (Motor vehicle traffic (vehicle kilometres) by road class in Great Britain, annual from 1993)

Figure 4. Variation between forecast and observed pre-scheme and post-scheme traffic volumes



Source: All schemes evaluated between 2002-2014

The Department for Transport's WebTAG guidance notes that a $\pm 15\%$ difference between forecast and observed flows is considered accurate.

Do schemes result in additional journeys?

The implementation of a major scheme can have widespread geographical impacts on traffic volumes and travel behaviours. These include:

- Changes in background traffic growth
- Reassigned traffic (route choice)
- Mode shift (between public transport and private motor vehicle)
- Time of travel change
- Trip frequency increase
- New trips (due to causes such as land use changes).

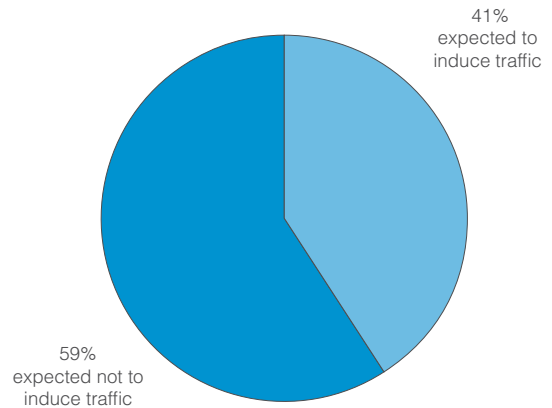
The evaluations were able to distinguish changes in background growth and reassigned traffic using observed information; however it has not been possible to differentiate between the other reasons for traffic growth (mode shift, time of travel and new trips). Additional traffic due to changes in mode, destination, time and frequency, as well as new car trips were considered to be 'induced traffic' for this analysis.

From a review of appraisal documentation (Figure 5), it appears that approximately **59% of schemes were not expected to induce traffic.**

POPE evaluation assesses changes in traffic at one and five year(s) after opening and considers the cause of change.

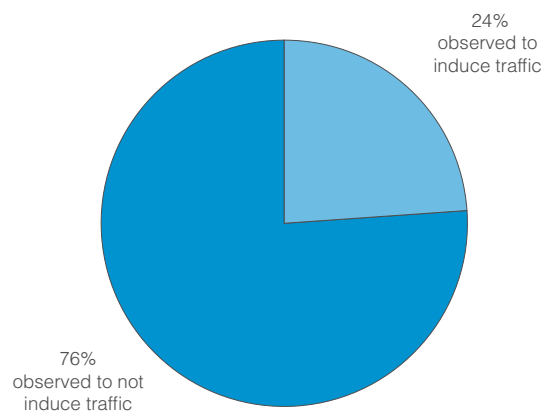
For **76% of schemes, increases in traffic volumes have been attributed to either changes in background growth or reassignment of journeys from alternative routes** (Figure 6).

Figure 5. Induced traffic predicted in appraisal by scheme type



Source: 2017 POPE meta-analysis, sample 76 scheme appraisals

Figure 6. Induced traffic observed in evaluation by scheme type



Source: 2017 POPE meta-analysis, sample 71 schemes evaluated at one or five year(s) after opening

Evaluating the accuracy of journey time and reliability forecasting

Journey times

There are three key time periods considered when evaluating journey times: the impact during the AM peak, interpeak (IP) and the PM peak.

Based on small samples where sufficiently detailed forecast information was available (ranging from 21-29 schemes), the meta-analysis has indicated that:

- The average forecast time saving of **around 3 minutes per journey during the AM and PM peaks**, has been achieved;
- **43%** delivered journey time savings **in excess** of their forecast saving in the **AM peak**;
- This was higher for the **PM peak with 67% of schemes delivering greater journey time savings** than expected.
- During the interpeak period, the average expected time savings were forecast to be lower at just under **2 minutes per journey and the majority of schemes achieved this**.

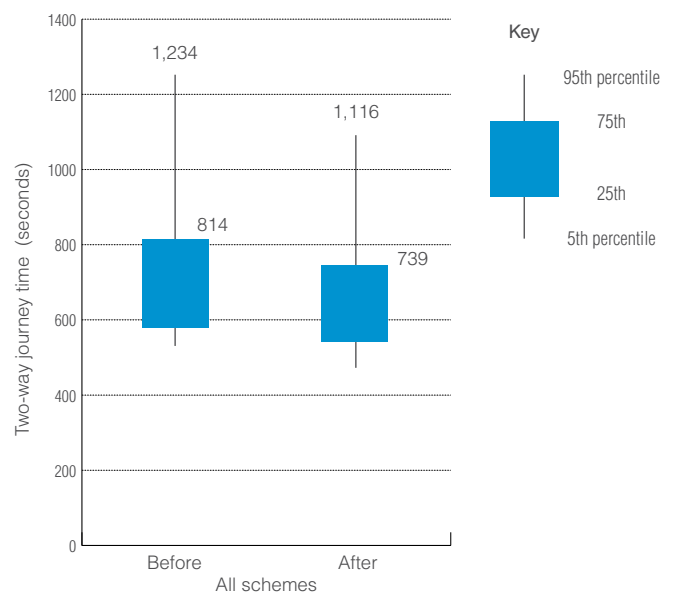
A larger sample is required to enable us to draw any firm conclusions about changes in forecasting accuracy over time.

Methods for evaluating journey time reliability

A new method has been introduced, using data from SatNav devices to measure journey times before and after scheme construction. This data allowed analysis of the range of journey times to be undertaken, to assess the impact of the scheme on journey time reliability. Only 9 scheme evaluations within the meta-analysis have been undertaken using this data so far.

While it is hard to put an overall figure on the benefit being accrued from reliability, early indications have shown that these schemes provided reliability benefits in the AM and PM peaks. Figure 7 shows that on average, journey times generally became shorter following the opening of the schemes and more consistent, as shown by the reduction in the range between the shortest and longest journey times. These improvements would have helped road users to plan for their journeys by making journey times more predictable.

Figure 7. Journey time reliability percentiles



Source: 2017 POPE meta-analysis, sample 9 schemes

Evaluating safety impacts of major schemes

Methods for evaluating safety impacts

It is Highways England's ambition that no one should be harmed when travelling or working on our highways.

All major schemes included an assessment of the impact on safety, even for those schemes which didn't forecast a change in collisions, as it is important for the evaluation to verify whether this has been the case.

For the purposes of appraisal and evaluation, collision analysis focused on changes to personal injury collisions (PICs) before and after the scheme opened (the evaluations undertaken have not covered the construction period).

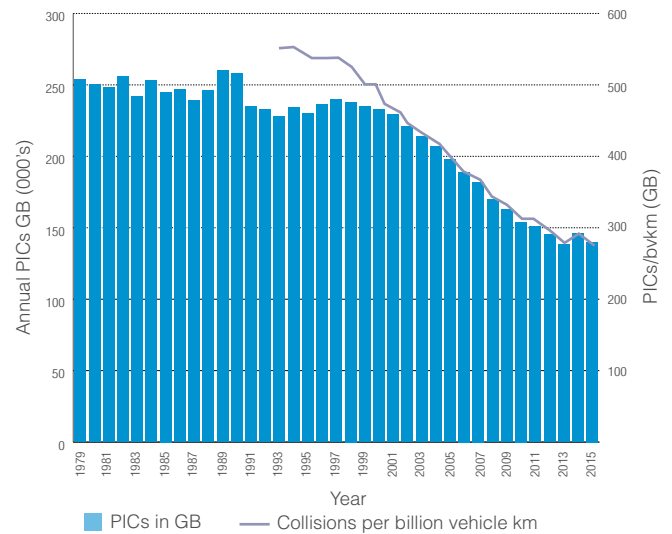
National trends in the number of road collisions over time

It has been important to understand the national trends for how PICs have changed over time when assessing safety impacts. Figure 8 shows that trends in PICs across Great Britain have been reducing fairly consistently since around 1996. There has been a number of factors influencing this trend, including vehicles being designed to be safer, safer driving policies and road improvement schemes.

Isolating the scheme effects on reducing collisions

POPE has recently developed a more robust method for isolating and evaluating the safety impacts of schemes. This has been through the production of a counterfactual estimate which applied an adjustment for the background trends in PICs to the scheme baseline, in order to compare the change in safety impacts observed to that which might have occurred had the scheme not been put in place.

Figure 8. Trends in personal injury collisions and collisions per billion vehicle kilometres (GB)



Sources: Department for Transport - RAS10013 (Reported personal injury road accidents, by severity, Great Britain, 1979-2016) & TRA0202 (Motor vehicle traffic (vehicle kilometres) by road class in Great Britain, annual from 1993).

This new method has only been applied to a small sample of schemes in the evaluation programme. Therefore, it is too early to draw conclusions from this sample.

Over time, building a larger sample will give more confidence that the findings can be generalised across the programme.

Timeframe for assessing impact

Safety data needs to be monitored over a number of years before statistically valid changes can be observed. Therefore, it is much more likely that analysis over a longer evaluation period will enable more robust conclusions to be generated.

Average scheme impacts on number of collisions

Changes in number of collisions

Analysis of the change in collision rates (per million vehicle kilometres (mvkm)) showed that, across the sample of schemes assessed using the counterfactual method, there was an average reduction in collision rates of 35% (Figure 9).

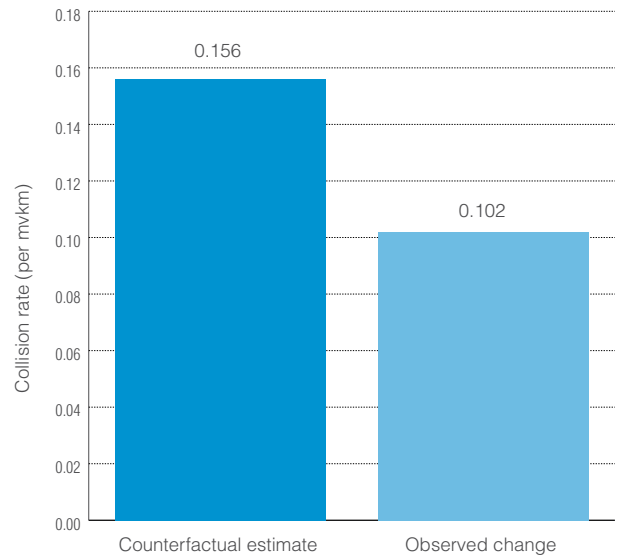
Based on an analysis of a sub-sample of 26 schemes, there was an average saving observed of around 4 personal injury collisions (PICs) per annum on the sections of the road directly changed by the scheme (key links). This was after accounting for the background reduction in collisions (page 7). On average, the schemes reduced PICs by 11% compared to the counterfactual.

The expectation has been that improvements in the Strategic Road Network would deliver safety benefits across a wider geographical area, including the local road network (the study area). Analysis based on a sample of 31 schemes has indicated an average reduction in PICs of 4%. This equated to around 4 PICs per annum and indicates that major schemes have delivered benefits to the surrounding road network.

Impact on the severity of collisions

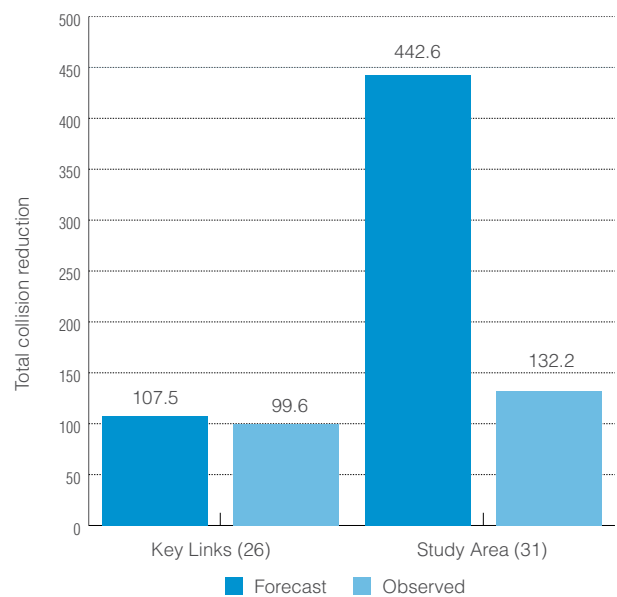
The evaluation evidence indicated that there has been a reduction in the severity of collisions when comparing the levels before and after scheme opening. This implies that schemes have potentially generated a beneficial impact for the strategic and local road networks. However, this analysis has not been assessed against a counterfactual estimate, therefore it is not possible to confidently conclude that the changes observed had been directly caused by the investment rather than generated as a result of other factors.

Figure 9. Average collision rates (per mvkm)



Source: 2017 POPE meta-analysis, sample 34 schemes

Figure 10. Comparison between forecast and observed collision savings



Source: 2017 POPE meta-analysis, samples: 26 scheme evaluations for key links analysis and 31 scheme evaluations for study area analysis

Accuracy of Safety forecasts

Collisions are random events and therefore it is inevitable that forecasts will not be precisely accurate. However, schemes tended to achieve lower outturn collision reductions than were predicted. Figure 10 shows that accurate forecasts were much more likely for the scheme key links than the wider study area.

Individual scheme forecasts were more likely to overestimate than underestimate benefits indicating a potential systematic bias at the scheme level.

Economic impacts of major schemes

Average investment in major schemes

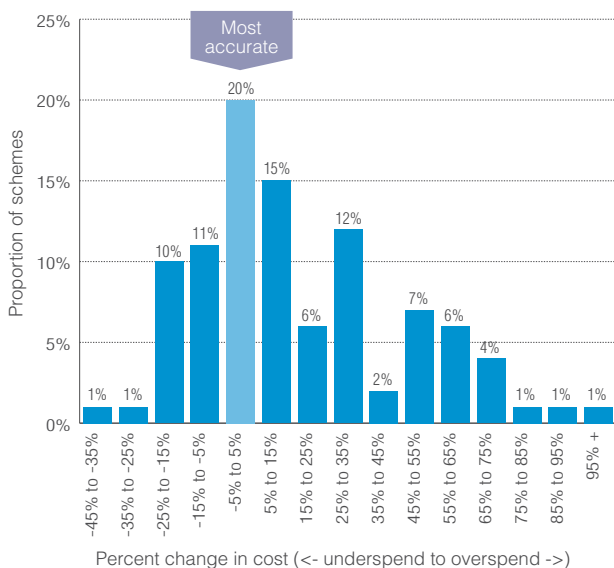
Across the POPE programme the **average (mean) spend per scheme is £124 million** both in the forecast and observed scenarios.

Across the sample of schemes the forecast costs have proven to be relatively accurate. However, when broken down to an individual scheme level, there was more variation (see Figure 11).

Just under half of all schemes were accurate to within ±15% of their forecast cost and 20% of schemes were within ±5% of their forecast cost.

Generally, cost forecasts had tended to underestimate the investment required. However, the 2015 POPE Meta Report showed that scheme cost forecasts have improved over time. Looking at the small sample of the most recent schemes, **they have typically come in under the forecast cost**, although a larger sample of schemes will be needed to verify this.

Figure 11. Percentage change between the forecast and observed scheme cost



Source: 2017 POPE Meta-analysis, sample 81 schemes evaluated at one or five years after opening

Average economic benefits

Scheme costs, and benefits from safety impacts and journey times (see Figure 12) are combined with the other monetised impacts to produce an overall benefit cost ratio (BCR). **Investment in major schemes delivered benefits of approximately £3 for every £1 spent.** This implies they fall in the 'high' value for money category.

There has been a **tendency for the forecast BCR to be overly optimistic** for 60 schemes in the sample, which may have been a consequence of the overestimation of journey time impacts (page 6). **However, the majority of schemes (71%) delivered high value for money.**

Journey time and safety benefits

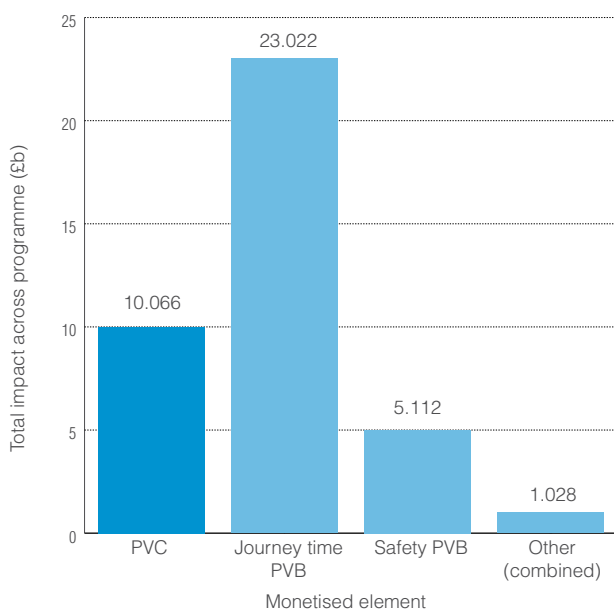
Journey time benefits observed across the POPE programme

Journey time benefits were the biggest contributor to generating a positive benefit cost ratio (BCR), with journey time benefits equating to around 2.3 times the cost.

Aggregating the value of journey time savings across a sub-sample of 81 major schemes, there has been around **£23 billion of journey time benefits** across the life of the schemes, **averaging £300 million of benefits per scheme**.

While these were large scale benefits being recorded, the observed benefits were around 30% lower than the forecast programme benefit of **£32.675 billion**. Where it has been possible to interrogate the forecast figures (see page 6) schemes were generally delivering the time savings expected, so this variation is likely to have been caused by the lower than expected traffic growth.

Figure 12. Total observed costs and benefits aggregated across the POPE programme



Source: 2017 POPE Meta-analysis, sample 81 schemes

A Present Value of Costs (PVC) is a future cost adjusted to a price base at a specific point in time. The PVB is similar, but relates to the Present Value of Benefits.

Safety benefits observed across the POPE programme

Across the evaluation programme, the observed value of safety benefits was equivalent to around half of the investment made on the schemes.

The evidence indicated that **the observed benefits from reducing collisions across major schemes were higher than forecast**. Around £5.1 billion of benefits were estimated to have been delivered averaging **£63 million of benefits per scheme** (14% higher than forecast).

It is important to note that this analysis has been based on evaluation evidence across all schemes and not just the small sample of evaluations applying the new counterfactual methodology (page 7). Early analysis showed that the new method (applying a counterfactual) was more likely to observe fewer benefits than forecast. A larger sample of schemes applying the new method will be required to verify this.

Environmental impacts

Delivery of environmental sub-objectives

Both pre-construction and post-opening, a range of environmental impacts or 'sub-objectives' are considered. Overall, [major schemes have been delivering their environment sub-objectives](#) with 70% of environmental sub-objectives scoring 'as expected' and a further 18% scoring 'better than expected'. This is broadly consistent with the findings from the 2015 POPE Meta Report.

Carbon impacts

The majority of major schemes resulted in an [increase in carbon emissions in the opening year](#). Changes in carbon emissions were typically due to changes in traffic volumes, journey distances, vehicle composition and/or speed of traffic.

The increase in carbon emissions as a result of major schemes was often forecast as part of the scheme appraisal. [The majority of scheme forecasts overestimated the impact](#), as a consequence of the overestimation of the traffic volumes.

Noise impacts

Nearly half of schemes contained a Noise Important Area. The vast majority of these schemes have implemented appropriate noise mitigation either through application of low noise surfaces, mounds or noise barriers.

Biodiversity mitigation

Schemes have invested in measures to mitigate negative impacts on biodiversity. 92% of schemes were likely to meet their expected biodiversity objective.

[Habitats such as grasslands, woodlands and hedgerows](#) are generally being established and maintained. However, some scheme evaluations identified instances where the measures had not been establishing as expected or where maintenance issues / incidents of vandalism had occurred.

Table 1 - Observed evaluation assessment of environment sub-objectives³

Sub-objective	Observed score %				Comparison with prediction %		
	Neutral	Adverse	Benefit	Not Assessed	Better than Expected	As Expected	Worse than Expected
Noise	30	16	53	1	34	54	11
Local Air Quality	30	13	56	1	35	56	9
Greenhouse Gases	16	67	6	11	58	11	32
Landscape	16	78	5	1	3	73	23
Townscape	21	8	15	56	0	94	6
Biodiversity	36	56	3	4	9	83	8
Heritage	29	59	10	2	10	79	11
Water	46	30	23	1	12	83	4
Physical Fitness	51	0	37	12	2	95	4
Journey Ambience	14	0	78	8	0	86	14

Source: 2017 POPE Meta-analysis

³Please note that not all the percentages add to 100% due to rounding

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For more information about POPE studies please refer to [Post Opening Project Evaluation \(POPE\) of Major Schemes](#)

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